FEDERAL UNIVERSITY OF PERNAMBUCO

PPGEP - GRADUATE PROGRAM OF PRODUCTION ENGINEERING

RECIFE'S RESTAURANT INDUSTRY

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Advisor: Fernando Menezes Campello de Souza, PhD.

Recife, February 2012

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A Dissertation Presented to the UFPE

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by

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A comissão examinadora, composta pelos professores abaixo, sob a presidência do(a) primeiro(a), considera a candidata **MARCELLA MAIA BEZERRA DE ARAÚJO URTIGA APROVADA.**

Recife, 16 de fevereiro de 2012.

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To my dear grandmother Isabel Maia and dear friend Fernanda Matheus (in memoriam).

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RESUMO

É um estudo sobre a Indústria de Restaurantes da Região Metropolitana do Recife que inclui os consumidores e restaurantes. Três bancos de dados diferentes, que totalizam 3.332 entrevistas, foram estudados em detalhes e analisados para fornecer informações valiosas do setor para os empresários e a comunidade. A dissertação inicia com uma revisão das origens de restaurantes e da gastronomia, e também com uma revisão geral sobre o cenário atual desse setor no Brasil e mais especificamente na Região Metropolitana do Recife. Depois, usando os dados reais coletados, o perfil e as preferências dos entrevistados são estudados, seguido de uma comparação entre duas pesquisas de anos distintos dos consumidores para apresentar as tendências do setor. Na dissertação é também analisada uma pesquisa de opinião realizada com representantes de restaurantes. Após, é realizado um estudo comparativo para observar as diferenças de percepção dos restaurantes e dos consumidores sobre as preferências e as qualidades de um restaurante. Foi concluído que o perfil socioeconômico dos consumidores tem grande influência nos seus hábitos e preferências sobre restaurantes e, também, que existem algumas diferenças sobre a percepção dos representantes de restaurantes e as preferências dos consumidores.

Palavras-chave: Restaurante, Pesquisa de opinião, Análise de cluster.

ABSTRACT

It is a study about the Restaurant Industry of the Metropolitan Region of Recife that includes consumers and restaurants. Three different databases that totalize 3,332 interviews were studied in detail and analyzed to provide valuable information about the sector to entrepreneurs and the community. The dissertation begins with a review of the origins of restaurants and gastronomy, and also with an overview about the current scenario of the sector in Brazil and more specifically in the Metropolitan Region of Recife. After, using real collected data, the profile and preferences of respondents are studied followed by a comparison between two distinct consumer surveys to present the tendencies of the sector. In the dissertation is also analyzed a survey conducted with restaurant's representatives. Later another comparison is made to study the differences of the perception of restaurants and consumers about preferences and quality of a restaurant. It was concluded that the social-economic profile of consumers have great influence on their habits and preferences regarding restaurants and that there are some differences about the perception of the restaurant representatives and consumers' preferences.

Key-words: restaurant, opinion survey, cluster analysis.

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1.1 Background

Since the beginning of civilization, men had to search for food for its subsistence. The relationship between restaurant and men began in early times with taverns, boarding houses and inns, where food and accommodation were offered to customers rudimentarily (Kiefer, N. M., 2002).

Today, the restaurant industry plays an important role into modern family lives. Eating away from home often means time saving and convenience, two aspects highly valued today. People's expenditures with food away from home also have increased due to personal income growth and the crescent participation of women in labor force, which affected the quantity of meals eaten home that were traditionally cooked by them (Bezerra IN, Sichieri R., 2009).

The first restaurant in São Paulo with influences from France, where the customer could order from a menu and be served at a table, dates back to 1862 (Silva, H. S., 2008). However, the boom of the Restaurant Industry in Brazil mainly occurred between 1930 and 1951. The sector was highly connected to Casinos and Hotels. When casinos were prohibited in 1946, the industry began to stagnate and only in 1964 the sector started to increase again (Rebelato, M. G., 1997).

In 2011, the Brazilian association of bars and restaurants (ABRASEL, 2011) estimates that there are about 680 thousand cafeterias and restaurants in the country which represents almost 3 times the number of establishments in 2001. The Brazilians total expenditure with food away from home is about R$ 121.4 billion, two times what it was nine years ago. The increase of the families' spent is a reflection of changes in society. In Brazil more people in the middle class and employed, which means a rise of the personal income and changes in the lifestyle, enhance the search for food away from home and consequently boosts the restaurant industry.

The growth of the sector and the increase of the competitiveness make the information even more important to entrepreneurs to create competitive advantage. Thus, information

about the customers' preferences and habits and the tendencies of the industry can be very useful to companies' strategies, and also to consumers that will be able to enjoy better services.

Opinion surveys can be an efficient tool to obtain information from customers and allied to a detailed data analyses it is possible to provide valuable conclusions about the sector.

1.2 Justification

In the past decade, the meals taken outside home became more frequent and an index of this increase is the percentage spent on food away from home. Between 2002 and 2008 the total expenditures of Brazilians families with food away from home had an increase of 29% (SEBRAE, 2010a). Brazilians expend about 31% of their total expenditures with food, eating outside home. The restaurant sector in Brazil also represents about 2.4% of the Gross Domestic Product which shows the importance of this industry to the County's economy (ABRASEL, 2010).

Given the importance of the Restaurant Industry for the economy of the country and region, there is a need for a well-structured search for deeper knowledge of this sector. It is important to set parameters for quality and development, in this case, of the gastronomic center of the Metropolitan Area of Recife. The work aims to bring more detailed information about their determining factors so that appropriate actions can be taken to the improvement and viability of restaurant industry in our community.

According to a non-exhaustive review of the literature, studies on this topic and this kind of research coverage in Brazil and specifically in Pernambuco, was not found. It is therefore essential to conduct a study of such importance.

It is of interest of the community and especially of the restaurant owners to have access to information about preferences and eating habits of consumers. Questions about whether there are differences between the preferences of men and women, young and adults, or how the various profiles of consumers evaluate the services offered by restaurants and other issues will be examined and answered during the essay.

The dissertation is a continuation of previous studies that began in 2007 with the first

exhibition of the results of a survey taken in 2007 for the community and entrepreneurs in Recife. The meeting entitled "O Recifense e os Restaurantes" was coordinated by PhD. Professor Fernando Menezes Campello de Souza and Dr. Professor Luciano Nadler Lins, and took place at the auditorium *Newton Maia* at the Federal University of Pernambuco. The second meeting was held in 2011, at the *Alliance Française* of Recife to present the results obtained from the surveys conducted in 2010 and 2011, and was attended by entrepreneurs of the restaurant sector and the by the local press. This is the first academic study of this research.

1.3 Objectives

1.3.1 General Objective

The overall objective of this work is to raise more insight about the restaurant industry, consumer preferences and perception of restaurants regarding its customers in the metropolitan area of Recife, in order to provide support in decision-making to entrepreneurs and public authorities in investments and establishment of policies.

1.3.2 Specific Objectives:

- To analyze how the profile of the interviewed customers interfere in their habits, preferences and other consumption patterns related to restaurants;
- To create clusters to obtain information that explains most of the variability of the data.
- To analyze trends of the restaurant industry in the metropolitan area of Recife.
- To confront the perception of clients and restaurant owners about the quality of a restaurant and customers habits and preferences;

1.4 Materials and Methods

The scientific method adopted in the study was the exploratory data analysis; the epistemology is probabilistic-statistical. The research is not theoretical, hypothetical-deductive, no theorem is proved. It is a statistical analysis of data, with an inductive and practical method.

First, the 2010 survey questionnaire was designed to determine the data to be collected. Later, the interviews with restaurant consumers from the metropolitan area of Recife were conducted. The data was balanced according to gender, age and area of residence. After the data collection, a pre-analysis of the information was carried out to check the consistency of the data, and to identify outliers and the missing data. The pre-analysis is important to prepare the sample for the descriptive and inferential analyses.

A second questionnaire was designed to collect information with the representatives of restaurants. The interviews were conducted between December 2010 and January 2011. The sample was a convenience sample. Following the data collection, a pre-analysis similar to the one above was performed.

Another stage of the study was the development of the theoretical reference that aims to present a brief history of the restaurant sector and its context in Brazil and Pernambuco. Finally, for data analysis was performed descriptive statistics and inferential studies with hypothesis testing and multivariate analysis.

1.4.1 Statistical Techniques

The following items are a brief definition of the statistical tools used for the descriptive, inferential and multivariate statical analysis of the research.

The discriptive statistics are a description of a data set, including the frequencies distribution, measures of central tendency and measures of variability (Campello de Souza *et al.*, 2002). The tools here used for these matter were:

- Histograms: is the graphic representation of the relative observed frequencies of a variable. The horizontal axis represents the values of the variable, the vertical represents the relative frequency, and the frequencies are shown as adjacent rectangles.

- Frequency Tables: is a table that represents the relative and cumulative frequencies of every distinct value of a variable.

- Box and & Whiskers Plot: is a 2D graph that represents the interaction between variable(s) and a categorical variable. The graph creates a box around the means (or medians) to show a chosen range, there is a central line crossing the box (whiskers) that is also a measure of variability and represents the range of the variable.

- Contingency Table: is a table that represents the frequency distribution of the interaction of two (or more) categorical variables.

Inferential Statistics are technics to reach probabilistic conclusions about the data and also establish conclusions about the relation of the variables studied. The technics chosen were:

- Kolmogorov-Smirnov Test (one-sample K-S test): is a non-parametric test to investigate if a sample fits a distribution of probability. It is a fine test to verify if the sample comes from a normal distribution.

- Kruskal-Wallis Test: is a non-parametric test to investigate if the samples come from populations with the same distribution (Triola, 2008).

- Mann-Whitney U Test: is a non-parametric test where the variables can have any distribution, and the assumption is that the variables are ordinal or numerical. The test evaluates if samples are statistically different, in other words, that the difference is not likely due to chance (Campello de Souza *et al.*, 2002).

- Clustering Analysis: is a method to find a meaningful way to organize the data into homogeneous clusters by using different algorithms.

- K-means Clustering: is method that ascribe selected observations of the data to a cluster whose centroid is the nearest creating clusters. The method is based on a previously hypothesis, established by the researcher, concerning the number of clusters in the cases or variables.

1.5 Organization of the Study

The dissertation is divided in 9 chapters. After the introduction, the second chapter brings a historical review about the origin of restaurants and gastronomy, and also the current scenario of the restaurant sector. The third chapter presents the 2007 and 2010 surveys and how and by whom they were conducted. The chapter also describes the restaurant consumers' profile from the 2010 survey, emphasizing the social-economic profile. The fourth chapter shows the inferential results of the 2010 survey, which describes, in detail, the respondent's habits and preferences. The fifth chapter shows the division of the 2010 data into clusters and each cluster's habits and preferences regarding restaurants. Chapter 6 is about the tendencies of the restaurant sector of the Metropolitan Region of Recife. It compares the characteristics of the 2007 and 2010 surveys. The seventh chapter presents the profile of the restaurants from the 2011 survey. The eighth chapter compares the perceptions of the customers with the restaurants' representatives to highlight the similarities and contrasts between them. Lastly, in the ninth chapter the work is summed up and concluded.

Hospitality is the relationship between host and guest. In commercial hospitality the role of the guest is to pay for service and behave reasonably. On the other hand, the host holds the responsibility to please, provide and fulfill. The service usually includes food, drink, entertainment and accommodation, but, more important than this, the host must know what would give pleasure to the guest and provide his comfort and well-being. The main objective is to achieve the guest satisfaction to a prosperous business (King, C. A., 1995).

The Restaurant Industry is a segment of the Hospitality Industry. Its services go beyond serving food and beverage. Commonly clients go to a restaurant for leisure which means that what they desire is more than just eating. It is an entertainment where the food taste and presentation, the music, courtesy, perfect timing, ambiance, among others, come together to create a pleasant experience.

2.1 The Origin of the Restaurant

Paris is widely known as the center of gastronomy. Parisian modern restaurants as we know them were spread in Paris at the time of the revolution, when the city was the principal commercial and cultural center of the time. However, it all began in earlier days with taverns, boarding houses, cook shops and inns (Kiefer, N. M., 2002).

Boarding Houses and inns, besides renting rooms, served food in a system called table d'hôte where the guest paid for a place at a table among other clients at a fixed time. There was no menu or ordering service. The client would eat what he could get from the common table. Visitors complained of improper cooking, lack of variety and low quality (Kiefer, N. M., 2002).

Taverns on the other hand, had ordering service and the visitor would only pay for what he had consumed. They also had drinks to order and private tables, showing similarities to modern restaurants. The idea of paying for only what was ordered began with taverns,

then came to cafés and finally to restaurants (Kiefer, N. M., 2002).

The pressure to create restaurants came from those who demanded food away from home and from its providers. Some clients were willing to pay more for flexibility of meal time, individual tables, better food, and menu variety. This pressure came from the areas with high commercial activities. From the suppliers' side it was also interesting because they could sell different products and services, according to the clients wish, at different prices, to increase their profits. That being said, the restaurant was able to choose to serve different types of cuisines because consumers would pay more to have the privilege to eat what they wanted (Kiefer, N. M., 2002).

As restaurants in Paris were developing, some establishments had both table d'hôte and restaurant services in the same place. This transition to modern restaurants was strongest in growing cities, with strong a commerce such as Paris. Business travelers going to the city were a steady demand. Thus, the development of restaurants is highly connected to several economic forces such as income growth, commerce, and population (Kiefer, N. M., 2002).

When the cafés came to France, around 1671, they were center of social activities. The cafés had many similarities to modern restaurant service, as check, tables, individual orders, but the food wasn't yet part of the menu. But, after the revolution, especially after 1792, chefs and cooks that were before employees of the aristocracy entered the labour market, opening restaurants. That attitude proliferated the idea of restaurants in Paris (Kiefer, N. M., 2002).

2.1.1 The Gastronomy

As far as is known, in the 4th century BC the Sicilian Greek Archestratus first used the word gastronomy as he wrote the earliest food and wine guide to the Mediterranean region. In the guide he shares his experience of traveling the ancient Mediterranean trying to discover the best combination of food and drinks and where to find it, making an early bond between gastronomy and tourism (Wilkins and Hill, 1994, p. 35). After Athenaeus, for 15 centuries, the word "gastronomy" disappeared from European lexicons until reused by a French poet Joseph Berchoux (1760 - 1838) in his poem "La Gastronomie" (1801).

(Ferguson, 2000).

In 1804, the Almanachs de Gourmands was published by the founder of gastronomic journalism Grimod de la Reunière. The guide included adivice on what to eat, to drink, how, where, why, and when. Grimod early brought the importance of gastronomy as a field of study in the colleges (Grimod de la Reyniére, 1808). But it was only in 1826 that the word was made popular, when the French judge Brillat-Savarin wrote his book a Physiologie du Goût - The Physiology of Taste. The book was translated into 3 languages, English, German and Spanish. Savarin saw gastronomy as a science whose porpuse was the preservation of man but combined with pleasure and enjoyment through the provision of knowledge and information. As said in The Physiology of Taste: "Gastronomical knowledge is necessary to all men... it is indispensable to those who have large incomes ... they derive this special advantage from their Knowledge." (Brillat-Savarin, 1994). Physiology du Goût inspired magazines and journals such as Le gastronomie (1830-1831), La Gastronomie (1839-1841), Il Gastronomo Italiano (1866), Le Gastronome (1872-1873) and also a series of books published in the second half of the 19th-century and the early 20th-century (Santich, B., 2004). Today the gastronomy is recogninized by a variety of factors relevant to the foods and beverages consumed by a group, in a locality or region (Gillespie, 2001).

2.2 The Economic Importance of Restaurants

The restaurant is one of the most widespread food institutions in the world. In Brazil, the sector of bars and restaurants earns about 2.4% of its GDP (Gross Domestic Product) and is responsible for 8% of direct jobs in Brazil, with almost 6 million employees. The food outside home is supplied with about 1 million companies ranging from bars, restaurants, cafeterias, bakeries, etc. (ABRASEL, 2010).

When it comes to total expenditures of Brazilian families with food outside home, there was an increase of 29% between 2002 and 2008. Food away from home is about 31% of Brazilians spent on food. The countries that most consume outside home are the U.S.A, Portugal and UK, with a spending of 42%, 39%, 38% respectively in relation to the total expenditure on food (SEBRAE, 2010b).

Thus, it is possible to observe the expressiveness of the sector in the Brazilian economy. In addition, the restaurant industry is closely linked to other economic sectors as tourism, agribusiness, fisheries, and education, among others.

Recife, which is located in north-eastern Brazil, has the largest Gastronomic Center of the region and one of the biggest in the country. There are about 1.800 establishments in the formal sector including restaurants, bars and nightclubs. These companies are responsible for about 120,000 direct and indirect jobs in Recife (ABRASEL, 2010).

The economy of northeast Brazil showed a remarkable performance during 2009 and the first quarter of 2010 which resulted in a GDP growth of 3.8% over 2008. The sectors that contributed most to this growth were: services (4.1%), followed by industry (3.8%). Today the state owns about 13 main hotel projects to support the World Cup to be held in 2014. Each hotel has restaurant services and lobby bar. These projects total an investment of R$ 3.7 billion that promises to generate about 23,905 direct jobs and 43,820 indirect jobs (SEBRAE, 2010a).

2.3 Researches about the Restaurant Sector

Several studies contribute to an improvement of the Restaurant Sector. Ones focus on managements matters, as on how restaurants can optimize their revenue and deal with failures; others focus on customer's behaviour; on how they chose a restaurant or what are their preferences and expectations. Both bring valuable contribution to the sector in order to help entrepreneurs enhance their profit while the clients are well satisfied with the services to them offered. A few researches made about the Restaurant Sector are here disscussed.

A paper published at the Cornell Hotel and Restaurant Administration Quarterly (M. & Susskind, 2002) brings interesting information about bad word-of-mouth communication, when consumers experience a service failure at a restaurant. The study shows that the customers, who participated of the survey, are more likely to talk to others about an unpleasant experience at a restaurant when little is done to correct the service failure. This shows the importance of the correction to be proximate to the real desire of the customer, rather than to be some correction considered standard as, for example, offering

a drink or other kind of courtesy, especially when the courtesy has little to do with the principal mistake. However, the customer will feel more satisfied if he has the impression that the correction was thought specifically for his case and, as consequence, will be less probable to talk to others about his bad experience.

A GS&MD study (SEBRAE, 2010b), about the food-service scenario in Brazil, states that social economic changes have had a great impact on the country's sector throughout the years. The changes are mainly the economic growth, resulted by the increase of the GDP in the past 5 years, and also the increase of percentage of the population in the middle class. The social changes include the women participation in the labour market with a representation of 43% (in 2010) and the number of people living alone that, in 1996 was 3.4 million and rose to 6.3 million in 2006. All these aspects helped the industry to double its earnings between 2005 and 2010 which makes the country one of the five with the highest family expenditures in food away from home.

The study also approached a qualitative methodology to try to understand the perception and characteristics of people who eat outside home. A total of 1,224 consumers from the capitals of Porto Alegre, São Paulo, Rio de Janeiro and Recife were interviewed. The research brings information about the kind of establishments chosen to eat during different meals, as lunch, dinner and breakfast, also on how much people expend in each meal, and the criteria that define the food quality, among other aspects.

Some of the important results found was that the respondents spend about R$ 11.6 with lunch in Recife during weekdays and R$ 17 in São Paulo. During the weekend the spent is R$ 35.9 in Recife and R$ 44 in São Paulo. The highest expenditures are with dinner in the weekends which are about R$ 41.4 in Recife and R$ 53.8 in São Paulo. 83% of respondents from São Paulo ask for food at home against 54% of Recife. Pizza is the most ordered food by respondents of every capital. Soda is the most ordered beverage to accompany meals, and the majority of respondents drink while eating. For every age range (15-24, 25-29, 30-49, >49 years old) the market is the main establishment to buy food to eat at home. For other results and details see (SEBRAE, 2010b).

Another study, about queue management policies (McGuire & Kimes, 2006), analyse, from a opinion survey, the level of fairness of each policy and the likelihood respondents

would return to a restaurant after experiencing some queue policies. This paper influenced both questions 32 from this dissertation's surveys (see sections 5.4.7 and 8.2.2). It is considered that, even if the restaurant uses some specific types of policies, aside as using the first-come first-served policy, to maximize its revenue in the short run, it would lead to a decrease of the revenue in the long run if customers find the adopted policy unfair.

The study shows 4 different queue management policies: party size, VIP, large party, and call ahead (see section 5.4.7 for more details about the policies). Respondents have to imagine themselves in two situations, one where they would benefit from the policy, and another where they wouldn't. Respondents showed that in general, the level of fairness about a policy is related with how well they know that policy. The better they know, the more they accept a policy. Also, the likelihood to returning to a restaurant after experiencing the policies above is higher when customers have a good knowledge about the policy of the restaurant.

This shows the importance of restaurants giving their costumers good information about the type of queue management policy adopted by the restaurant, as the customers would well accept that policy and wouldn't find it unfair with greater probability.

This dissertation presents a statistical evaluation on surveys that were applied to both customers and restaurants' representatives. The main goal is to compare the perception of both regarding restaurants preferences and services quality, so that the objectives of clients and entrepreneurs can be more easily aligned, the first receiving the service they desire while the second can benefit from competitive advantage.

3.1 The Enquetes

All surveys were studies from the disciplines "Inferência Estatística" and "Sistemas Probabilísticos" from the Post-graduate Program of Production Engineering and Electronic Engineering Undergraduate. The questionnaires were applied by the students from these disciplines.

The surveys from 2007 and 2010 are very similar. Both try to identify the profile of the restaurants customers, and how it affects their habits and preferences. The survey also brings the perception of the consumers about the quality of a restaurant. However, the questionnaire from 2010 adds new information on how clients evaluate different types of queue management policies.

The survey applied to chefs and establishment's owners is important to observe how well they know their customers and as well to compare their perceptions about restaurant quality, services, etc.

3.1.1 Instructions to interviewers

Both surveys from 2007 and 2010 only approached adults over 18 years old. Another criteria to enter the survey was to have visited at least one restaurant in the past three months. The samples were balanced according to gender, residency area, and age. In the 2007 and 2010 surveys, data was collected from 1220 and 2006 consumers, respectively.

The following instructions were given to the interviewers:

- Make yourself clear when asking a question: observe if the interviewed gave you sings that he fully understood the question;
- Obtain answers for every single question: do not leave any question without an answer, even if it means that the interviewed gives an estimate, or that you have to find someone else to interview;

- The questions must be responded as indicated: there is only one answer to each question that must be filled respecting the questionnaire's format;
- Do not influence the interviewees' answers: be as neutral as possible when asking questions without suggesting direct or indirectly the answers. Do not demonstrate feelings or your viewpoint;
- Identify yourself with your code: this step is important to check the consistency of the database.

3.1.2 The consistency of the survey data

The consistency of the survey data was verified by testing four random subsamples with the same approximate size (between 489 and 499), extracted from the total interviews to ensure that the data is consistent and robust.

The subsamples were compared to several variables from the questionnaire (personal income, household income, number of cars, educational level and age).

The comparison between the four sub-samples from the 2010 database presents statistical similarity, proving the data robustness.

Figure 3.1 shows the average personal income across sample. According to the Kruskal-Wallis H Test (p= 0.545) there is no statistical difference between means.

The graph in figure 3.2 shows the average household income per sample. According to the Kruskal-Wallis H Test (p= 0.49) there is not statistical difference between means.

Figure 3.3 shows the average number of cars across samples. The difference between means is not statistically significant (Kruskal-Wallis H Test - p-value= 0.49).

The averages of level of education shown in figuure 3.4 are not statistically different (Kruskal-Wallis H Test - p-value= 0.30).

Also, according to figure 3.5 and the Kruskal-Wallis H Test with p-value of 0.10, there are not statistical differences between the ages averages for each subsample.

The graphs and analyses show that the 2010 database is robust meaning that the number of interviews collected is large enough to present the profile of the sample and to report the preferences of restaurant consumers.

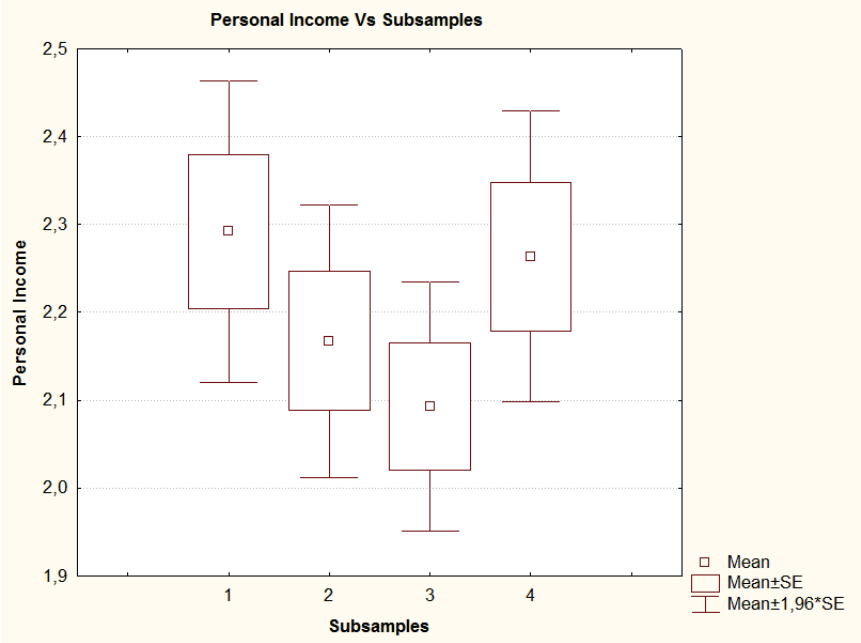

Figure 3.1: Box Plot - Personal Income Vs Subsamples

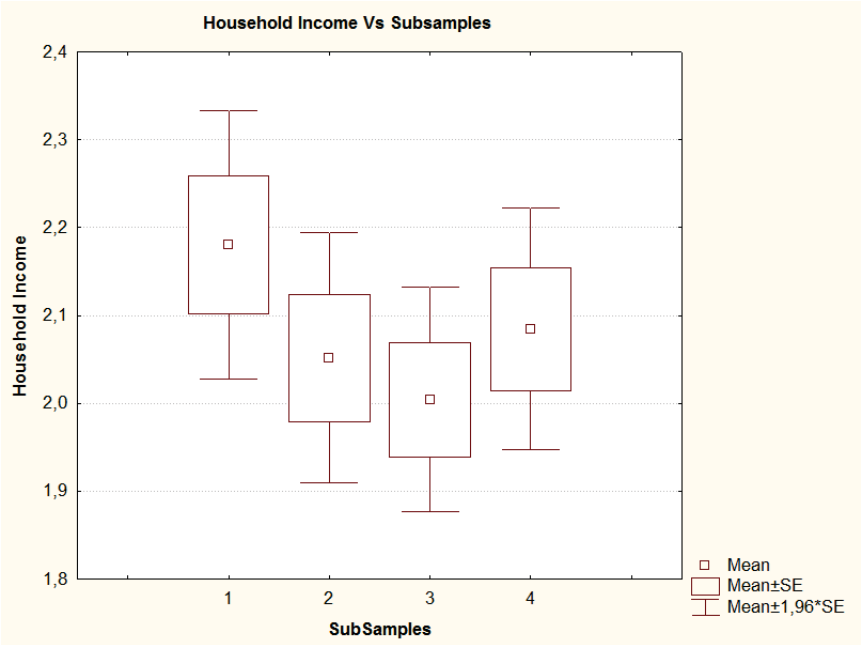

Figure 3.2: Box Plot - Household Income Vs Subsamples

The kolmogorov-smirnov test was used to test the gaussianity of the data. As the variables are not Gaussian ($p< 0.05$), the tests chosen during the dissertation for the analysis are non-parametric.

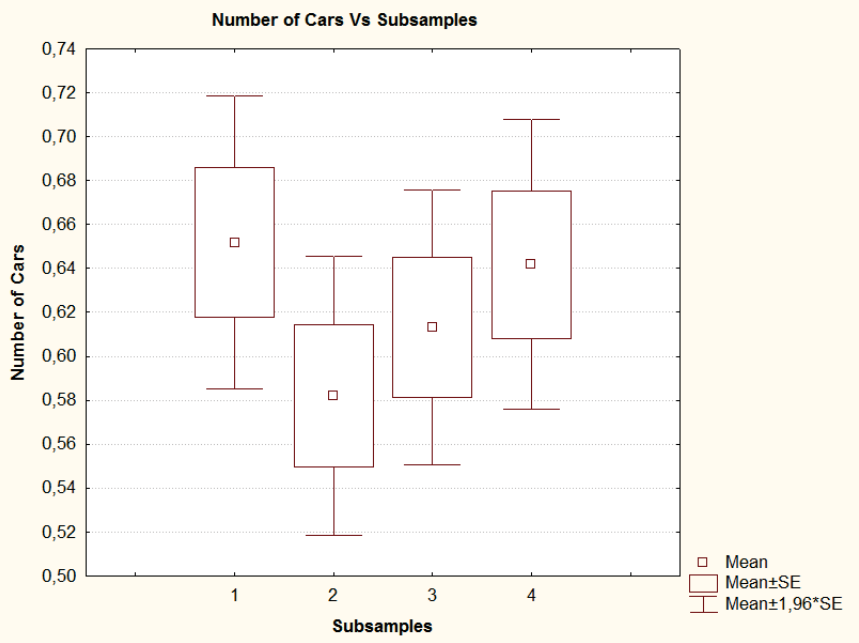

Figure 3.3: Box Plot - Number of Cars Vs Subsamples

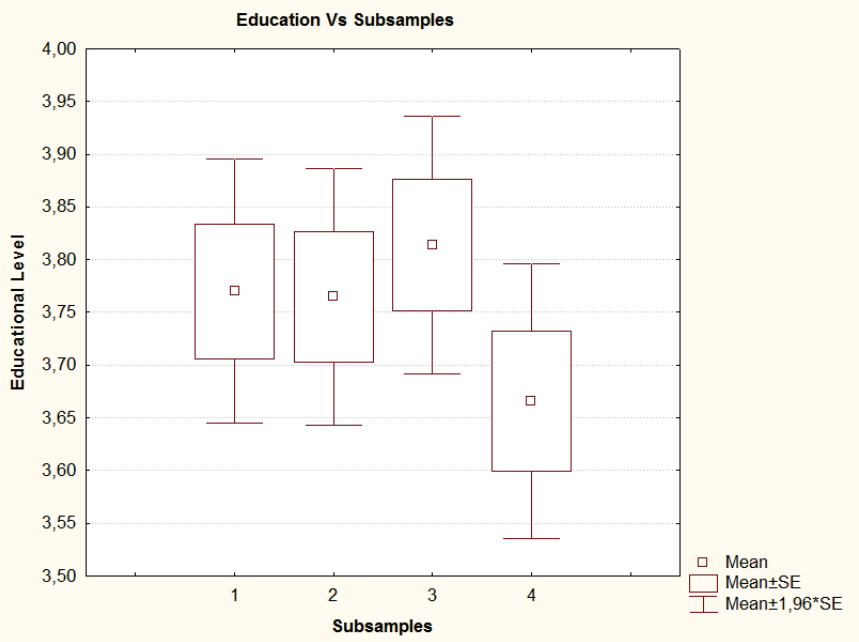

Figure 3.4: Box Plot - Level of Education Vs Subsamples

3.2 Consumers' Social-Economic Profile

This section will present the description of the data base regarding respondents' social economics characteristics, such as age, income, area of residency, number of children, marital status, among others. The section will also explore how variables like gender, level of education, age and professional occupation affect the household income and personal

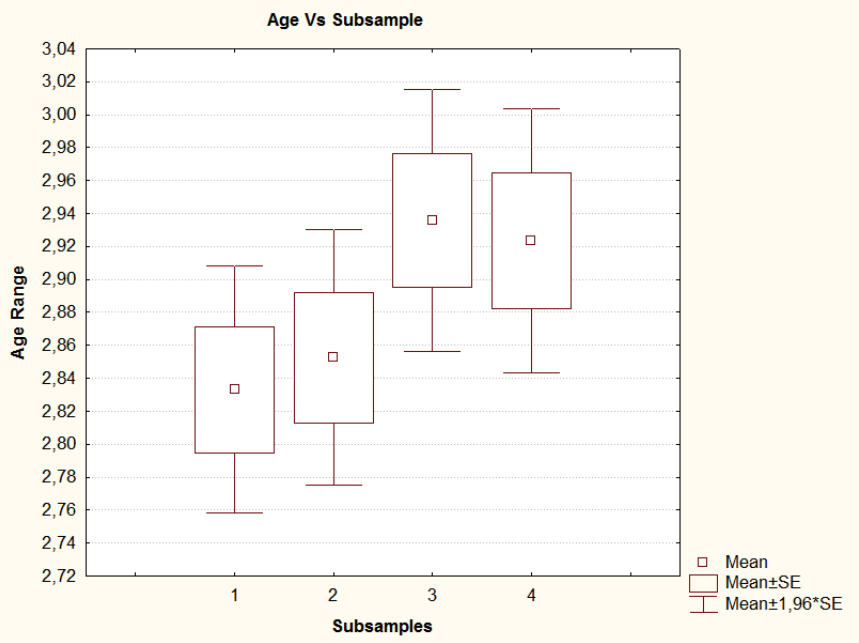

Figure 3.5: Box Plot - Age Vs Subsamples

income. The descriptions are addressed to the answers from question 1 to 12 in the 2010 questionnaire.

3.2.1 Gender, Area of Residence, Age, Marital Status and Number of Children

The graph in figure 3.6 represents the gender percentage of respondents. As shown, the interviews were conducted with approximately the same number of women and men.

Figure 3.7 presents how the respondents are distributed per area. As we can see, the respondents from each area represent approximately 15% of the sample, showing that one of the survey instructions regarding the number of interviewees per area was almost fully respected.

The following graph in figure 3.8 shows the sample percentage of each age group. Respondents over 35 and under 55 years old are 51% of the sample.

Table 3.1 shows the sample characteristics regarding the marital status. We can divide the sample in two big groups: with partners (married or in common law marriage) and without a partner (single, divorced and widowed). The groups represent 56% and 44% of

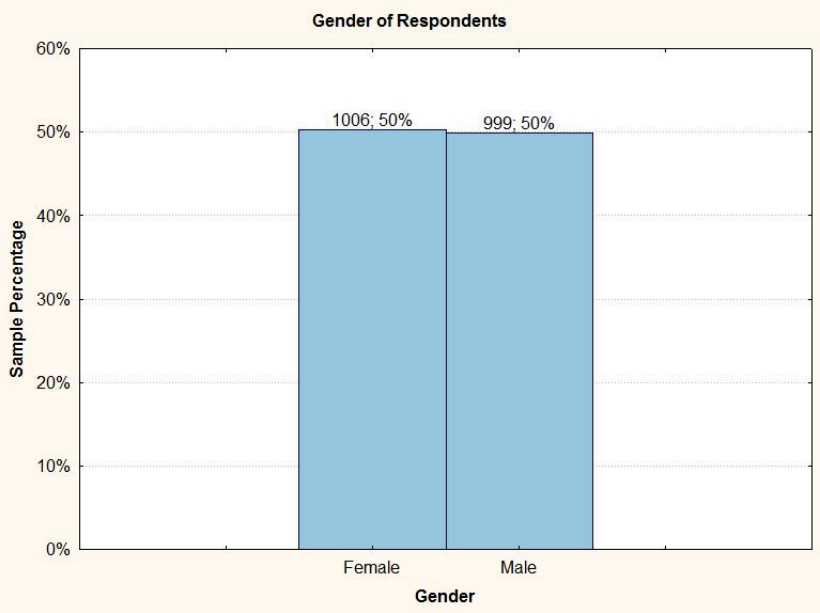

Figure 3.6: Frequencies - Comparison between the Gender of Respondents

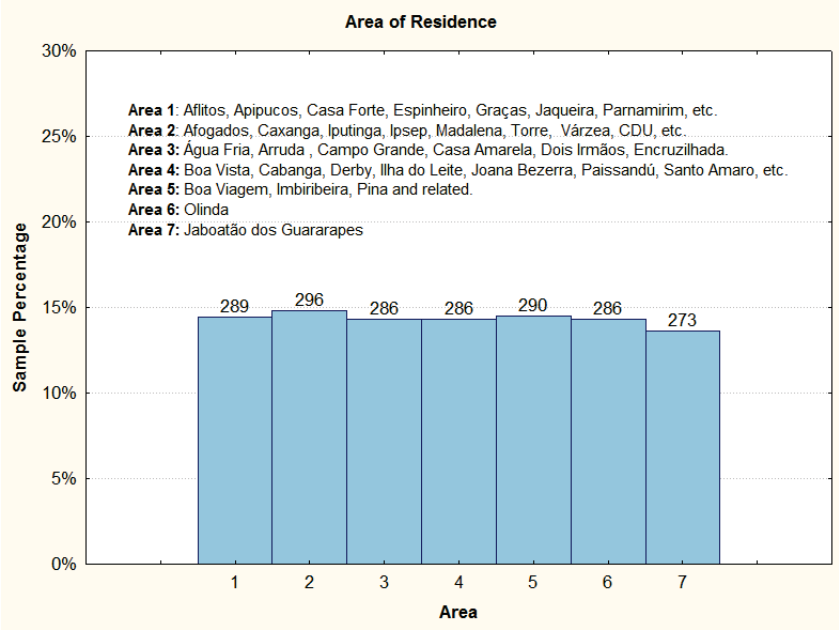

Figure 3.7: Frequencies - Comparison between the Area of Residence of Respondents

the sample respectively, as presented in figure 3.9.

The interviewees were questioned about how many children under 12 years old they had. This question is important to evaluate for example the parents' preferences when choosing a restaurant. Table 3.2 shows the sample percentage for each number of children. According to the graph in figure 3.10 it is possible to see that the vast majority, around 72% of respondents, do not have children under 12 years.

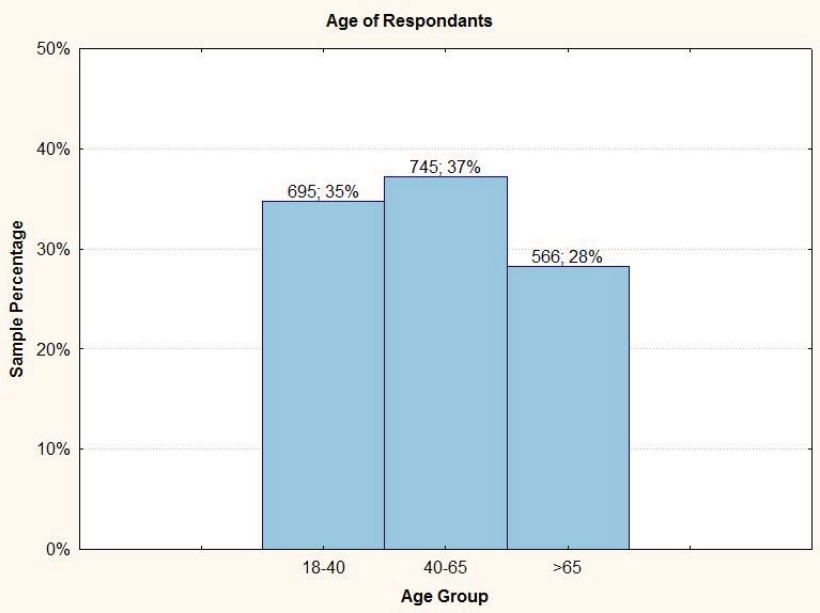

Figure 3.8: Frequencies - Comparison between the Age Group of Respondents

Table 3.1: Marital Status Frequencies

Marital Status	Count	Percent
Single	531	26.52
Married	995	49.70
Divorced	157	7.84
Widowed	201	10.04
Common-law Marriage	118	5.89

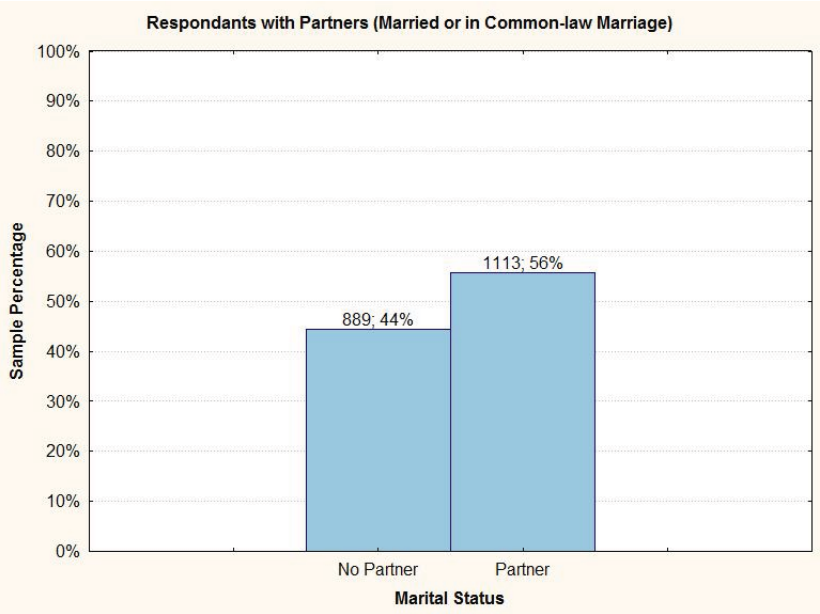

Figure 3.9: Frequencies - Respondents with a Partner

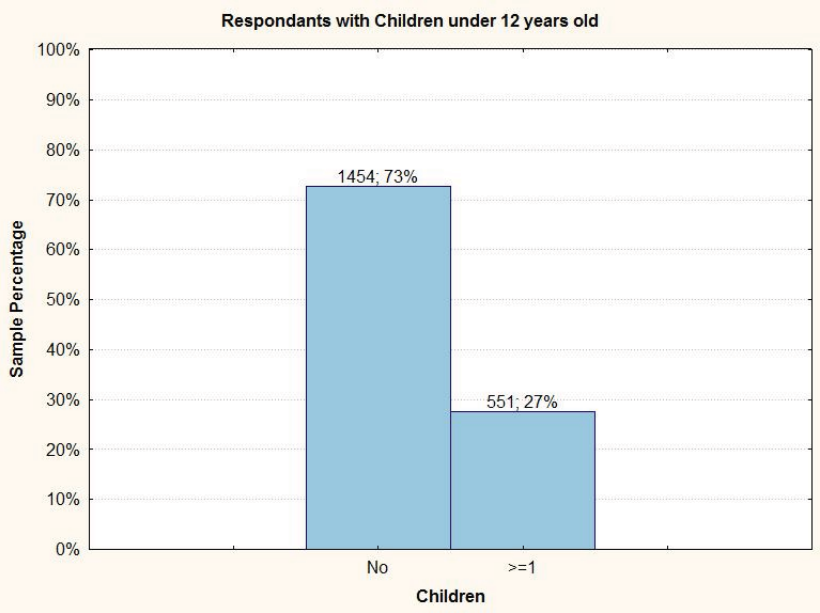

Figure 3.10: Respondents With Children Under 12 Years Old

3.2.2 Level of Education, Family Income, Personal Income, Number of Cars

Table 3.3 presents the relative frequency regarding each level of education. There is a distribution concentration in the categories High School level with 38% of respondents and University Level with 24% of respondents. Those categories were reorganized into two big groups of those without a higher level of education, representing 60% of the sample, and those with a higher level of education according to figure 3.11.

The next graphs in figures 3.12 and 3.13 show the sample characteristics regarding the income. The graph in figure 3.12 represents the sample's household income per month. About 74% of the sample's household is less than R$ 4,000.01. Only 5% earns more than R$ 10,000.00. The graph in figure 3.13 reveals the distribution of respondents by personal income range. The vast majority (72%) earns less than R$ 2,000.01 monthly.

Table 3.2: Respondents With Children Under 12 Old

Number of Children under 12	Count	Percent
0	1454	72.51
1	343	17.10
2	163	8.12
>2	45	2.24

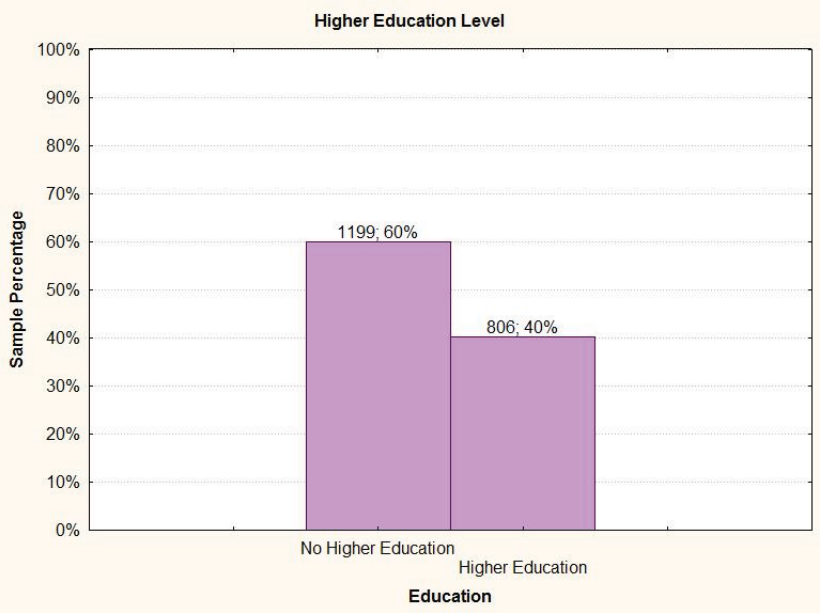

Figure 3.11: Respondents With Higher Education

The graph in figure 3.14 represents how many cars the respondents possess. The sample percentage of those who have and those who do not have a car are approximately the same.

3.2.3 Professional Matters

The following graphs show the professional characteristics of the sample. The figure 3.15 present the occupation sector of each respondent. About 30% of the sample works at a private institution, and 14% is a public employee. Another expressive category is autonomous workers that represent 13% of the sample. Around 21% of the sample is retiree, since 28% of the sample is over 65 years old.

Table 3.3: Levels of Education Frequencies

Level of Edutation	Count	Percent
Elementary School	91	4.53
Middle School	193	9.62
High School	781	38.95
Vocational Education	251	12.51
College (University)	491	24.48
Specialization	114	5.68
Master's Degree	63	3.14
Doctorate	21	1.04

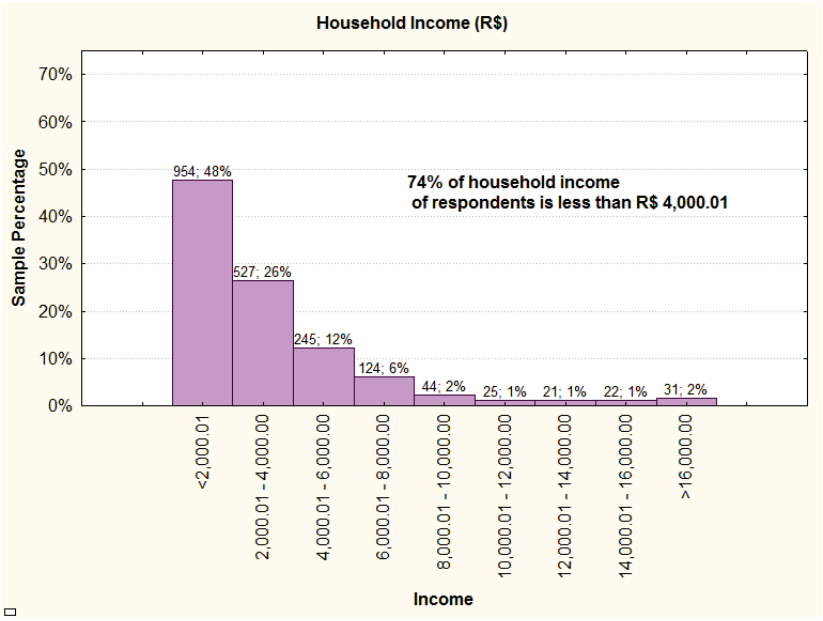

Figure 3.12: Household Income

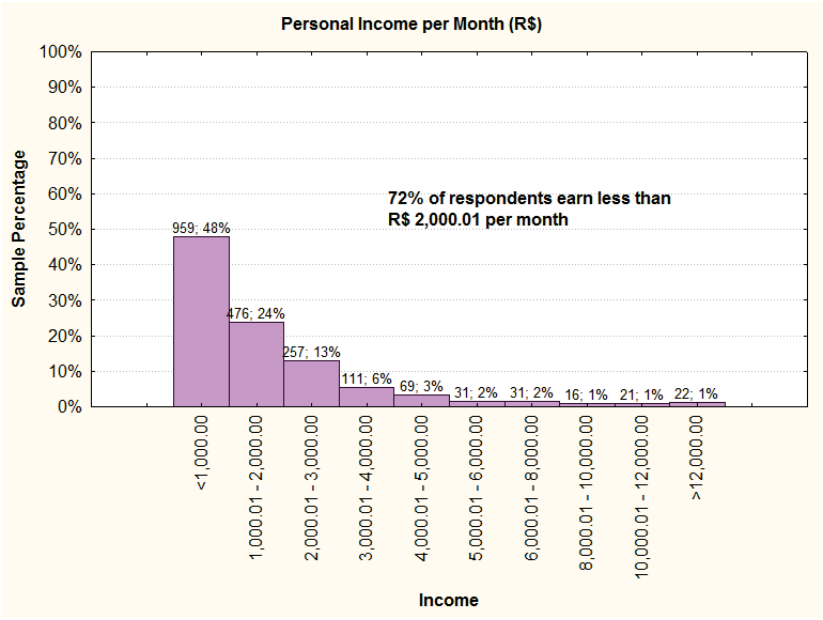

Figure 3.13: Personal Income

The graph in figure 3.16 ilustrates the distribution of respondents according to their organization's sector in descending order of concentration. 30% of respondents states that none of the options given in the questionnaire correspond to their ogarnization's sector, 18% works at the service sector, and only four works at the agriculture sector.

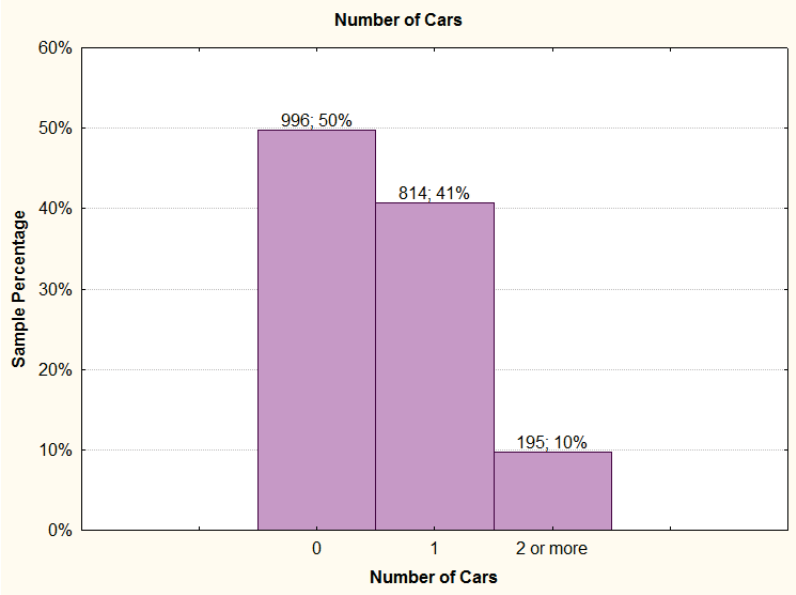

Figure 3.14: Number of Cars

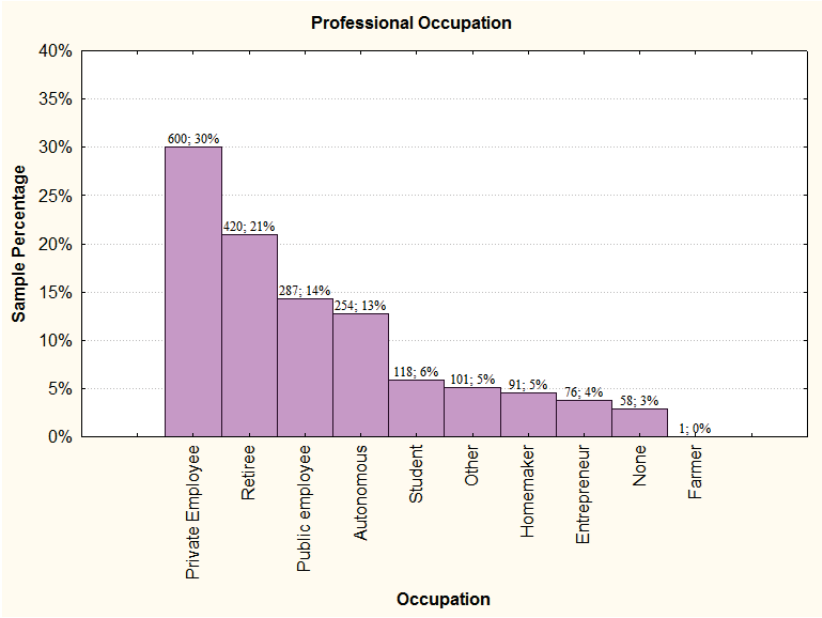

Figure 3.15: Professional Occupation

3.2.4 Respondents'Income

The next graphs show if variables, such as area of residence, level of education, gender, occupation and age influence on the respondents' income.

The graph in figure 3.17 represents the interaction between the area of residence and household income. According to Kruskal-Wallis H test ($p< 0.01$) there is statistical evidence that the household income is different by area.

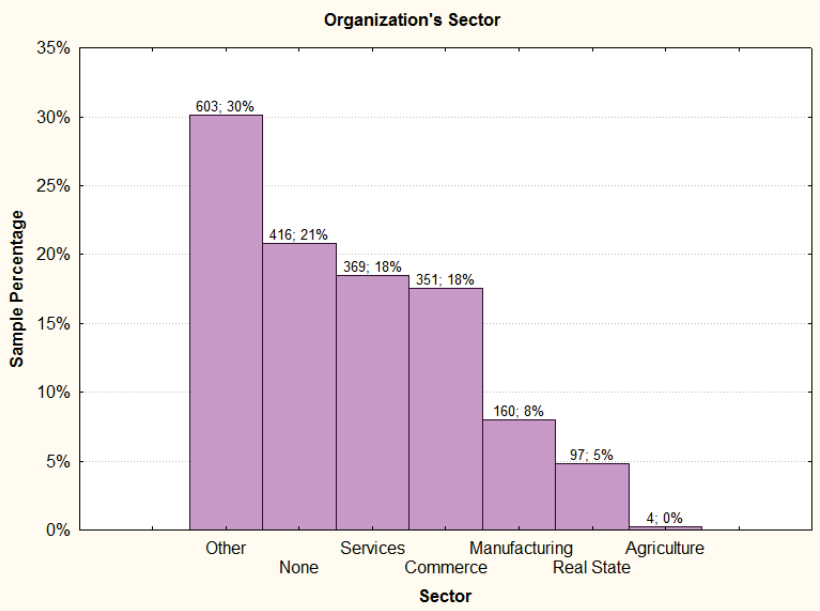

Figure 3.16: Organization's Sector

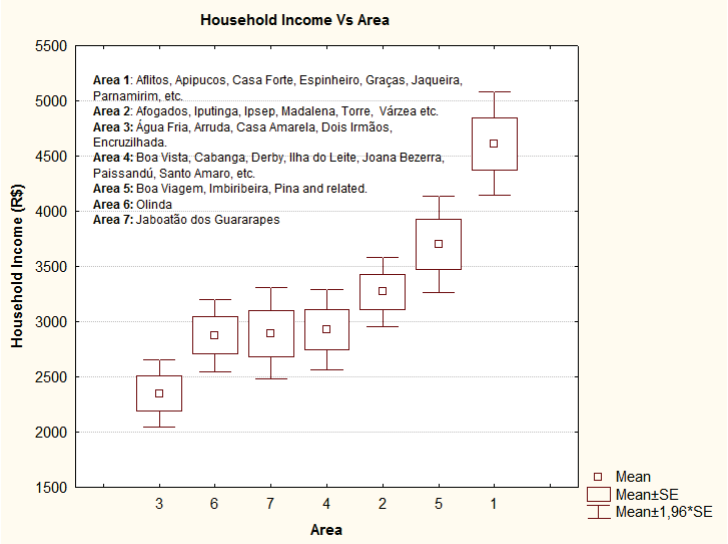

Figure 3.17: Household Income Vs Area of Residence

The same happens comparing the difference between male and female personal income means in figure 3.18. According to the Mann-Whitney-Wilcoxon U test ($p<0.01$), the difference is statistically significant. When the personal income is compared between male and female with the same level of education, in this case with university degree, as showed in figure 3.19, it is possible to see that men still have highest personal income than women (Mann-Whitney U test - $p<0.01$).

There is substantial numerical difference between the personal income of age groups.

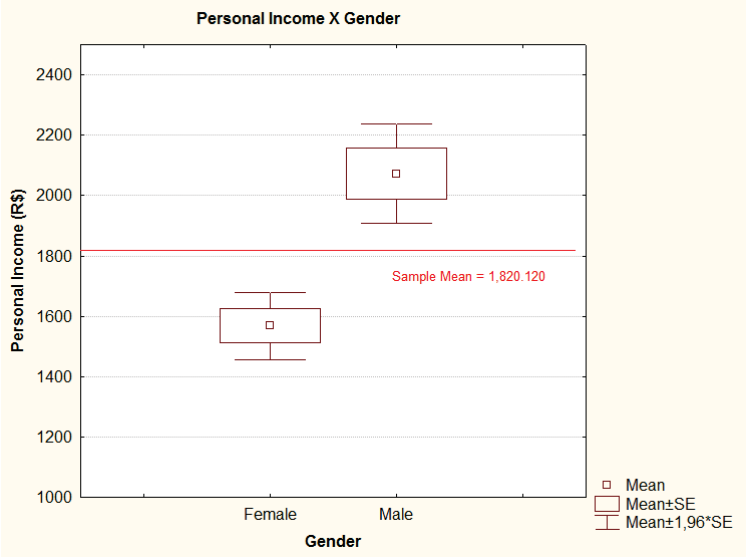

Figure 3.18: Personal Income Vs Gender

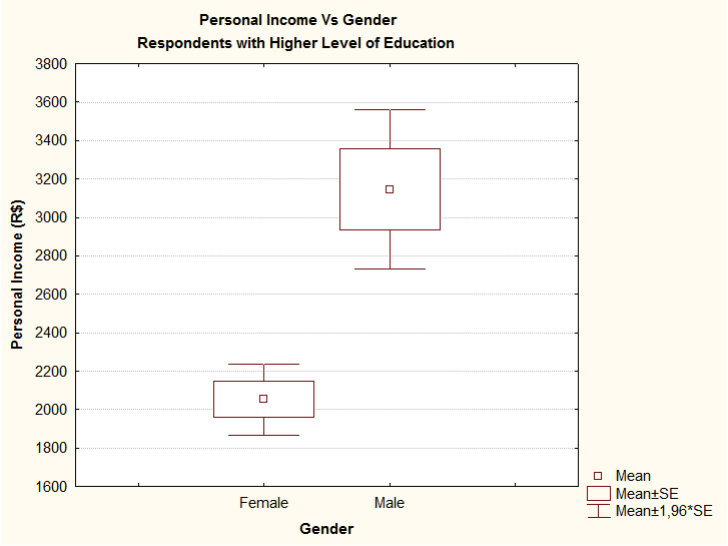

Figure 3.19: Personal Income Vs Gender With the same Level of Education

The difference is statistically significant (Kruskal-Wallis H test - $p<0.01$). There is also statistical difference between the personal incomes of respondents' professional occupation (Kruskal-Wallis H test - $p<0.01$). The same happens when it comes to the job position, according to the Kruskal-Wallis H test, there is a statistically significant difference between groups ($p<0.01$). See figures 3.20, 3.21 and 3.22.

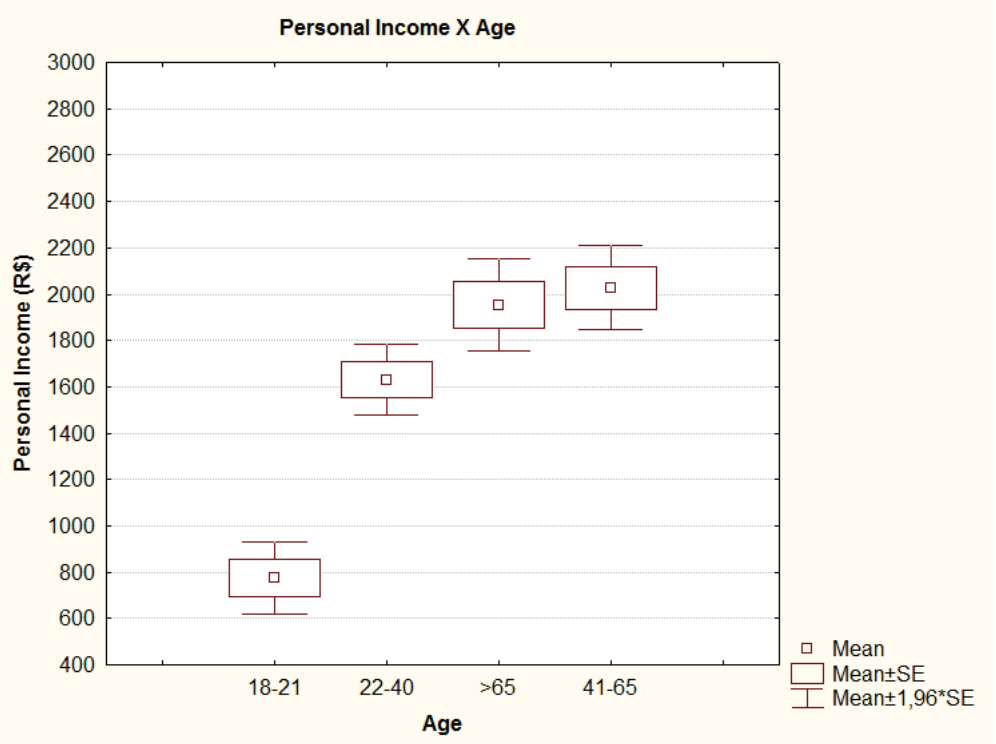

Figure 3.20: Personal Income Vs Age Group

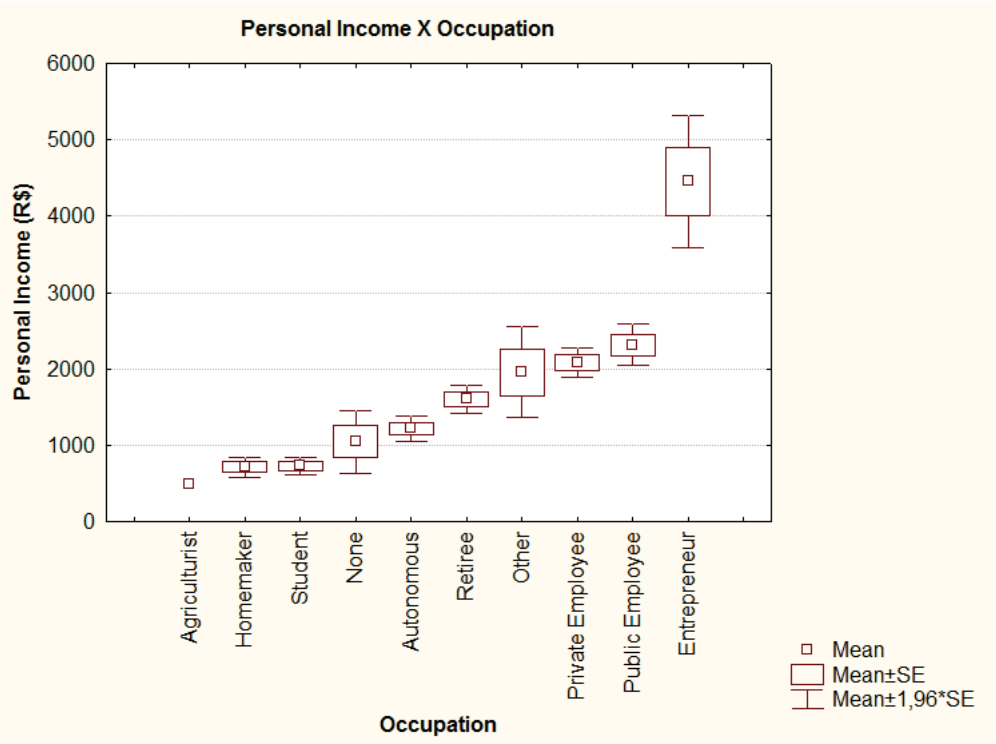

Figure 3.21: Personal Income Vs Professional Occupation

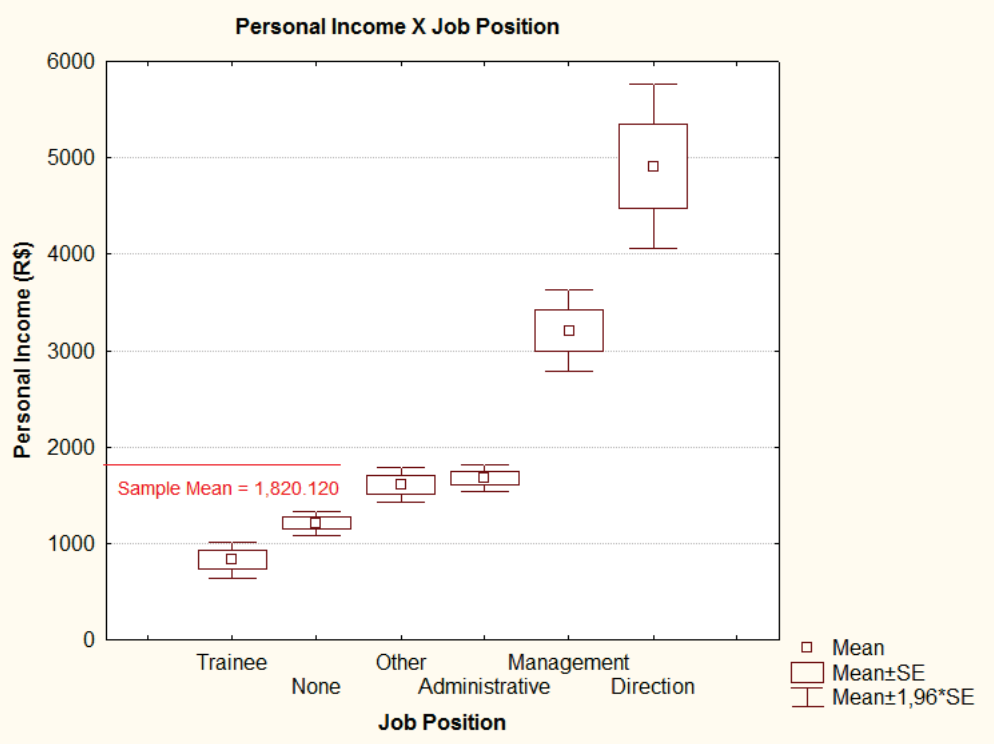

Figure 3.22: Personal Income Vs Job Position

4.1 The Influence of the Profile on Respondents' Habits and Preferences

This section will show how respondents' profiles influence on their restaurant habits and preferences. The tests chosen were considered as the most important for understanding the behavior of the interviewed consumers. The variables analyzed are described in table 4.1 with their corresponding question in the questionnaire. The other variables used are simply recategorizations from those variables.

Table 4.1: List of Variables

Question	Explanatory Variable	Question	Response Variables
1	Gender	13	Group Size
2	Age	14	Main Reason to Visit
3	Level of Education	15	Period
4	Marital Status	16	Meal
5	Area of Residence	17	Frequency
6	Number of Children under 12	18	Service System
7	Personal Income	19	Appreciated Cuisines
8	Household Income	20	Main Dish
9	Number of Cars	26	Form of Payment
10	Professional Occupation	27	Media
11	Working Sector		
12	Job Position		

"Level of Education" is an ordinal variable. During some analysis, where the mean of level of education is mentioned, the categories of the variable were replaced by numbers in accordance with table 4.2.

Table 4.2: Level of Education

Associated Number	Categories
1	Elementary School
2	Middle School
3	High School
4	Vocational Education
5	College (University)
6	Specialization
7	Master's Degree
8	Doctorate

4.1.1 The Influence of the Profile on the Number of People Respondents Bring to a Restaurant

The interviewees were asked about with how many people they usually go to a restaurant. The descriptive statistic is described in table 4.3. On average the number of people that respondents report to usually go to restaurants is three. The maximum number reported is fifteen.

Table 4.3: Number of people that the respondents take to a restaurant

	n	Mean	Minimum	Maximum	Std Dev.
Group Size that Respondents Go to a Restaurant	2000	3.04	0	15	1.859

The group size can be influenced by the consumers social-economic profile. The results are in tables A.1, A.2 and A.3 in appendix A.

The only substantial numerical differences of the number of people that respondents usually bring to a restaurant across the profile are the ones that occurs when they are compared to area of residence and level of education. The means of the groups sizes for the residency areas are statistically different (Kruskal-Wallis H test $p<0.01$) which is represented by the graph in figure 4.1. The level of education also influences on how many people respondents take to a restaurant (Kruskal-Wallis H test - $p=0.01$) and is represented by graph 4.2.

4.1.2 The Influence of the Profile on the Reason Why Respondents Visit a Restaurant

The interviewees were asked about what made them visit a restaurant. The frequencies for each given option are presented in the graph in figure 4.3 The vast majority of the sample (81%) goes to restaurants for leisure. This means that besides eating food they wish to feel entertained at a restaurant.

The frequencies for the reason to visit a restaurant of each category of each group are listed in tables A.4, A.5 and A.6 in appendix A. Even detailing the frequencies, "leisure"

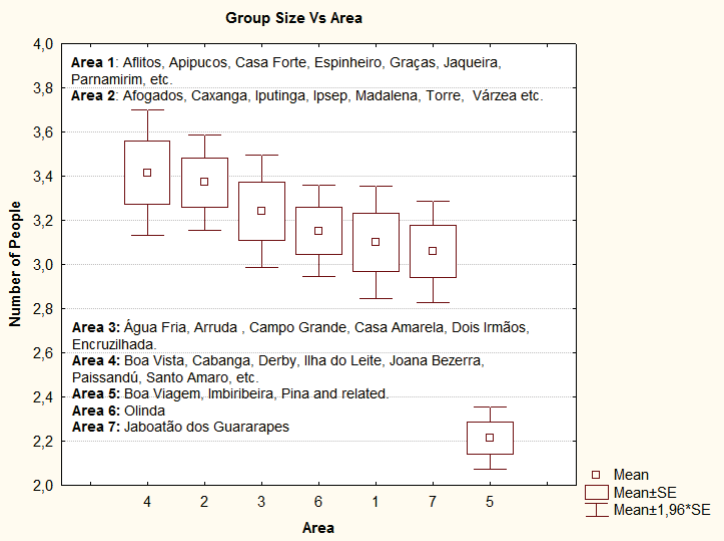

Figure 4.1: Group Size Vs Area of Residence

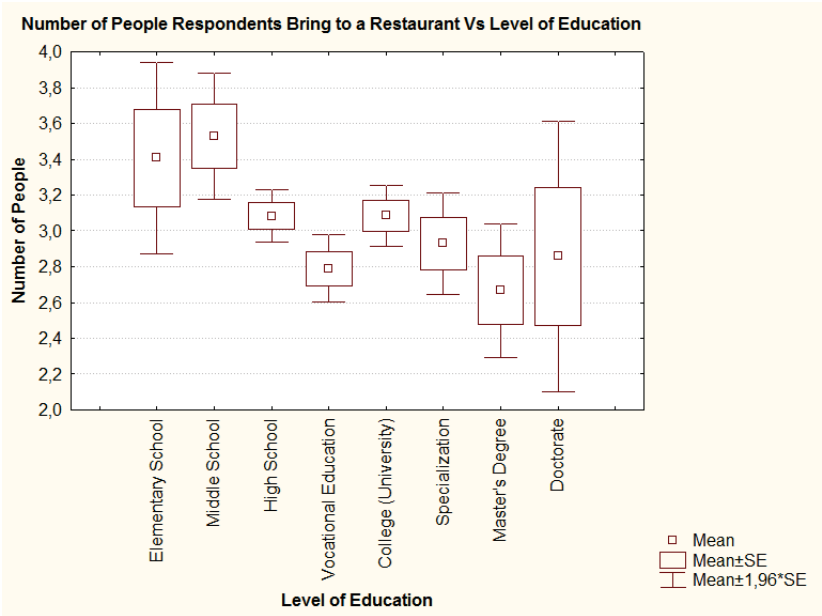

Figure 4.2: Group Size Vs Level of Education

is still the main reason to go to a restaurant for each category.

The graph in figure 4.4 shows that there is a numerical difference between the educational level means of the reasons consumers go to a restaurant. According to the Kruskal-Wallis H test ($p<0.01$), the difference between means are also statistically significant. The highest mean of level of education are of those who go to a restaurant for business or work. Some of the lowest means are of those who go to restaurant because of lack of option, leisure and other reasons.

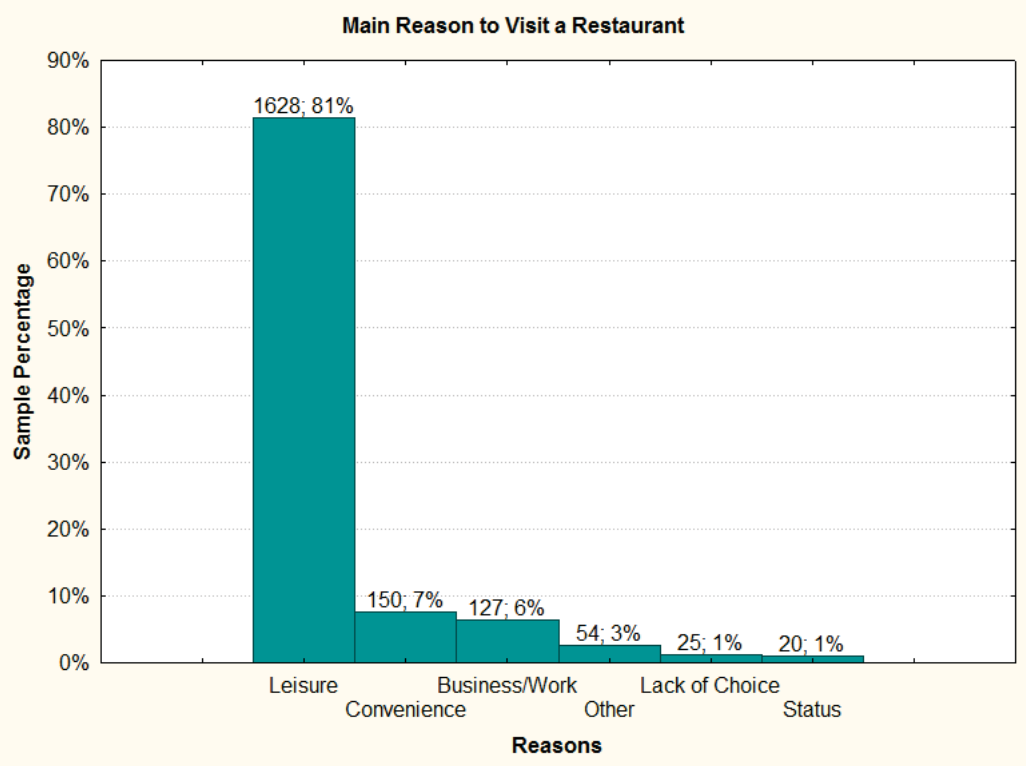

Figure 4.3: Frequencies - Main Reason to Visit a Restaurant

There is a similar result when the means of personal income are compared between the reasons in graph 4.5. The difference between means is statistically significant (Kruskal-Wallis H test - $p< 0.01$), and the numerical difference is substantial. The highest mean is of the group that visit restaurants because of status or business matters and convenience. The other options have the lowest means.

4.1.3 The Influence of the Profile on the Choice of Days to go to a Restaurant

In answering the question about which day of the week the interviewees usually go to restaurants, 55% replied the weekends were the time of the week they most went to restaurants. The percentage of respondents by period is shown in figure 4.6.

From figure 4.7 and the Mann-Whitney U test presented in table 4.4, it is possible to say that consumers that usually frequent restaurants during weekdays have a higher level of education. Consumers that go to restaurants mostly on holydays are the ones with the

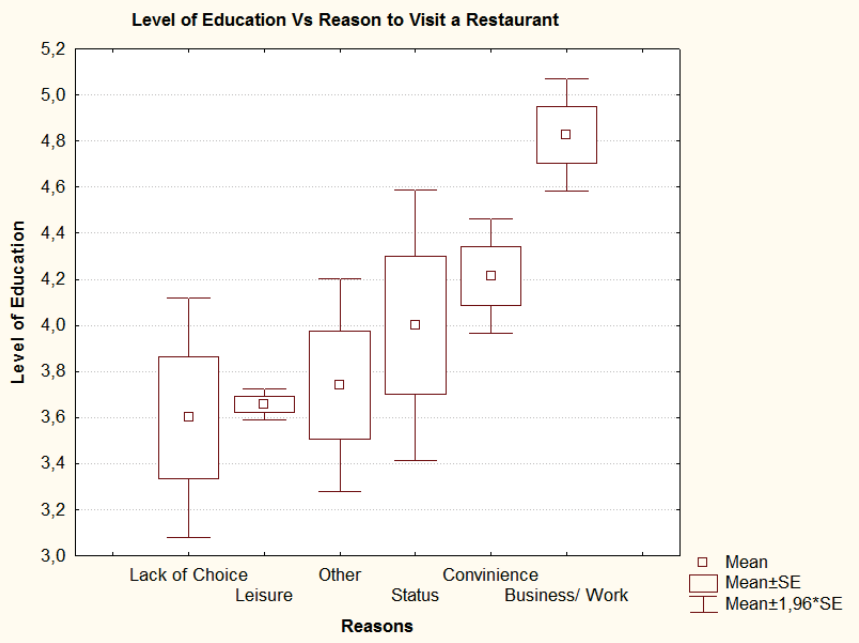

Figure 4.4: Level Education Vs Reason to Visit a Restaurant

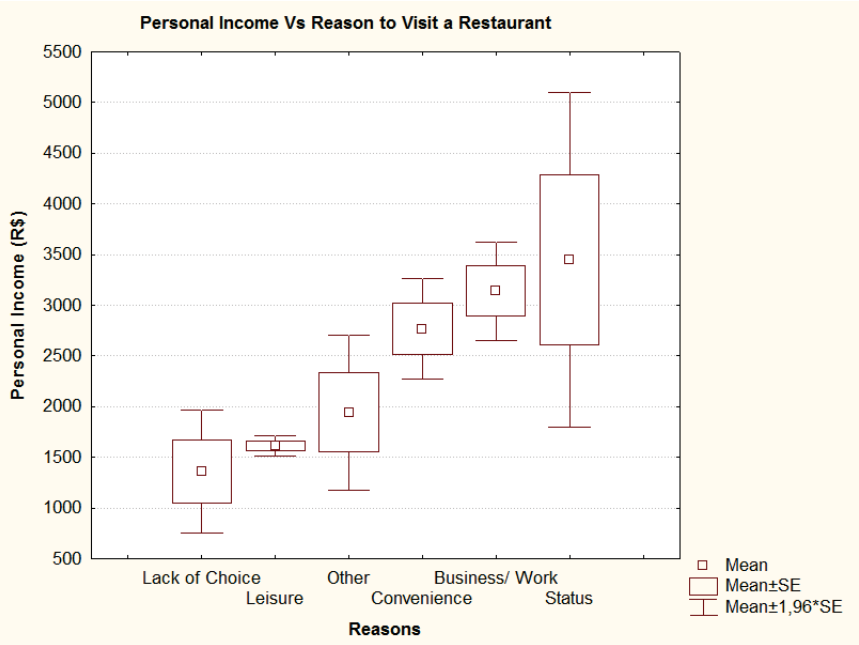

Figure 4.5: Personal Income Vs Reason to Visit a Restaurant

lowest level of education.

According to figure 4.8 and table 4.5, there is significant difference between the means of personal income for each group of people that usually go to restaurants in different days of the week. Those who go during weekdays have the highest personal income mean, and those who usually frequent restaurants on holydays are the one with the lowest mean.

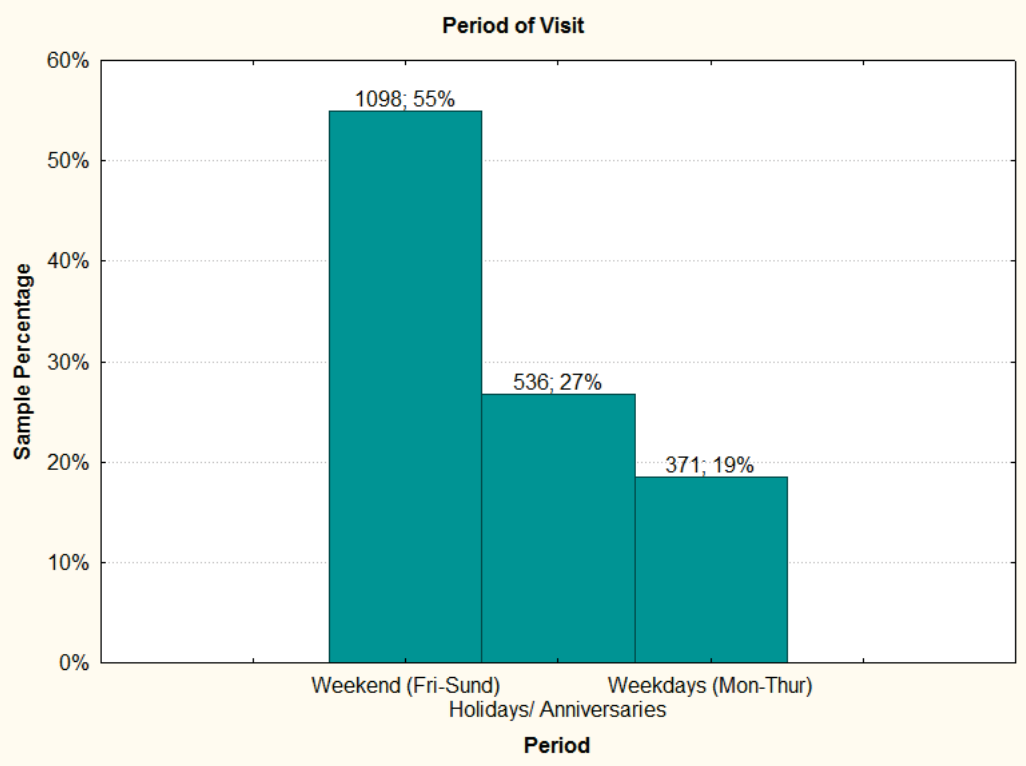

Figure 4.6: Frequencies - Period of Visit

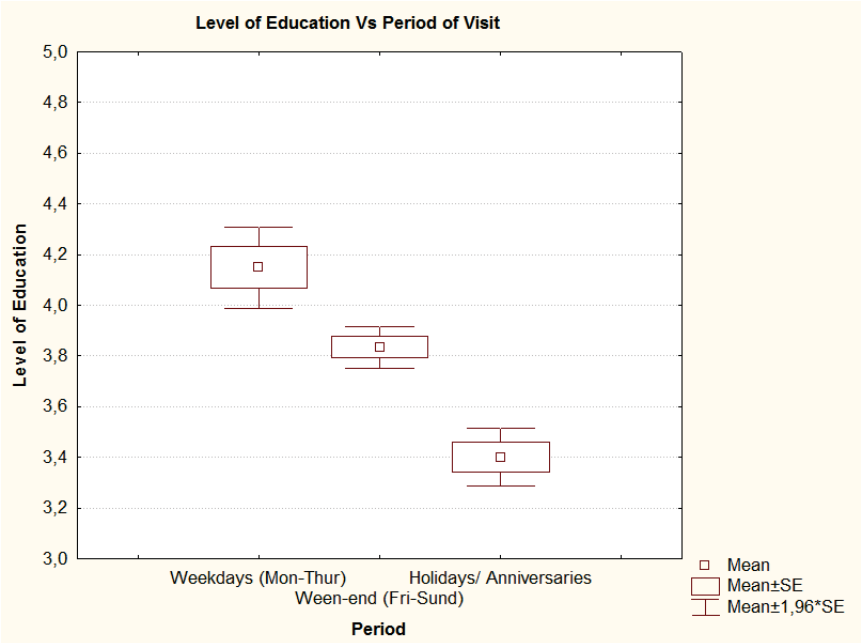

Figure 4.7: Level of Education Vs Period of Visit

4.1.4 The Influence of the Profile on the Favourite Meal

The interviewees chose from "Lunch", "Dinner" and "Other" what was the meal eaten out most frequently. The graph in figure 4.9 shows the relative frequencies for each meal.

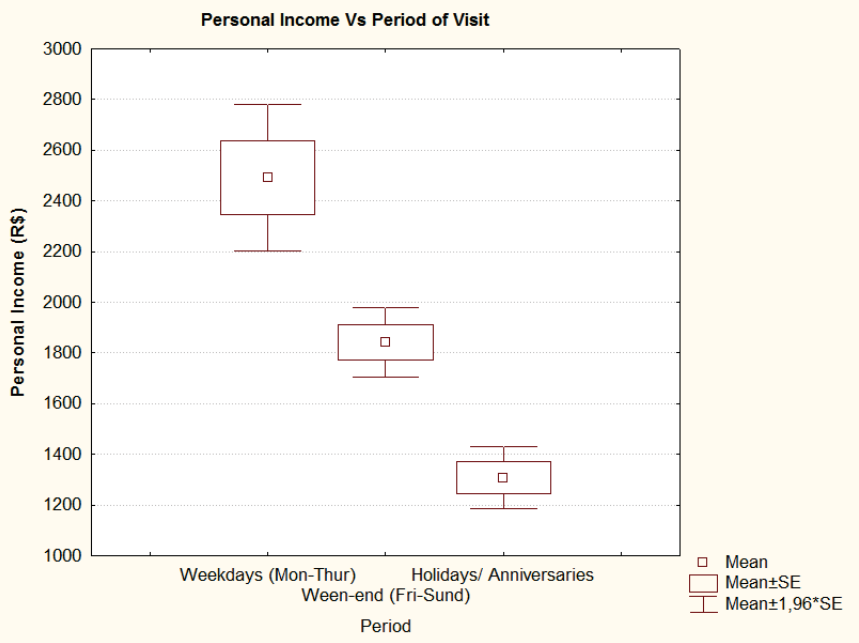

Figure 4.8: Personal Income Vs Period of Visit

The graphs 4.10, 4.11 and 4.12 show the influence of the consumer profile regarding age, level of education and personal income on their preferable meal. According to the Kruskal-Wallis H Test ($p< 0.01$), there is statistical difference of ages across meals. Respondents that go to restaurant for other meals rather than dinner and lunch, such as breakfast or brunch, are younger than those who go for dinner and lunch, being 44 years old on average. However it is possible to see that the groups belong to a similar age range. When it comes to the level of education respondents that go to restaurants to have "Other" meal have the lowest level of education. The difference is also statistically significant (Kruskal-

Table 4.4: Mann-Whitney U Tes for Education Vs Period of Visit

Mann-Whitney U Test	
Groups	p-level
Weekdays - Weekend	< 0.01
Weekend - Holydays	< 0.01
Weekdays -Holydays	< 0.01

Table 4.5: Mann-Whitney U Tes for Personal Income Vs Period of Visit

Mann-Whitney U Test	
Groups	p-level
Weekdays - Weekend	< 0.01
Weekend - Holydays	< 0.01
Weekdays -Holydays	< 0.01

Wallis H Test - $p< 0.01$). The personal income of respondents that visit restaurants to have dinner or lunch is on average between R$ 1,800.00 and R$2,000.00 and is also higher than the average income of those who go for other reasons (Kruskal-Wallis H Test - $p< 0.01$).

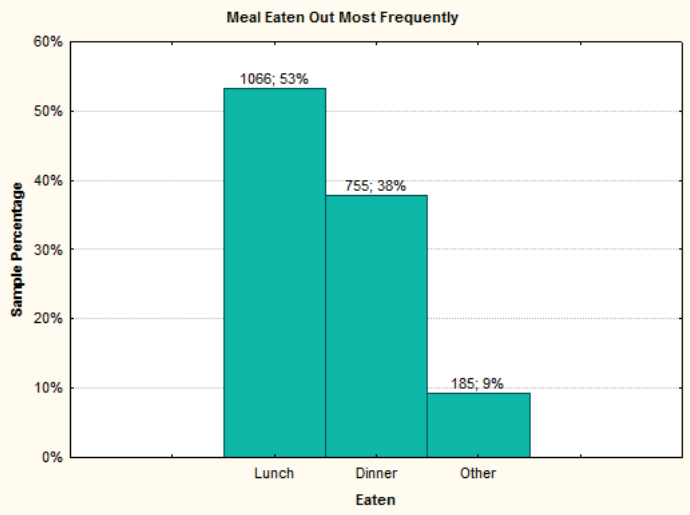

Figure 4.9: Frequencies - Meal Eaten Out Most Frequently

Figure 4.10: Age Vs Meal

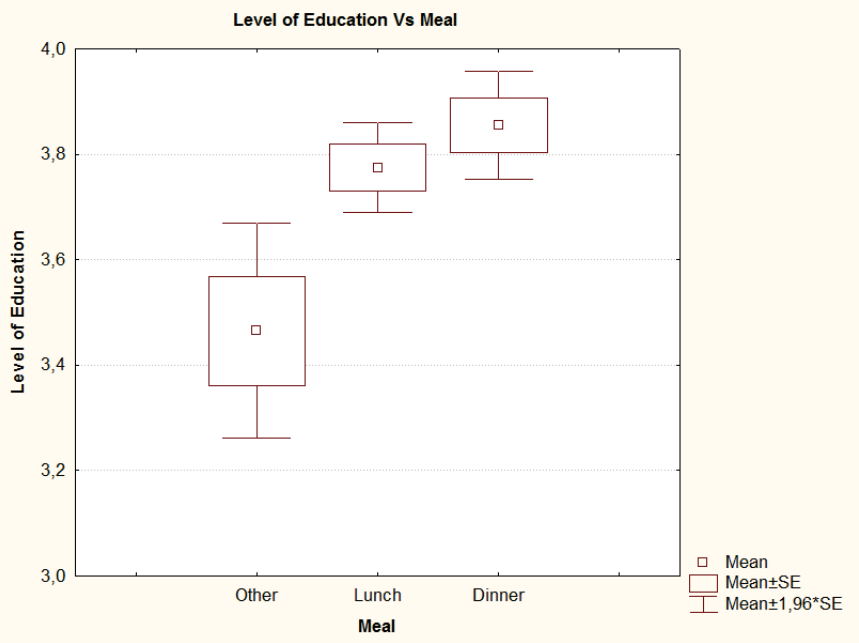

Figure 4.11: Level of Education Vs Meal

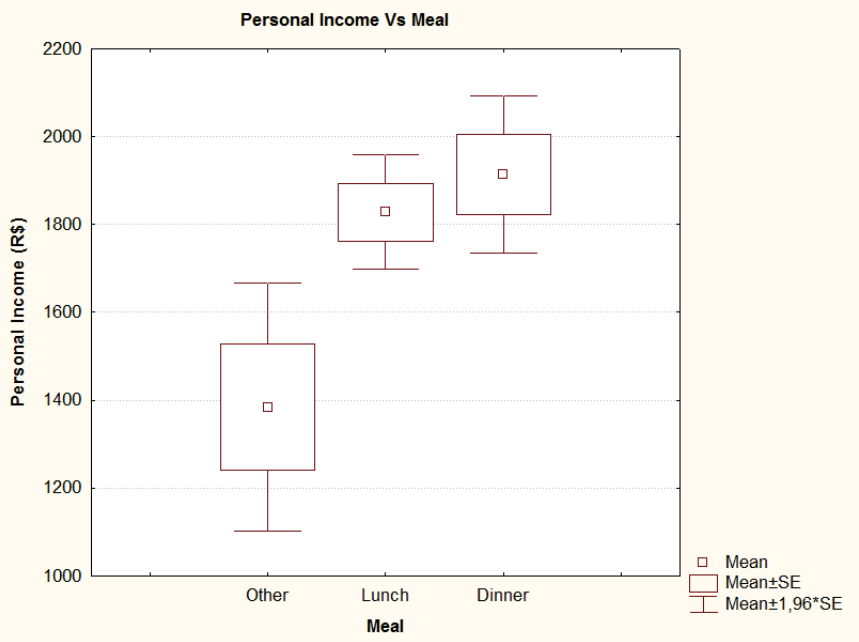

Figure 4.12: Personal Income Vs Meal

4.1.5 The Influence of the Profile on the Number of Visits per Month

Table 4.6 presents the descriptive statistic of the number of times respondents usually go to restaurants in a month. On average, they go about 4 times per month. The

maximum number of visits to restaurant reported was 50 times per month.

Table 4.6: Descriptive Statistics - Number of Visits to a Restaurant per Month

Descriptive Statistics	n	Mean	Minimum	Maximum	Std.Dev.
Number of Visits to Restaurants in a Month	2005	4.16	1	50	4.864

The graph in figure 4.13 presents the number of visits for every area of residence considered. The Kruskal-Wallis H Test with p-value of 0.00 shows that the average number of visits to restaurants vary across the area of residence. The respondents that live in Areas 5 and 1 go to restaurants most frequently than respondents from Area 7 (Jaboatão dos Guararapes).

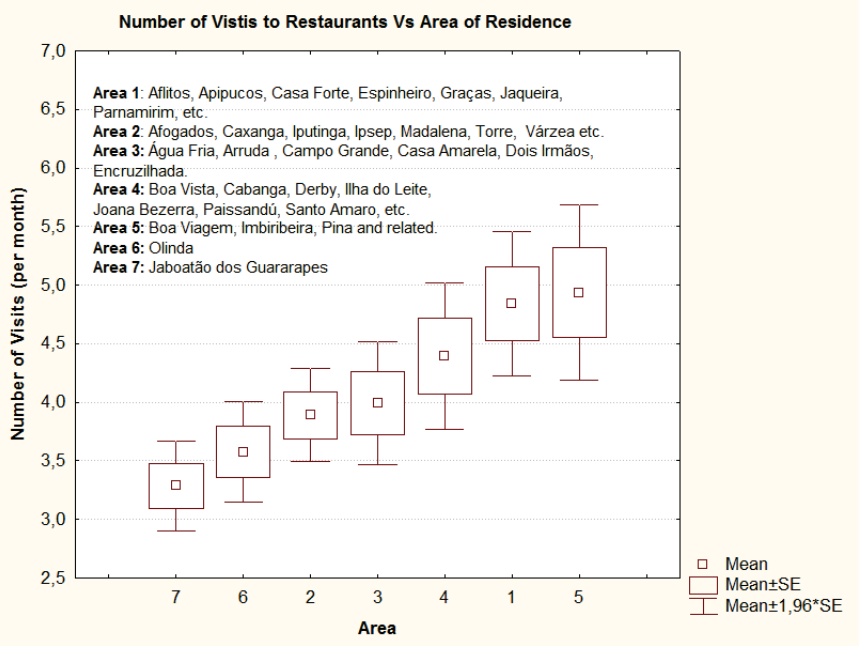

Figure 4.13: Number of Visits Vs Area of Residence

The figure 4.14 shows the number of visits for every professional occupation. According to the Kruskal-Wallis Test ($p< 0.01$) the difference between means is significant. Respondents that are entrepreneurs visit, on average, more restaurants than other professionals.

The household income and personal income also influences on the number of times customers go to restaurants. According to the graphs 4.15 and 4.16, and the Kruskal-Wallis Test with the same p-values of 0.00, the higher the household or personal income,

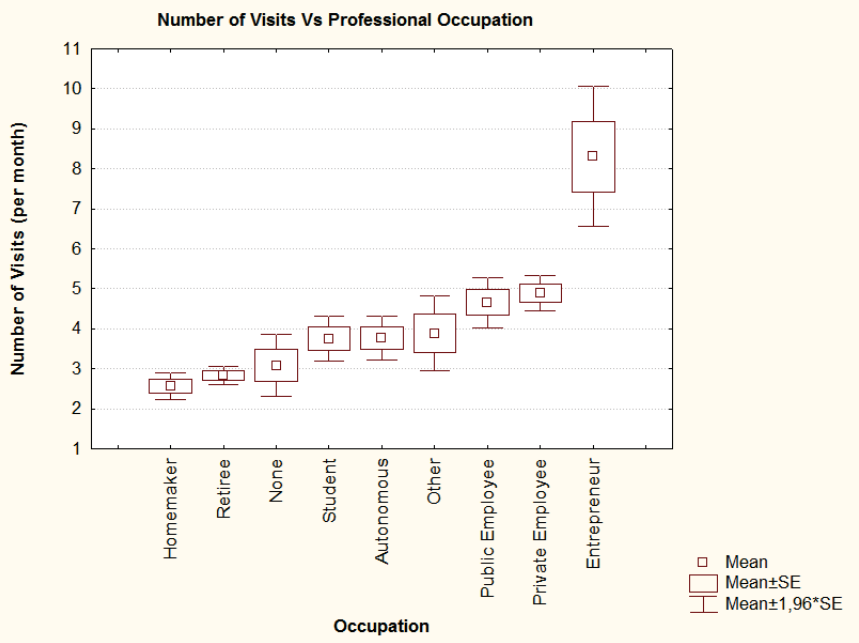

Figure 4.14: Number of Visits Vs Professional Occupation

the higher is the attendance of respondents to restaurants.

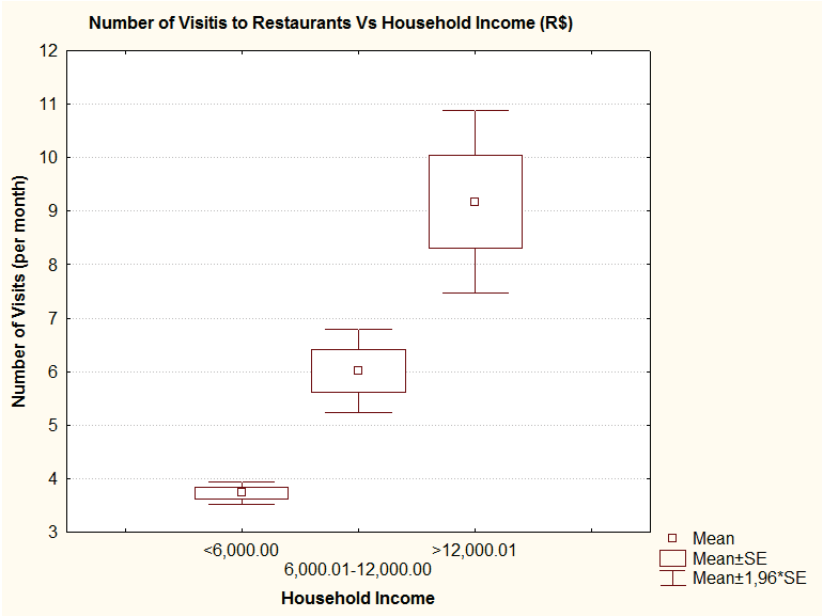

Figure 4.15: Number of Visits Vs Household Income

The influence of the level of education on the number of visits to restaurants brings a similar result as the household income. In accordance with the graph in figure 4.15 and the Kruskal-Wallis Test ($p< 0.01$), the higher the level of education, the higher the number of visits to restaurants per month.

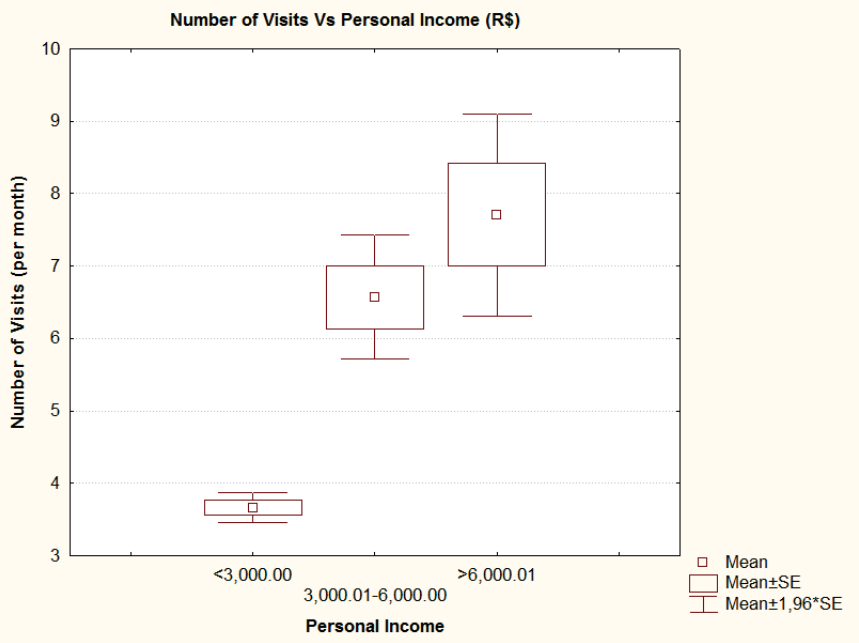

Figure 4.16: Number of Visits Vs Household Income

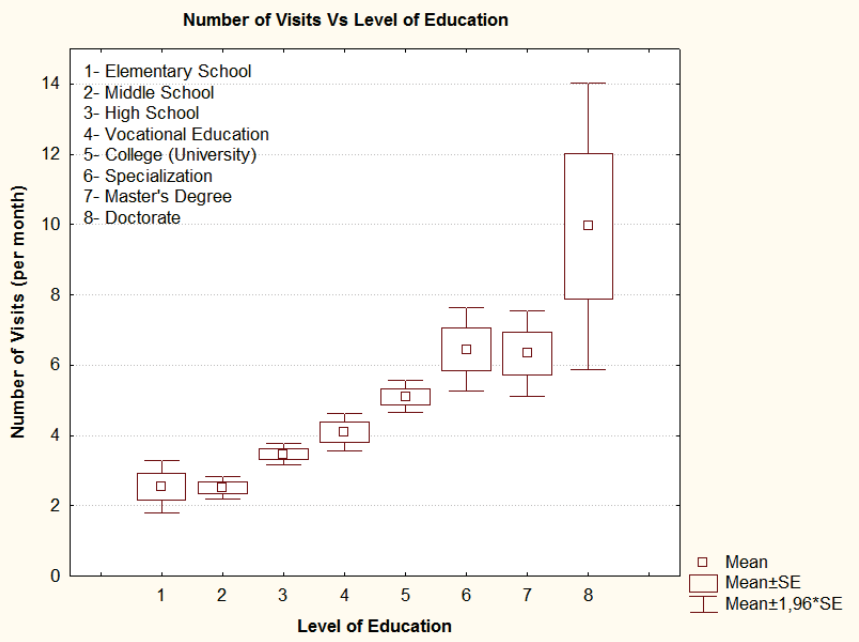

Figure 4.17: Number of Visits Vs Level of Education

4.1.6 The Influence of the Profile on the Favourite Service System

From the service systems offered by restaurants, respondents had to choose their favorite. The service "à la carte" means that there is a menu of items that are priced and ordered separately, this is the usual operation of restaurants. Self-service is about a buffet kind of restaurant, where the customer serves their own plate from a large option of

dishes. The plate is charged per weight. "Rodízio" is a typical Brazilian style of food service, where, for a fixed price, diners serve themselves to accompaniments and waiters bring a variety of dishes. The most common types of "rodízio" in Brazil are those of pasta, sushi or barbecue. The fast-food service is widely known and is basically the kind of restaurant the offers food that can be prepared and served very quickly.

The graph in figure 4.18 shows the relative frequencies for the respondents favorite service system. The service "à la carte" was the most chosen by respondents as their favorite system followed by "self-service" and "rodízio".

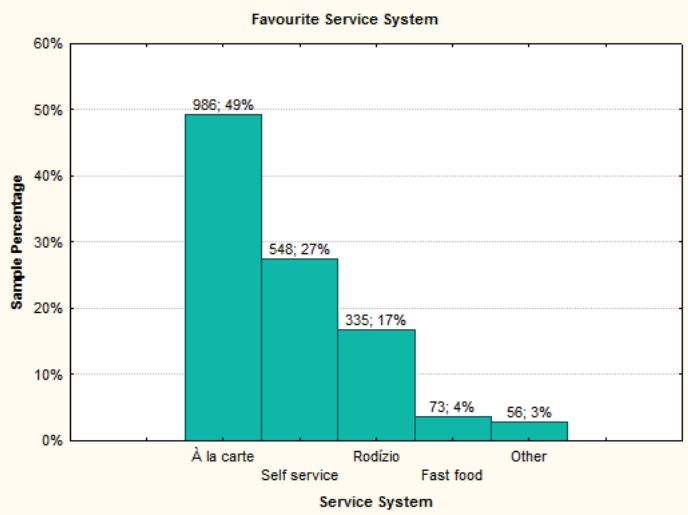

Figure 4.18: Frequencies - Favorite Service System

Figure 4.19 shows that respondents that reported that "à la carte" was their preferable type of service system have on average higher personal income than those who chose a different system. The Kruskal-Wallis Test ($p< 0.01$) shows that differences of income across the service systems are statistically significant.

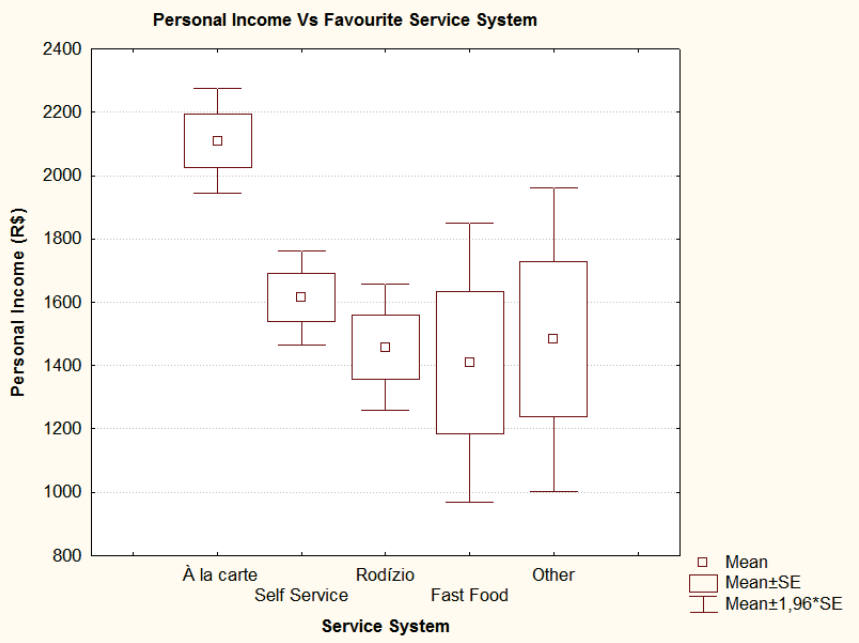

Figure 4.19: Personal Income Vs Favorite Service System

4.1.7 The Influence of the Profile on the Appreciation of Cuisines

The respondents were asked if they liked different types of cuisines. The graphs of figure 4.20 shows the distribution of respondents by appreciated and not appreciated types of culinary. More than 90% of the sample reported to like the Brazilian cuisine, while more than 80% of respondents answered to not appreciate the Mexican culinary. A variable including all the international cuisines was created to evaluate if the customers' profile influenced on the number of international cuisines appreciated by respondents.

The graph in figure 4.21 show how the number of appreciated cuisines varies across respondents' level of education. It is possible to see that, the higher the level of education, more different types of international cuisines are appreciated. In accordance to the Kruskal-Wallis Test, the difference between means is statistically significant with a p-value of 0.00.

The next graph in figure 4.22, shows the relation between the number of international cuisines and the personal income. The average number of international cuisines for those with the highest personal income is 3.4, while the average for those with the lowest personal income is about 1.7. The differences between means are statistically different (Kruskal-Wallis H Test - $p< 0.01$). Thus it can be concluded that respondents with the

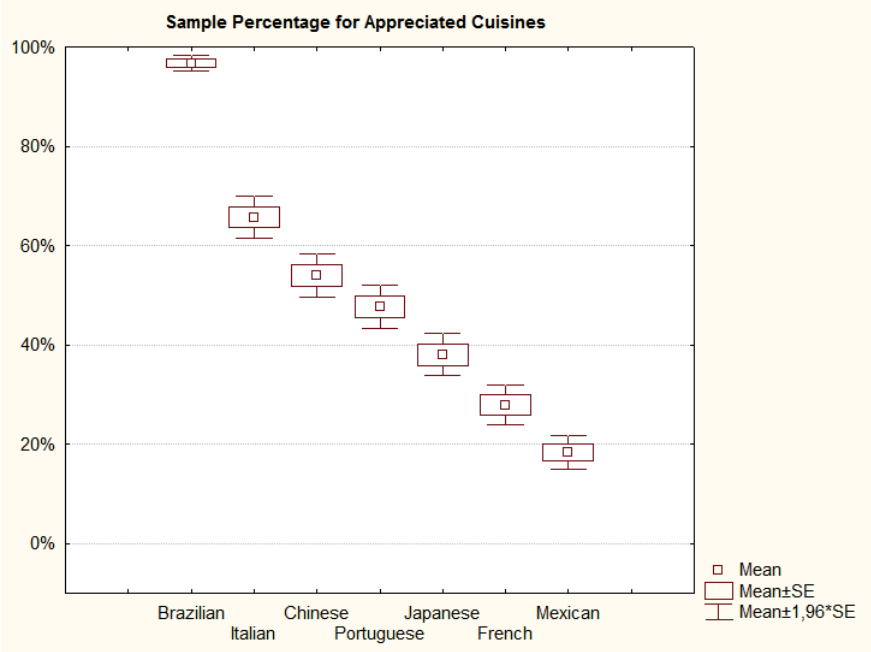

Figure 4.20: Appreciated Cuisines

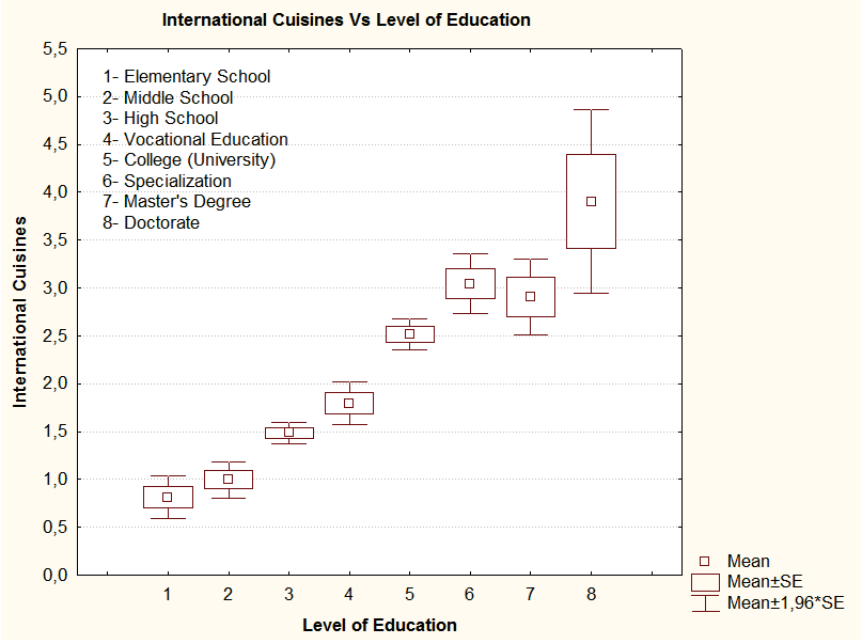

Figure 4.21: Level of Education Vs Appreciated Cuisines

highest income appreciate the most the international culinary.

When it comes to the professional occupation, the entrepreneurs are the ones who enjoy more types of international food with an average of 2.9, followed by students and pubic employees. The homemakers have the lowest average of 0.9. The differences between means are statistically distinct according to the Kruskal-Wallis H Test ($p< 0.01$). The

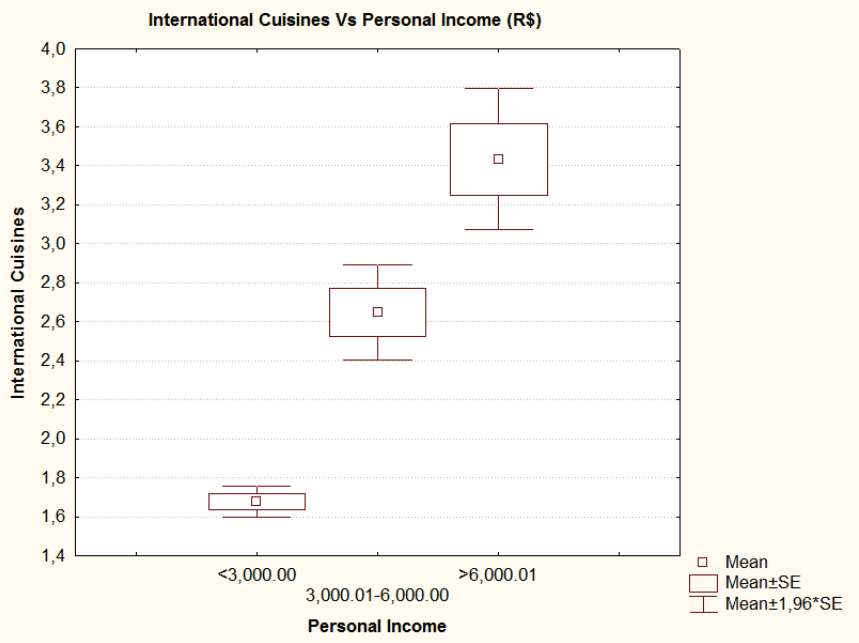

Figure 4.22: Personal Income Vs Appreciated Cuisines

result is presented in figure 4.23.

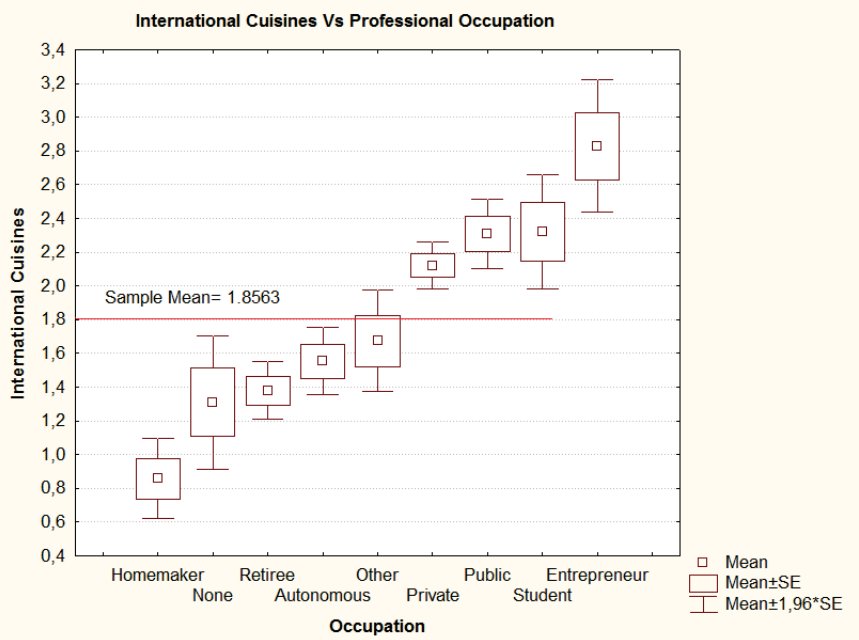

Figure 4.23: Professional Occupation Vs Appreciated Cuisines

The age also influences on the number of cuisines enjoyed by respondents. As shown in figure 4.24, respondents between 21 and 40 years old are the ones that appreciate the most the international culinary. The differences between means are statistically significant according to the Kruskal-Wallis Test, with a p-value of 0.00.

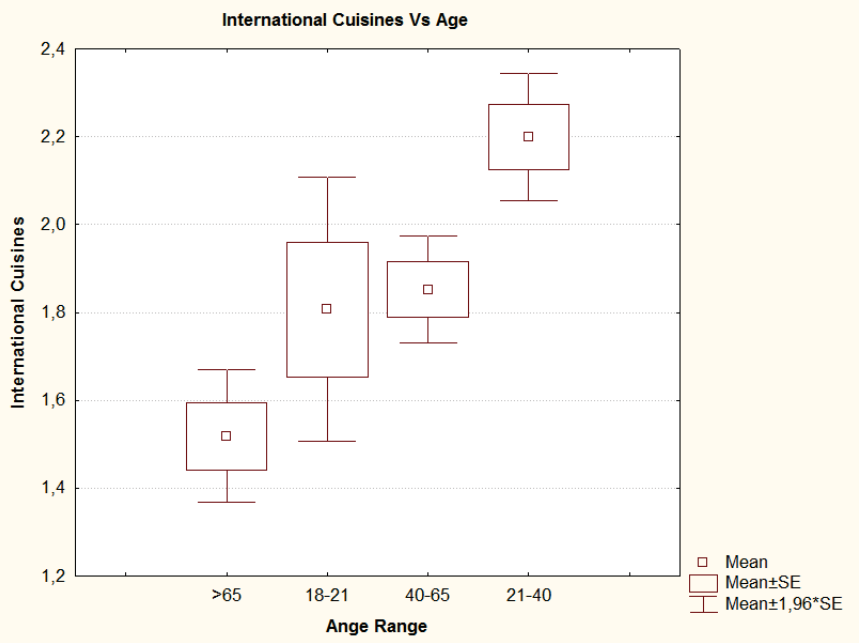

Figure 4.24: Age Vs Appreciated Cuisines

4.1.8 The Influence of the Profile on the Main Dish Order

The respondents were questioned about the main dish they usually order when in a restaurant. The distribution of the data by main dish is presented in the graph of figure 4.25. The most ordered dish is "beef" with almost 40% of the sample.

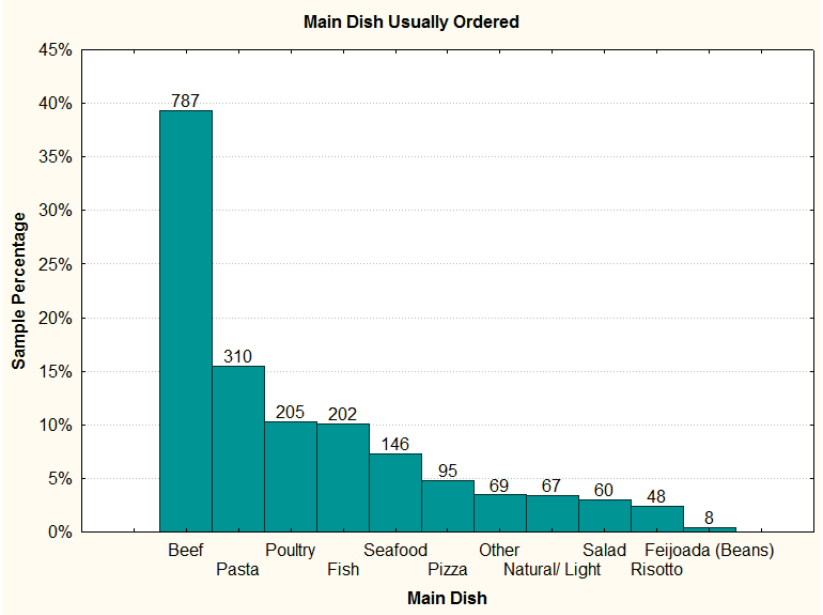

Figure 4.25: Frequencies - Main Dish

The graph 4.26 shows how the level of education influences on the choice of customers

for the main dish. Respondents that order seafood have on average the highest level of education. The numerical difference between the categories are substantial and statistically significant (Kruskal-Wallis - $p< 0.01$).

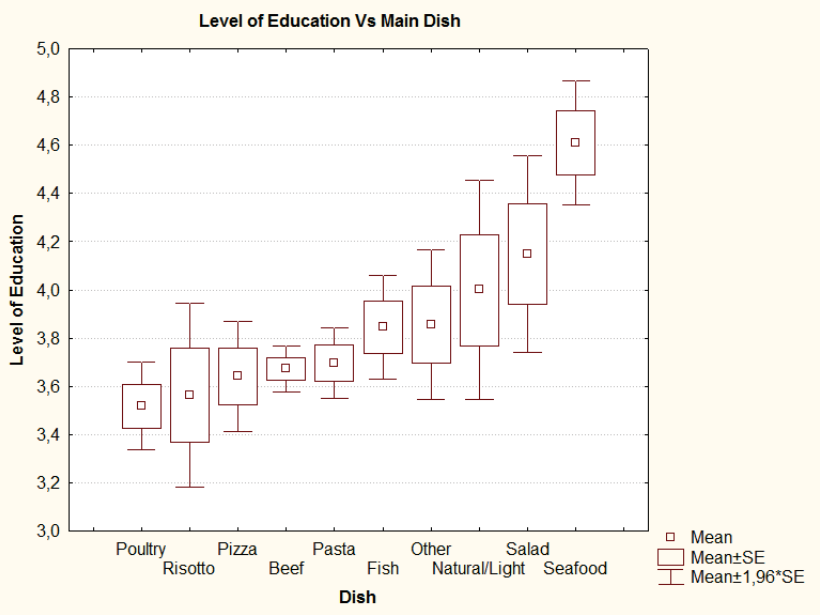

Figure 4.26: Level of Education Vs Main Dish

The household income also influences on the choice of the main dish as shown in graph 4.27. Respondents that order seafood have also the highest household income average. According to the Kruskal-Wallis H test with p-value of 0.00, the difference between means is statistically significant, showing that the household income varies across the "dishes".

Another interesting relation was found between age and dishes. As it can be seen in figure 4.28, respondents that order pizza are on average younger than people who order salad, for exemple. The light and healthy dishes such as "natural/light", "salad" and "fish" are more ordered, on average, by older respondents that are between 53 and 57 years old.

4.1.9 The Influence of the Profile on the Preferred Form of Payment

The interviewees answered what was their preferable form of payment. The relative frequencies for each form of payment is represented by the graph in figure 4.29. With 47% of the sample, "cash" was the most chosen form of payment followed by credit card

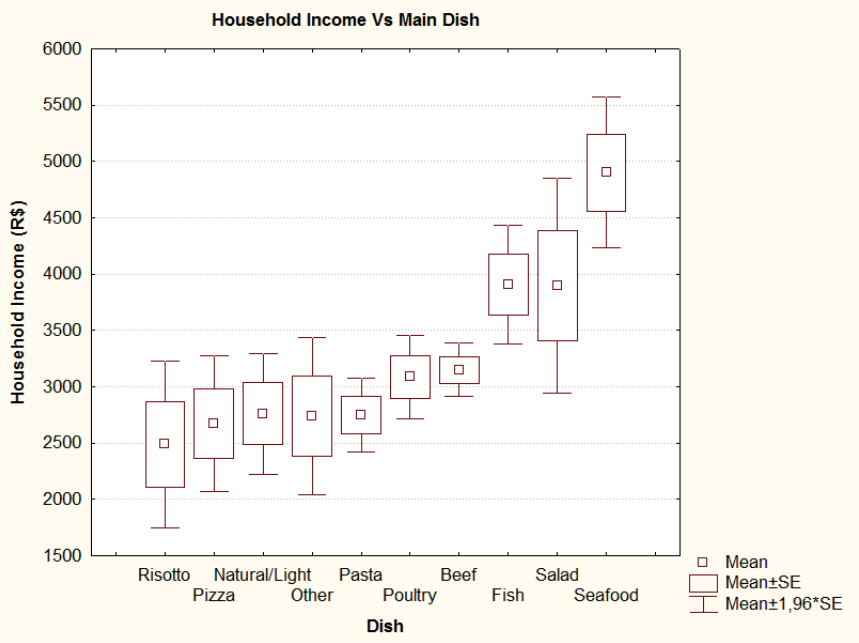

Figure 4.27: Household Income Vs Main Dish

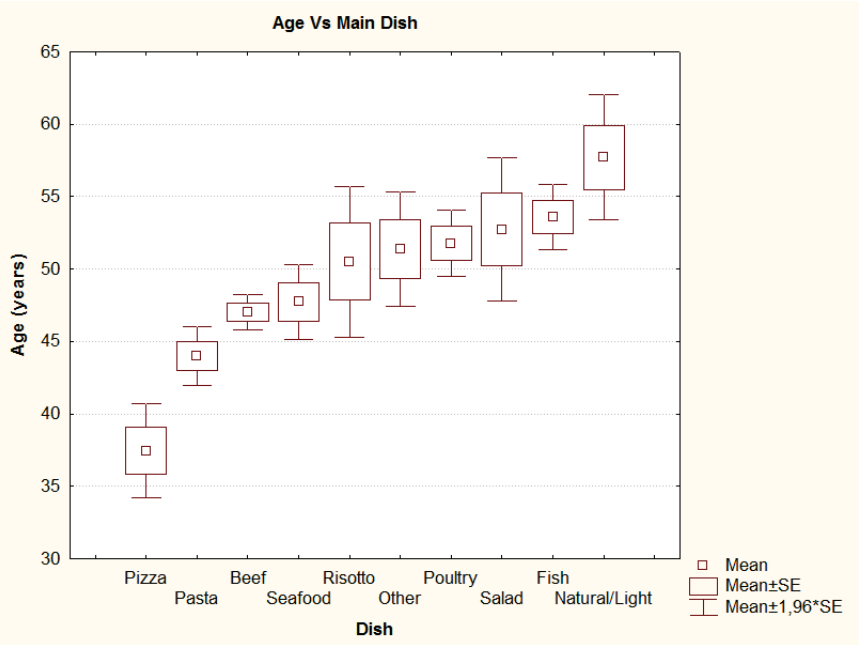

Figure 4.28: Age Vs Main Dish

and debit card with 35% and 13% respectively.

The table 4.7 shows the observed and relative frequencies of the sample's chosen form of payment by area of residence. In Area 1, 53% of customers use cash. In Area 2, cash is also the preferable form with 42.28% followed by credit card with 34.23%. In Areas 3, 4 and 5, cash is still the most used form of payment, and credit card the second.

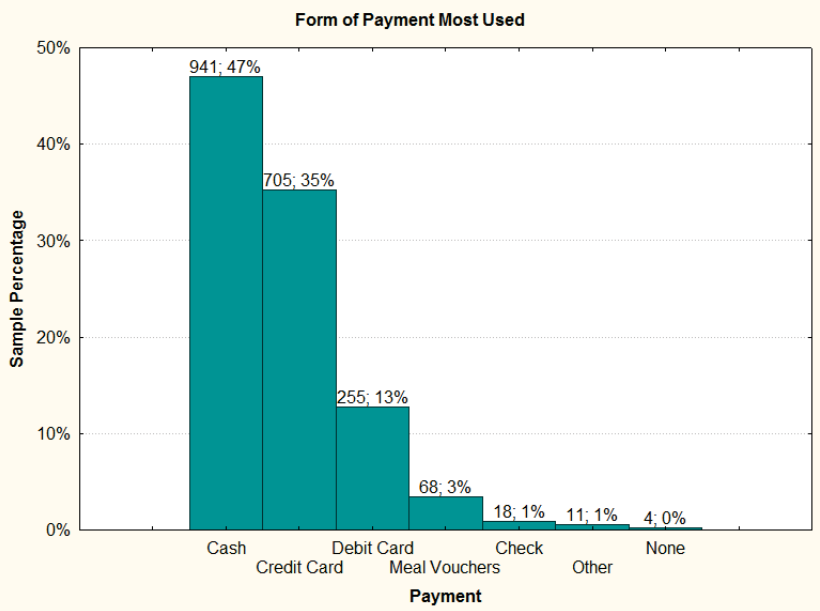

Figure 4.29: Frequencies - Form of Payment Most Used

The percentage of respondents of Areas 6 and 7 that use credit card and cash are very similar. The Chi-Square test of 72.378 and p-value of 0.00 indicates that the variables are associated and that the frequencies vary across the forms of payment.

The personal income also has influence on the form of payment chosen. In graph 4.30 it is possible to see that respondents that use credit card have in average a higher personal income, of about R$ 2,300.00, than respondents that prefer cash, whose average personal income is R$ 1,500.00. The Kruskal-Wallis Test with p-value of 0.00 shows that the difference between the averages are statistically significant.

The graph in figure 4.31 shows that respondents that use most often debit card have the highest household income average. Customers that chose cash have on average the lowest household income. The differences between means are also statistically significant (Kruskal-Wallis Test - $p< 0.01$).

4.1.10 The Influence of the Profile on the Level of Gastronomic Knowledge (ICG)

ICG is an index created by the answer of several questions about gastronomy. This index is related to question 31 of the 2010 questionnaire. For each positive response from

Table 4.7: Contingency Table - Area of Residence Vs Form of Payment

Observed Frequencies - Area Vs Form Payment					
Areas	Debit Card	Credit Card	Cash	Other	Total Counts
1	46	71	157	19	293
Column %	17.97	10.07	16.68	18.81	
Row %	15.70	24.23	53.58	6.48	
2	52	102	126	18	298
Column %	20.31	14.47	13.39	17.82	
Row %	17.45	34.23	42.28	6.04	
3	33	93	146	10	282
Column %	12.89	13.19	15.52	9.90	
Row %	11.70	32.98	51.77	3.55	
4	32	97	129	13	271
Column %	12.50	13.76	13.71	12.87	
Row %	11.81	35.79	47.60	4.80	
5	21	97	152	28	298
Column %	8.20	13.76	16.15	27.72	
Row %	7.05	32.55	51.01	9.40	
6	33	131	117	6	287
Column %	12.89	18.58	12.43	5.94	
Row %	11.50	45.64	40.77	2.09	
7	39	114	114	7	274
Column %	15.23	16.17	12.11	6.93	
Row %	14.23	41.61	41.61	2.55	
Totals	256	705	941	101	2003

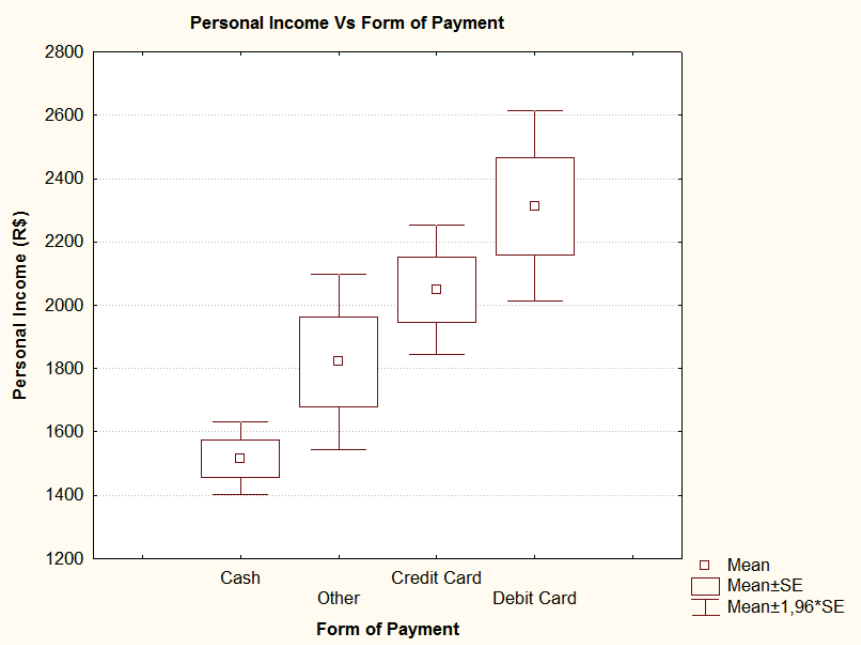

Figure 4.30: Personal Income Vs Form of Payment

question 31, the value of a unit is added to the ICG. The index ranges from zero to twenty-five. The ICG is a way of measuring the gastronomic knowledge of the respondents, the higher the ICG, the higher the knowledge.

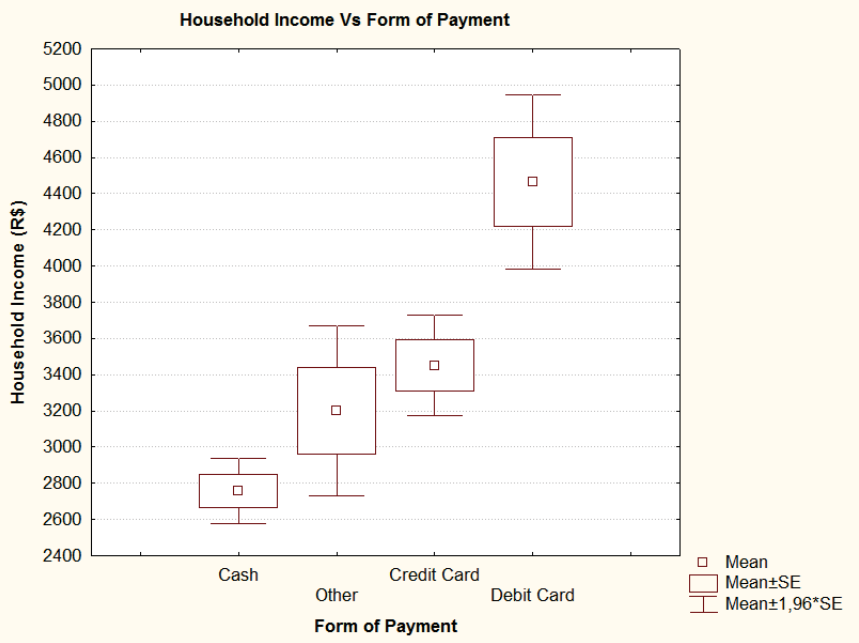

Figure 4.31: Household Income Vs Form of Payment

The distribution of the sample according to its ICG is shown in figure 4.32. It is possible to see that almost half of the total respondents have a gastronomic knowledge inferior to 8.

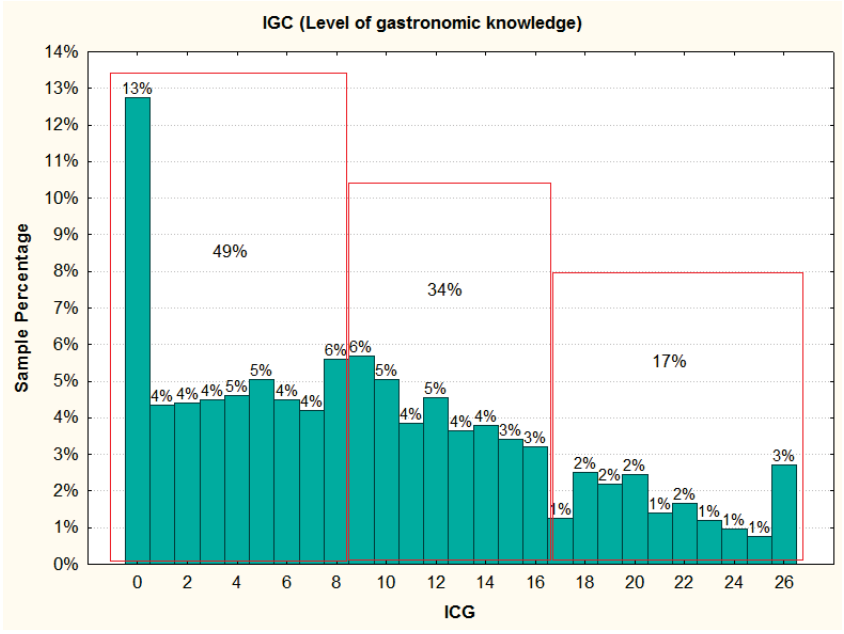

Figure 4.32: Frequencies - ICG

The ICG categorized by the area of residence is shown in graph 4.33. According to the Kruskal-Wallis Test ($p< 0.01$), the gastronomic level varies across the areas of residence.

The area with the highest ICG average is Area 1, and the ones with the lowest are Areas 7 and 5.

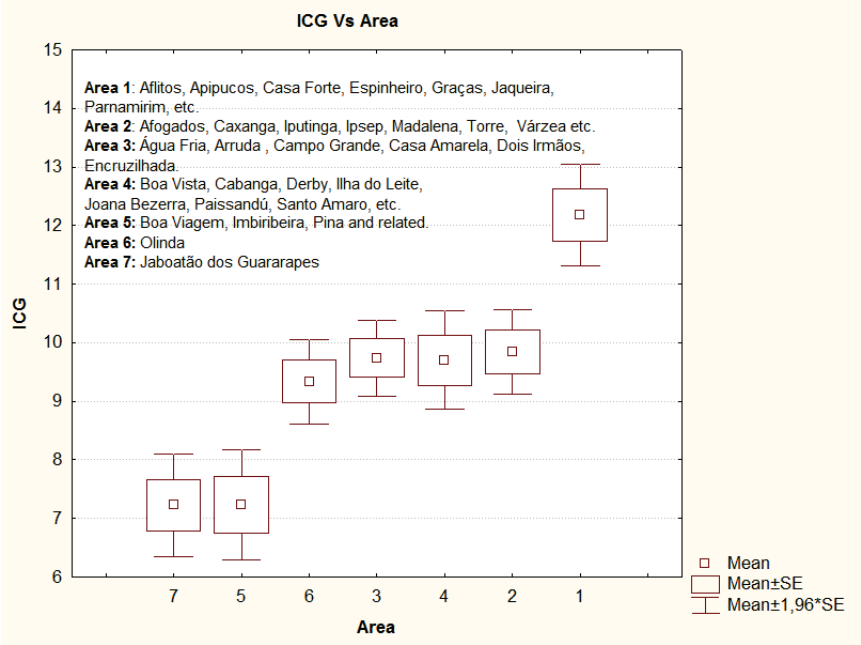

Figure 4.33: ICG Vs Area of Residence

The graph in figure 4.34 shows the influence of the level of education on the level of gastronomic knowledge. The higher the level of education, the higher is the ICG. The differences between averages are statistically significant (Kruskal-Wallis H test - $p< 0.01$).

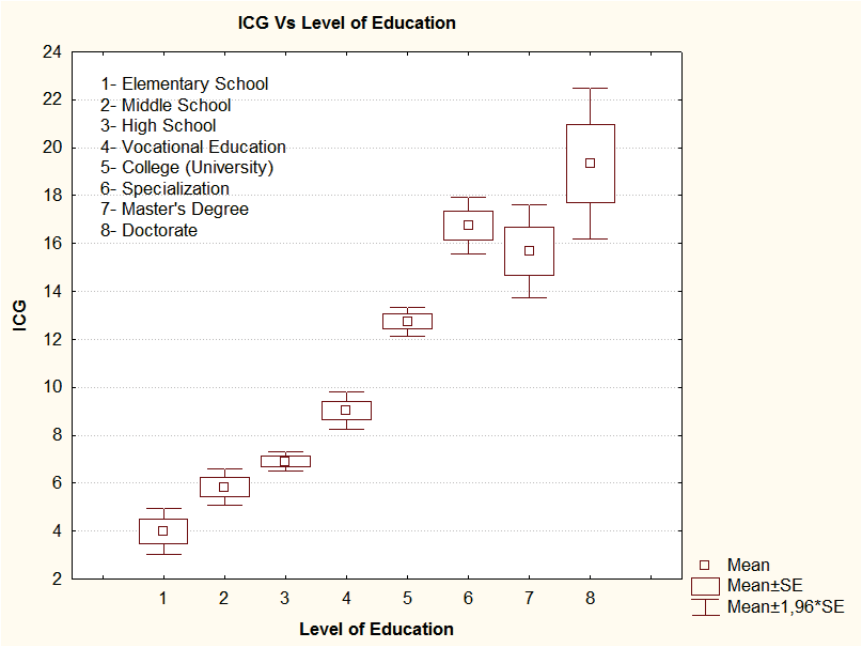

Figure 4.34: ICG Vs Level of Education

Figure 4.35 shows the ICG categorized by the level of personal income. It is possible to see that the higher the personal income, the higher is the ICG. The difference between means is statistically significant according to the Kruskal-Wallis H test ($p< 0.01$).

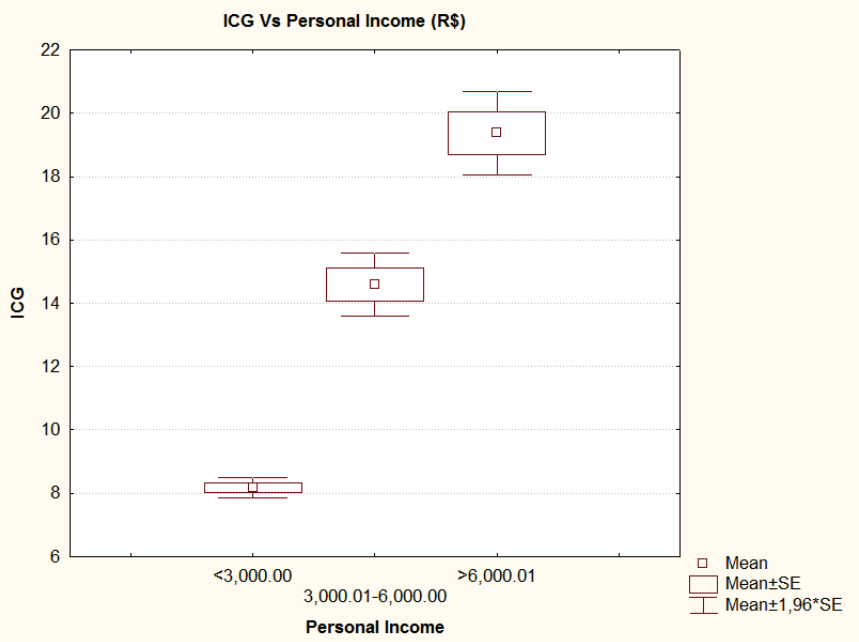

Figure 4.35: ICG Vs Personal Income

4.1.11 The Influence of the Profile on Beverage Type and Consumption

The table A.7 in appendix A shows the frequencies of beverages consumed during the three stages of a meal: begining (appetizer), middle (during main meal), and end (digestive). The most consumed beverage as appetizer is soda representing 24.42% of the sample. Soda is also the most consumed beverage during the main meal with 35.28% of respondents. Most of respondents, about 23.93% of the sample, reported to not drink beverages as a digestive, choosing the option "none". The most ordered alcoholic beverage is beer for the three stages of the meal.

A variable "Gourmet" was created to identify the customers that order 3 different types of beverages during a meal. The graph in figure 4.36 shows that the "gourmet" respondents have on average a higher level of education than the "non-gourmet" respondents.

The Mann-Whitney U test shows that the difference between the levels of education are statistically significant with a p-value of 0.00.

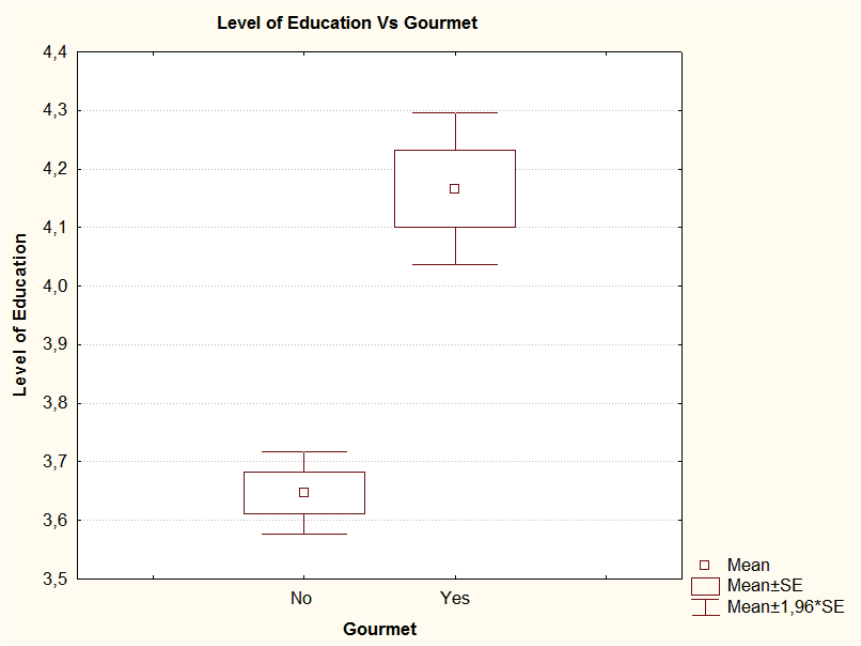

Figure 4.36: Box & Whiskers Plot - Level of Education Vs Gourmet

The figure 4.37 shows that the "gourmet" respondents have on average the highest personal income. The difference between means is statistically significant (Mann-Whitney U Test - $p< 0.01$).

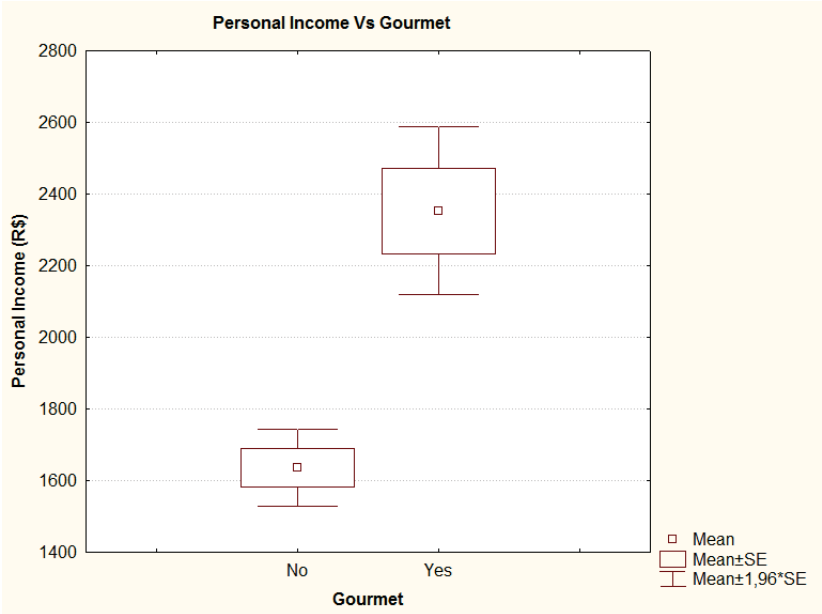

Figure 4.37: Box & Whisker Plot - Personal Income Vs Gourmet

The level of gastronomy knowledge is also higher for the "gourmet" respondents, as presented in graph 4.38. The Mann-Whitney U Test ($p< 0.01$) shows that the differences of the averages are statistically significant.

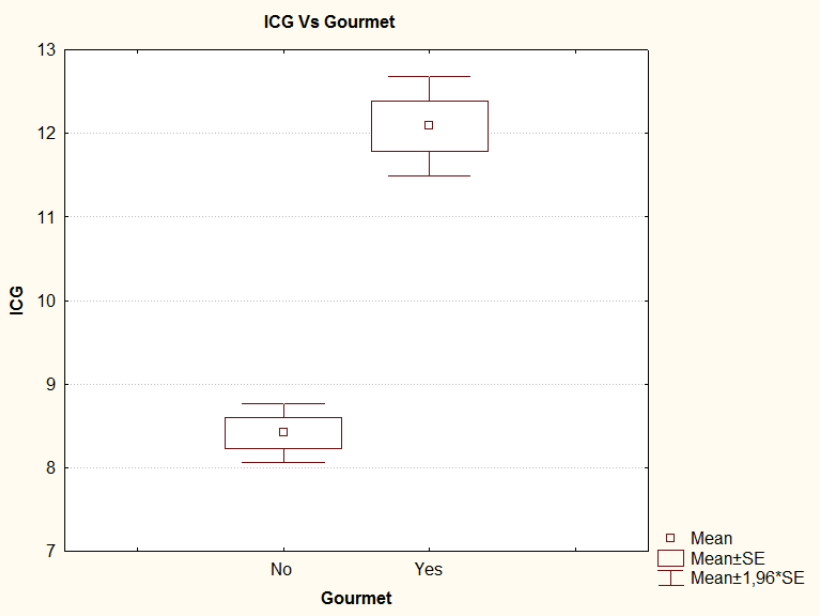

Figure 4.38: Box & Whisker Plot - ICG Vs Gourmet

5.1 Introduction

Cluster Analysis is a way of finding meaningful structures in the data and reorganizing it into homogeneous clusters using different algorithms. The components of each cluster are more associated to one another than to those in other clusters. To this section the K-means clustering was used, which is a method that ascribe each point to a cluster whose centroid is the nearest.

5.2 K-Means Clustering

The basic K-means algorithm consists in choosing the number of clusters (centroids) in your cases or variables. Afterwards, each point will be addressed to their nearest centroid, creating clusters. The centroids are updated according to their group of points, and then the first step is redone. These two steps are updated until no point trade clusters (Nathiya *et al.*, 2010). For this data 5 clusters, as different as possible, were created. Some analyses were conducted regarding the clusters. The results are presented in the following sections.

5.3 The Description of the Clusters

For the K-means clustering six variables were selected, as shown in table 5.1 which resulted in the creation of five clusters. As this is the first cluster analysis using this database, basic variables were chosen to create the clusters. However, other variables could have been selected including response variables. The V-fold Cross Validation algorithm was used to help determine the number of clusters. The chosen type of distance was the Squared Euclidean Distance. The table 5.2 shows the centroids of each cluster. In other words, it is presented, for every category, the means of respondents that belong to each cluster.

According to table 5.2 in cluster 1 the majority is female, with superior level of educa-

tion, no children under twelve years old, with a personal income between R$ 1,000.00 and R$ 2,000.00, household income from R$ 2,000.00 to R$ 4,000.00, and is between 40 and 65 years old. In cluster 2 the majority is female, with high school level of education, no children under twelve years old, with a personal income less than R$ 1,000.00, household income less than R$ 2,000.00, and is older than 65 years old. In cluster 3 the majority is male, with high school level of education, no children under twelve years old, with a personal income less than R$ 1,000.00, household income less than R$ 2,000.00, and is between 40 and 65 years old. Cluster 4 differs from cluster 3 in gender, children and age, where the majority is female with children under 12 years old, older than 25 years old and younger than 40. In cluster 5 the majority is male, with superior level of education, no children under twelve years old, with a personal income from R$ 1,000.00 to R$ 2,000.00, household income from R$ 4,000.01 to R$ 6,000.00, and is between 40 and 65 years old.

The next table 5.3 show the distance between centroids of k-means clustering. The largest distance from centroids is the one of clusters 5 and 4. Cluster 5 is nearest cluster 1, and Cluster 2 is nearest clusters 3 and 4.

The table 5.4 presents the frequency of the categorical variables in every cluster, so it

Table 5.1: List of Variables for K-means Clustering

Variables Selected for K-means Clustering					
Gender	Level of Education	Children	Age	Pers. Income (R$)	House. Income (R$)
0- Female	1- Element. School	0- No	1- 18-25	1- < 1,000.00	1- < 2,000.01
1- Male	2- Middle School	1- Yes	2- 25-40	2- 1,000.01 - 2,000.00	2- 2,000.01 - 4,000.00
	3- High School		3- 40-65	3- 2,000.01 - 3,000.00	3- 4,000.01 - 6,000.00
	4- Vocational Edu.		4- Age>65	4- 3,000.01 - 4,000.00	4- 6,000.01 - 8,000.00
	5- College			5- 4,000.01 - 5,000.00	5- 8,000.01 - 10,000.00
	6- Specialization			6- 5,000.01 - 6,000.00	6- 10,000.01 - 12,000.00
	7- Master's Degree			7- 6,000.01 - 8,000.00	7- 12,000.01 - 14,000.00
	8- Doctorate			8- >8,000.01	8- 14,000.01 - 16,000.00
					9- > 16,000.00

Table 5.2: Centroids - K-means Clustering

	Clusters For K-means Clustering							
Clusters	Gender	Education	Children	Pers. Income	House. Income	Age	Cases	Percent. (%)
1	0	5	0	2	2	3	621	31.25
2	0	3	0	1	1	4	600	30.19
3	1	3	0	1	1	3	398	20.03
4	0	3	1	1	1	2	197	9.91
5	1	5	0	2	3	3	171	8.60

is possible to see the distribution of the cluster in each category.

Table 5.3: Distance between centroids

Distance between centroids of k-means clustering					
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Cluster 1	0.00	4.00	4.00	5.00	2.00
Cluster 2	4.00	0.00	2.00	2.00	5.00
Cluster 3	4.00	2.00	0.00	3.00	3.00
Cluster 4	5.00	2.00	3.00	0.00	6.00
Cluster 5	2.00	5.00	3.00	6.00	0.00

Table 5.4: Frequency Table For All Variables

	Frequency Table For All Variables					
Gender	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Total
0	422	428	0	146	0	996
1	199	172	398	51	171	991
Education	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Total
1	11	54	16	7	0	88
2	21	107	43	14	3	188
3	110	335	217	108	3	773
4	109	50	59	19	14	251
5	294	24	29	21	122	490
6	54	13	18	17	12	114
7	21	10	10	8	14	63
8	1	7	6	3	3	20
Age	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Total
1	48	75	97	19	6	245
2	135	47	81	144	36	443
3	300	110	220	34	78	742
4	138	368	0	0	51	557
Personal Income	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Total
1	62	480	282	131	1	956
2	321	43	44	19	47	474
3	143	30	22	19	43	257
4	43	21	13	6	28	111
5	26	7	12	5	19	69
6	9	4	5	8	5	31
7	7	4	6	3	10	30
8	10	11	14	6	18	59
HouseHold Income	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Total
1	48	468	295	121	19	951
2	402	61	29	33	0	525
3	80	31	17	15	102	245
4	50	21	23	13	16	123
5	17	9	8	5	5	44
6	5	4	6	4	6	25
7	9	1	6	1	4	21
8	6	2	3	3	8	22
9	4	3	11	2	11	31

5.4 Clusters' Habits And Preferences Regarding Restaurants

Clusters of consumers can be very helpful in preference mapping. This section will show the differences of preferences and habits, regarding restaurants, of every cluster. The analyses are similar to the ones applied in the chapter 3.

5.4.1 Clusters - Reason to Visit a Restaurant

The graph in figure 5.1 represents the reasons to go to a restaurant, categorized by the clusters. It is possible to see that "leisure" is the most reported reason to go to a restaurant for each cluster. Any other reason to visit a restaurant has a much lower sample percentage when compared to the reason "leisure".

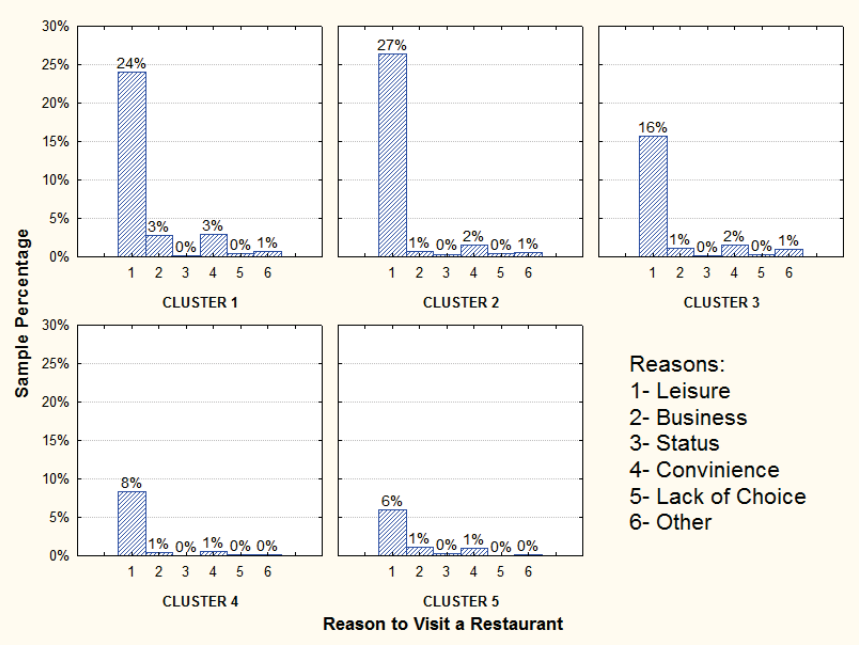

Figure 5.1: Categorized Frequencies - Reason to Visit a Restaurant Vs Clusters

5.4.2 Clusters - Period to Visit Restaurants

The table 5.5 summarizes the frequencies across the period of visit and clusters. Of Cluster 1, 57.17% report that they usually visit a restaurant during weekends (Friday to

Sunday), while 18.68% visit restaurants on weekdays (Monday to Thursday). The majority of the remaining Clusters also usually visit restaurants during the weekend. Of Cluster 5, 29.23% goes to restaurants on weekdays, making it the second most reported period. This characteristic differs from the other clusters which the second highest frequencies are of visits during holidays and anniversaries.

Table 5.5: Contingency Table - Period Vs Clusters

Observed Frequencies - Period of Visit						
Periods	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Weekdays	116	81	83	41	50	371
Column %	18.68	13.50	20.90	20.81	29.23	
Row %	31.26	21.83	22.37	11.05	13.48	
Weekends	355	322	211	106	92	1086
Column %	57.17	53.67	53.15	53.81	53.80	
Row %	32.69	29.65	19.43	9.76	8.47	
Holydays	150	197	103	50	29	529
Column %	24.15	32.83	25.94	25.38	16.96	
Row %	28.36	37.24	19.47	9.45	5.48	
Totals	621	600	397	197	171	1986

When evaluating the independence of Periods and Clusters, the chi-square test of 37.68135 and p-value of 0.00 indicates that the variables are dependent. Thus, it can be concluded that the period of visit varies across the clusters.

5.4.3 Clusters - Meal

In choosing what meal was usually eaten out, the respondents from all clusters answered that "Lunch" was the most frequent meal. The second most chosen was "Dinner", followed by "Others". There is an enormous difference between the percentages of people that goes to a restaurant to have lunch against those who go to restaurants to have "other" meal. This can be seen in table 5.6. For example, of cluster 5, 50.29% of respondents declared that the meal eaten out most frequently was lunch, against 5.26% for "other" meal. The Chi-square for independence test shows that there is a relationship among the variables "Meal and Clusters" (chi-square test = 17.820; p=0.02).

5.4.4 Clusters - Number of Visits to Restaurants per Month

Regarding the number of times respondents go to a restaurant in a month, the graph in figure 5.2 represents the mean of each cluster. Respondents in Cluster 5 go, on average, more than six times a month to restaurants. The lowest mean is of those in cluster 1, who go to restaurants approximately 3 times a month. According to the Kruskal-Wallis test ($p< 0.01$), there is statistical difference between means. The difference is also substantial.

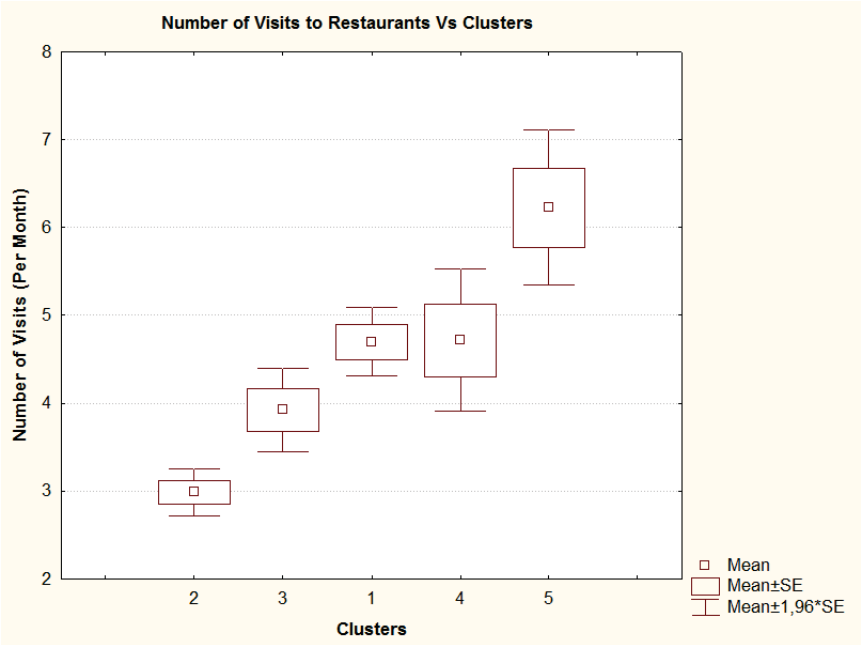

Figure 5.2: Box Plot - Number of Visits to a Restaurant Vs Clusters

The following graph in figure 5.3 shows variable "demand" categorized by the clusters. Demand is here defined by the number of the group of people that usually go together to

Table 5.6: Contingency Table - Meal Vs Clusters

Observed Frequencies - Meal						
Meal	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Lunch	339	311	213	107	86	1056
Column %	54.59	51.83	53.52	54.31	50.29	
Row %	32.10	29.45	20.17	10.13	8.14	
Dinner	242	226	137	69	76	750
Column %	38.97	37.67	34.42	35.03	44.44	
Row %	32.27	30.13	18.27	9.20	10.13	
Other	40	63	48	21	9	181
Column %	6.44	10.50	12.06	10.66	5.26	
Row %	22.10	34.81	26.52	11.60	4.97	
Totals	621	600	398	197	171	1987

restaurants multiplied by the number of visits in month. The Cluster with the highest demand is cluster 5. On the other hand, the cluster with lowest demand is cluster 2. The differences are statistically significant (Kruskal-Wallis H test, p=0.00)

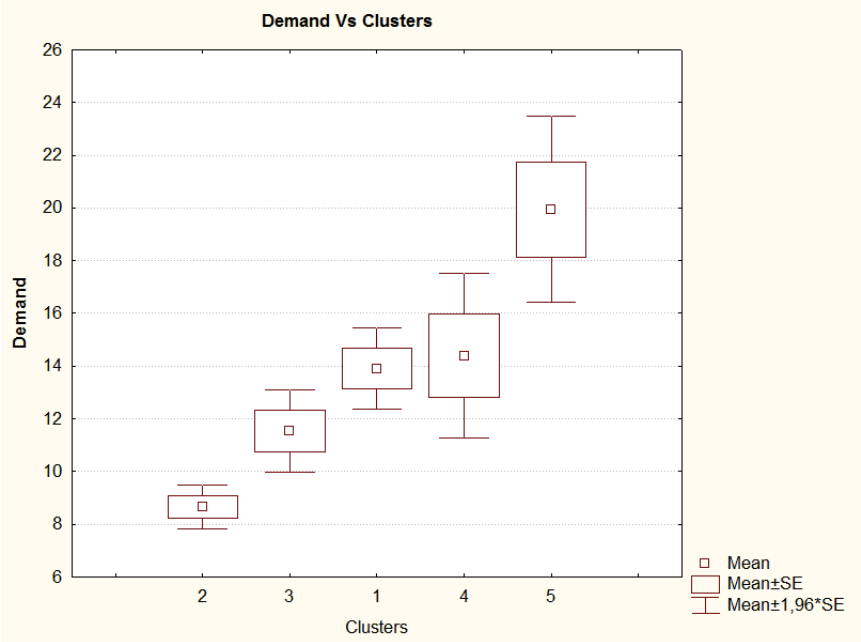

Figure 5.3: Box Plot - Demand Vs Clusters

5.4.5 Clusters - Service System

From the service systems offered by restaurants, respondents had to choose their favorite. As showed in figure 5.4, the favorite service system for every cluster is the "à la carte" service, followed by "self-service" and "rodízio".

5.4.6 Clusters - Main Dish

The frequencies for the chosen main dishes for each cluster are represented in table 5.7. Beef, for every category is the most requested dish. The second highest frequencies are from the dish pasta. For clusters 1 and 5 the third highest frequency is for fish. On the other hand, for clusters 2, 3 and 4 the third highest frequency belongs to the dish poultry.

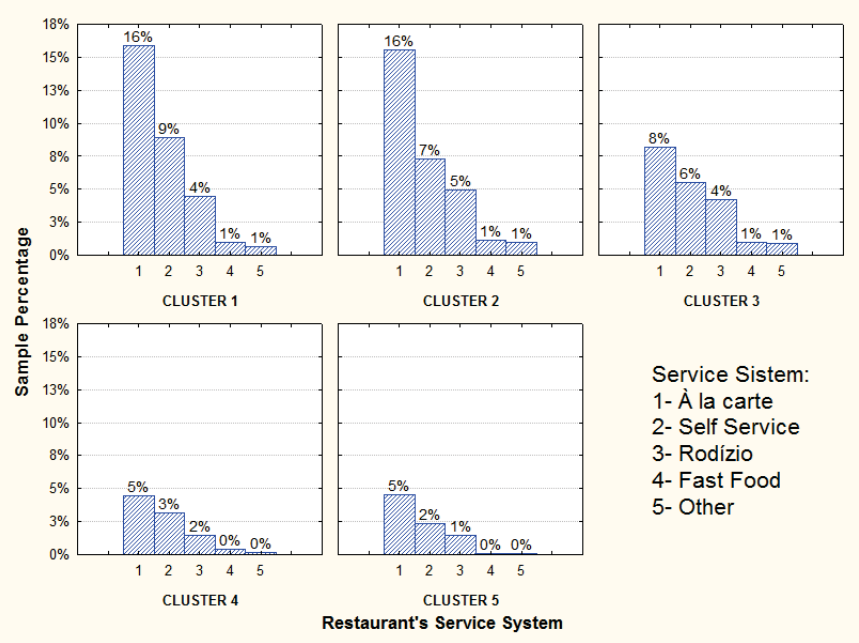

Figure 5.4: Categorized Frequencies - Service System Vs Clusters

5.4.7 Clusters - Professionals

The interviewees were requested to evaluate from 1 to 5, the influence of some restaurant professionals on the quality of a restaurant. The results regarding the clusters are presented in the graph of figure 5.5. From the Kruskal-Wallis test ($p< 0.01$), there is statistical difference between the evaluation made by clusters for cook. However the numerical difference has no relevance. The same happens to the other professionals. According to the Kruskal-Wallis test the evaluation varies by cluster, but the difference is not numerically substantial. The tests are presented in table 5.8.

5.4.8 Clusters - Quality Criteria

Respondents evaluated the level of importance of some quality criteria of restaurants, from 1 to 5. The next graph shows the evaluation by cluster in figure 5.6. The results are similar to the ones on the subsection above. All criteria vary across the clusters according to the Kruskal-Wallis test, but the numerical differences have no relevance. The tests are presented in table 5.9.

Table 5.7: Contingency Table - Meal Vs Clusters

Observed Frequencies - Main Dish Vs Clusters						
Main Dish	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Beef	231	234	167	84	64	780
Poultry	62	63	40	20	20	205
Fish	72	55	34	11	24	196
Seafood	58	29	28	12	16	143
Pasta	80	95	66	40	29	310
Salad	26	16	9	6	3	60
Natural/light	22	31	6	4	4	67
Pizza	28	30	23	10	2	93
Feijoada (beans)	1	6	1	0	0	8
Risotto	16	11	11	4	5	47
Other	23	25	12	5	4	69
All Groups	619	595	397	196	171	1978

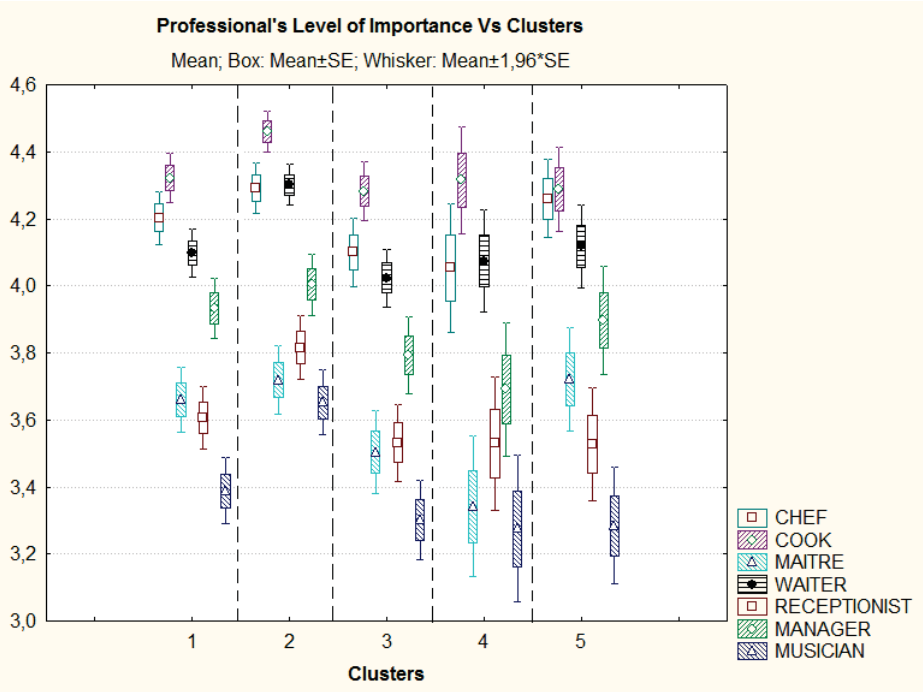

Figure 5.5: Box & Whiskers Plot - Professionals'Importance Vs Clusters

Table 5.8: Kruskal-Wallis Test - Professionals Vs Clusters

Kruskal-Wallis Test - Professionals Vs Clusters	
Professionals	*p*-value
Chef	0.04
Cook	0.00
Maître	0.01
Waiter	0.00
Receptionist	0.00
Manager	0.00
Musician	0.00

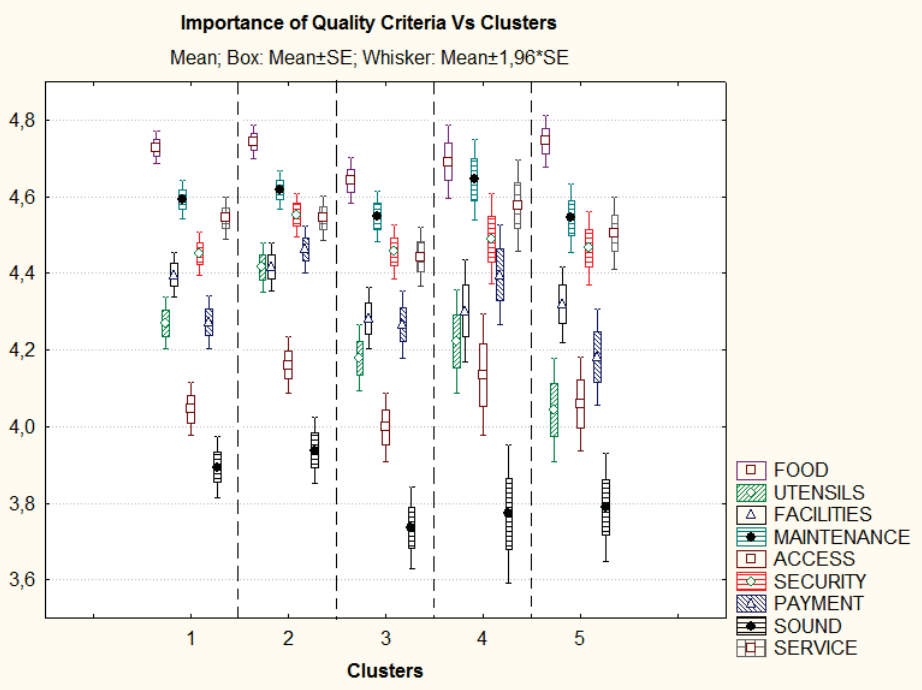

Figure 5.6: Box Plot - Quality Criteria Vs Clusters

5.4.9 Clusters - Additional Services

The interviewees were requested to evaluate some additional services offered by restaurants from 1 to 3. Once again, the evaluation of services vary across clusters, according to the Kruskal-Wallis test. On the other hand, the numerical differences are not substantial. The graph 5.7 shows the means of each evaluation by cluster. The table 5.10 shows the Kruskal-Wallis test results.

Table 5.9: Kruskal-Wallis Test - Quality Criteria Vs Clusters

Kruskal-Wallis Test - Quality Criteria Vs Clusters	
Quality Criteria	*p*-value
Food	0.00
Utensils	0.00
Facilities	0.01
Access	0.00
Security	0.02
Payment	0.00
Sound	0.00
Service	0.03

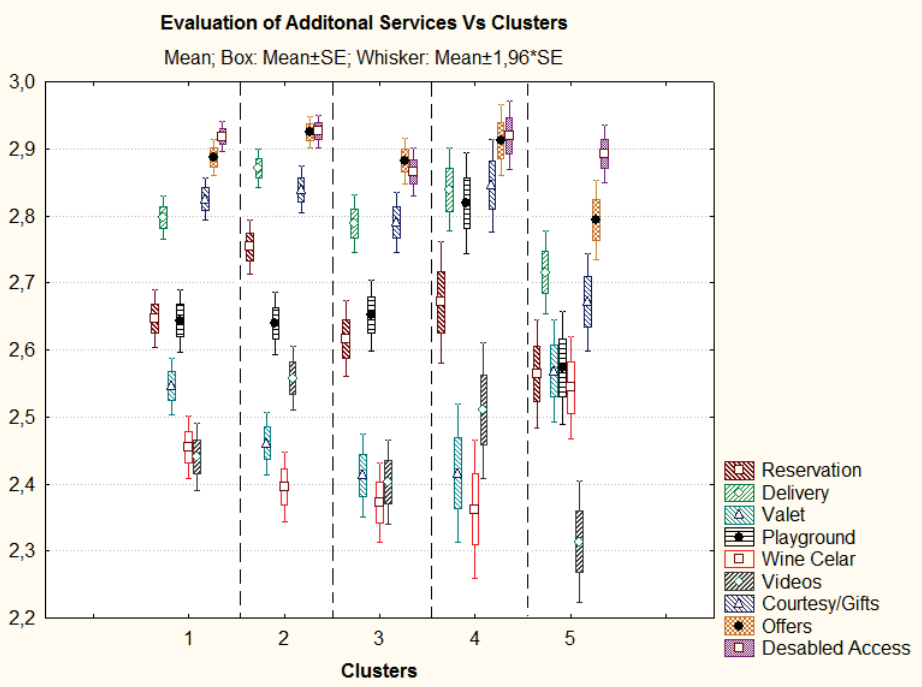

Figure 5.7: Box Plot - Additional Services Vs Clusters

5.4.10 Clusters - Form of Payment

Respondents answered what form of payment they use most often in a restaurant. In this subsection is presented how they choose between debit card, credit card, cash and vouchers. Table 5.11 summarizes the frequencies across the form of payment and clusters. Of all clusters, the majority reports that the most used forms of payment are cash, followed by credit card, debit card and vouchers. When evaluating the independence of Form of Payment and Clusters, the chi-square test of 46,567 and *p*-value of 0.00 indicates that the variables are dependent. Thus, it can be concluded that the form of payment varies

Table 5.10: Kruskal-Wallis Test - Additional Services Vs Clusters

Kruskal-Wallis Test - Additional Services Vs Clusters	
Additional Services	p-value
Reservation	0.00
Delivery	0.00
Valet	0.00
Playground	0.00
Wine Cellar	0.00
Videos	0.00
Courtesy/Gifts	0.00
Offers	0.00
Access For Desabled	0.03

across the clusters.

Table 5.11: Contingency Table - Form of Payment Vs Clusters

Observed Frequencies - Forms of Payment						
Form of Payment	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Debit Card	99	50	51	24	29	253
Column %	16.28	8.47	12.94	12.31	17.37	
Row %	39.13	19.76	20.16	9.49	11.46	
Credit Card	223	211	131	77	57	699
Column %	36.68	35.76	33.25	39.49	34.13	
Row %	31.90	30.19	18.74	11.02	8.15	
Cash	258	322	199	86	70	935
Column %	42.43	54.58	50.51	44.10	41.92	
Row %	27.59	34.44	21.28	9.20	7.49	
Vouchers	28	7	13	8	11	67
Column %	4.61	1.19	3.30	4.10	6.59	
Row %	41.79	10.45	19.40	11.94	16.42	
Totals	608	590	394	195	167	1954

5.4.11 Clusters - Means of Communication

The next graphs in figure 5.8 show how respondents from every cluster choose the most important mean of information about restaurants. Indication of family and friend (also known as word of mouth) for each category was the most reported mean of information about restaurants. Word of mouth is the passing of information from person to person which includes a variety of subcategories, including buzz, social media marketing, among others (Kozinets, R. V. et al, 2010). Any other mean of information about restaurants has a much lower sample percentage compared to "family and friends".

5.4.12 Clusters - Queue Management Policies

Respondents evaluated different queue management policies from 1 to 5, 1 being the worst evaluation and 5 the best. The policies rated were: first-come first-served, and so on; prioritize by party size; prioritize by the importance of people to the restaurant; reservations for large groups; and customers who call in advance on the same day would have priority on the waiting list. For almost all the policies, the evaluation was the same across clusters, but for the first-come first-served and the VIP policies. The results are shown in figure 5.9. There are statistical significant differences between means according

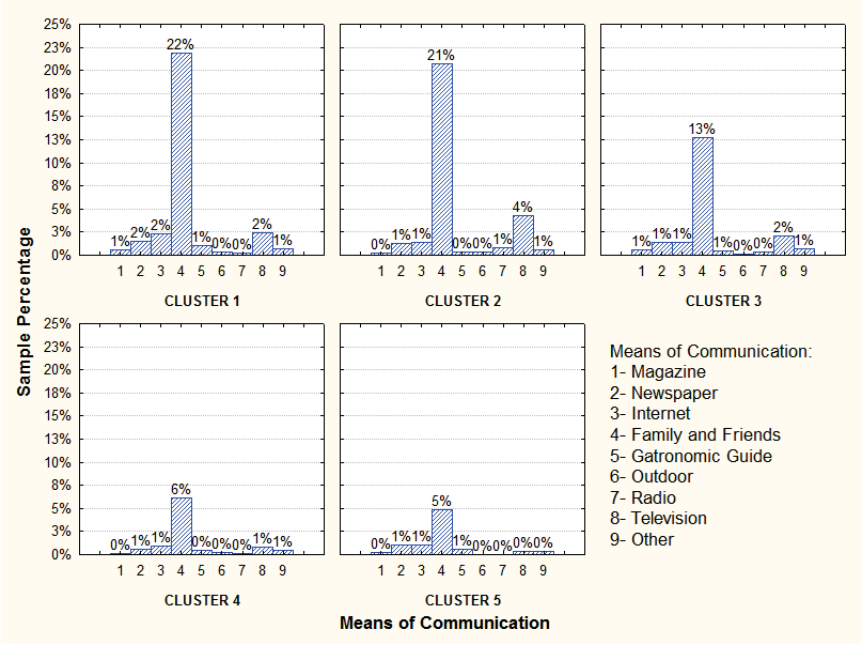

Figure 5.8: Categorized Frequencies - Means of Communication Vs Clusters

to the Kruskal-Wallis H test with for the first-come first-served policy (p= 0.01) and for the VIP policy (p< 0.01). However, the numerical values are irrelevant.

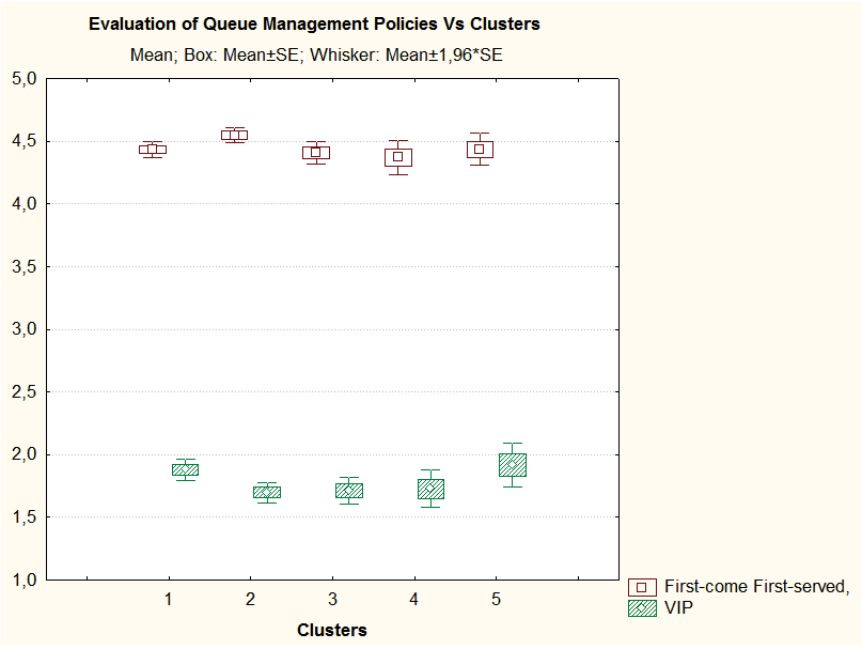

Figure 5.9: Box Plot - Policies Vs Clusters

The variables of the policies were categorized into two groups, one for those that rejected the policy and another for those that well accepted. The observed frequencies for each policy across clusters are presented in table 5.12. It is possible to see that policies

are seen in different ways by respondents. The first-come first-served, large groups and call in advance policies are highly accepted by respondents. On the other hand, the policy VIP is highly rejected.

Table 5.12: Contingency Table - Queue Management Policies

Observed Frequencies - Queue Management Policies						
FIRS-COME FIRST-SERVED	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Reject	13	13	15	10	7	58
Accept	606	587	382	187	163	1925
All Groups	619	600	397	197	170	1983
PARTY SIZE	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Reject	336	350	224	108	83	1101
Accept	282	250	171	85	87	875
All Groups	618	600	395	193	170	1976
VIP	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Reject	464	492	319	152	130	1557
Accept	154	108	76	42	40	420
All Groups	618	600	395	194	170	1977
LARGE GROUPS	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Reject	65	85	65	19	21	255
Accept	553	515	330	175	149	1722
All Groups	618	600	395	194	170	1977
CALL IN ADVANCE	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Row Totals
Reject	89	112	76	36	38	351
Accept	529	488	319	158	132	1626
All Groups	618	600	395	194	170	1977

5.4.13 Clusters - ICG

The next graph in figure 5.10 shows variable ICG categorized by the clusters. Cluster five has the highest level of gastronomic knowledge, followed by Cluster 1. Cluster 2 has the lowest ICG of all clusters. The differences between means are statistically significant according to the Mann-Whitney test presented in table 5.13.

Table 5.13: Mann-Whitney U test - ICG Vs Clusters

Mann-Whitney U test - ICG	
Clusters	p-value
2-3	0.00
3-4	0.03
4-1	0.00
1-5	0.00

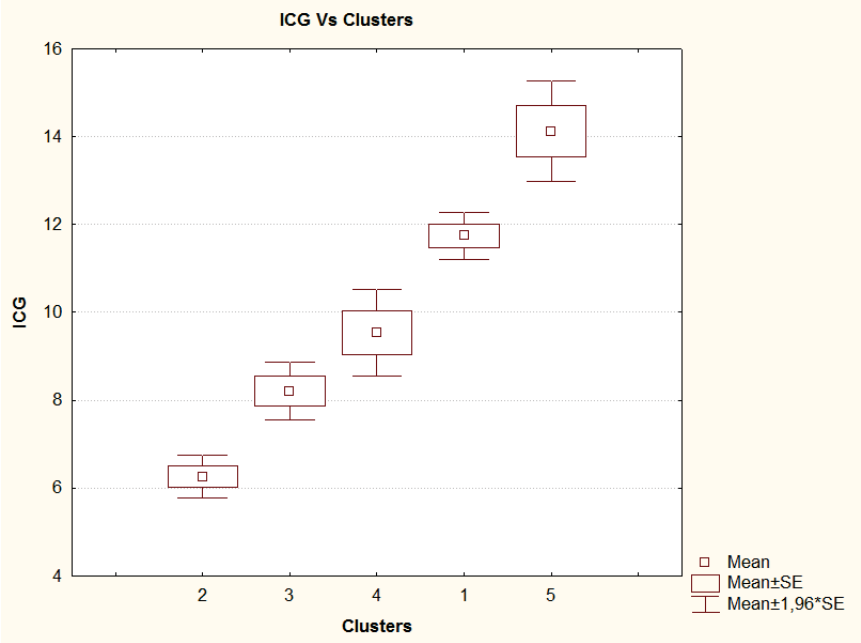

Figure 5.10: Box Plot - ICG Vs Clusters

5.4.14 Clusters - Orders

The number of orders made by respondents during meal, besides the main dish, such as appetizer, dessert, soups among others, varies across cluster. This relationship is presented in figure 5.11, and according to the Kruskal-Wallis H test ($p< 0.01$) the difference between means is significant.

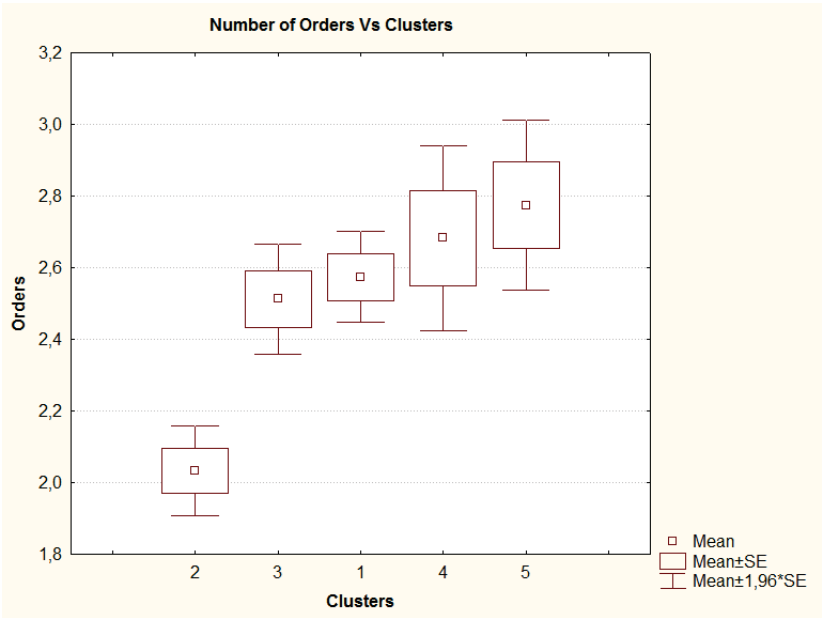

Figure 5.11: Box Plot - Number of Orders Vs Clusters

5.4.15 Clusters - International Cuisines

The interviewees were questioned if they appreciated different types of international food. A variable was created with the number of international cuisines appreciated. According to the graph in figure 5.12 the cluster that appreciate the most different kinds of international food, is cluster 5, and the cluster who least appreciate the international culinary is cluster 2. From the Kruskal-Wallis H test ($p< 0.01$), there is statistical difference between the clusters' means.

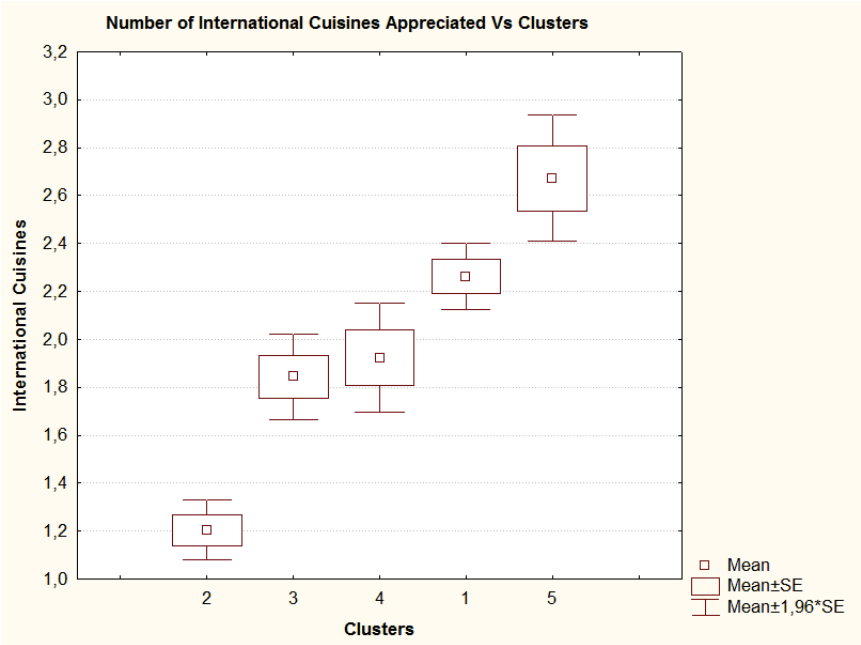

Figure 5.12: Box Plot - International Cuisines Vs Clusters

5.5 Comments

From the analysis made in this chapter some results and characteristics of the clusters can be highlighted.

Clusters 1 and 5 are the ones with the highest personal and household incomes and highest level of education. The majority of both clusters do not have children under 12 years old and are between 40 and 65 years old. Most respondents from cluster 1 are female, and from cluster 5 male. These customers are the ones with the highest gastronomic knowledge, the ones who order alternative dishes the most (besides the main

dish), and are also the ones who appreciate more different types of international food.

Clusters 2, 3 and 4 have the lowest personal and household incomes and level of education, among the clusters. They also appreciate less international culinary, and order less dishes than clusters 5 and 1. However, cluster 4, which is composed mostly by women between 24 and 40 years old (the youngest cluster), with children under 12 years old, frequent restaurants as much as cluster 1 (Mann-Whitney U test- $p > 0.05$). Also, their average demands have no statistical difference according to the Mann-Whitney U test ($p > 0.05$). The demand is directly proportional to the number of visits, as it is the product of the group size respondents take to restaurant times the number of visit.

One of the reasons this might happen is because the number of visits vary across the age range as presented in graph 5.13. According the Mann-Whitney U test ($p = 0.014$), customers who are between 25 and 40 years old go on average more often to restaurants in a month than customers between 40-65. They also frequent more restaurant than respondents over 65 year old (Mann-Whitney U Test - $p < 0.01$).

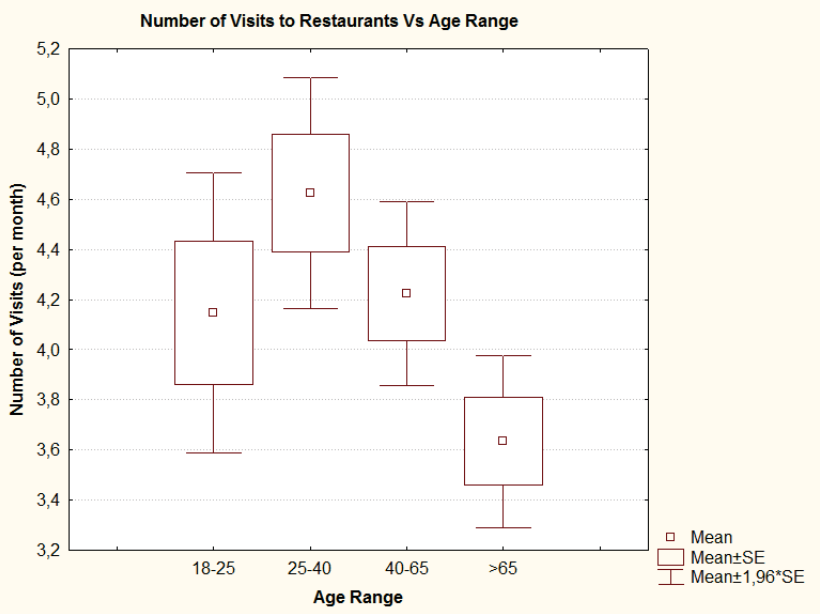

Figure 5.13: Box Plot - Number of Visits Vs Age Range

6.1 Introduction

This chapter has the objective to present the differences between the consumer's behavior regarding the Restaurant Sector, from the 2007 and 2010 surveys. Some analyses were run for chosen topics to give a better understanding about the research and the sector. Before the results, some comparisons about the characteristics from both databases will be presented, as they can be part of the reason why a few aspects have changed.

6.2 The Social-Economic Characteristics

In this section, some socio-economic aspects from both surveys were chosen to be compared, including household income, personal income, level of education, and ICG. Those variables, from previous analyses shown in chapter 3, proved to have great influence on respondents' habits and preferences.

The graph from figure 6.1 presents how much on average is the respondents' household income per month for each survey. Respondents from the database of 2007 has a much higher household income of almost R$ 5,500.00 than respondents from the 2010 survey, whose household income is about R$ 3,250.00. According the Mann-Whitney U test, the difference between the years if statistically significant (p= 0.00).

The result is similar comparing the personal income from both databases as shown in figure 6.2. Respondents from the 2007 survey earn on average more than respondents from the 2010 survey, and the difference is statistically significant (Mann-Whitney U test - p= 0.00).

One of the reasons of the expressive gap between incomes of customers from the 2007 and 2010 surveys might be the changes in the economy and society explained in section 1.1 and 2.2. The growth of the GDP increased the number of people in the middle class, which enhanced the search for food away from home. Maybe this phenomenon could be seen as the "popularization of restaurants" with more people in the middle class attending

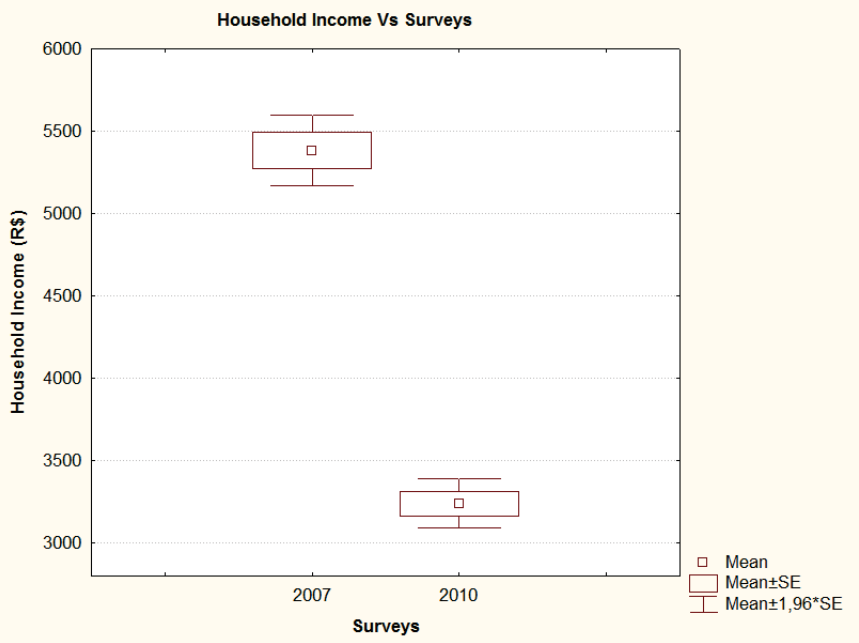

Figure 6.1: Household Income Vs Surveys

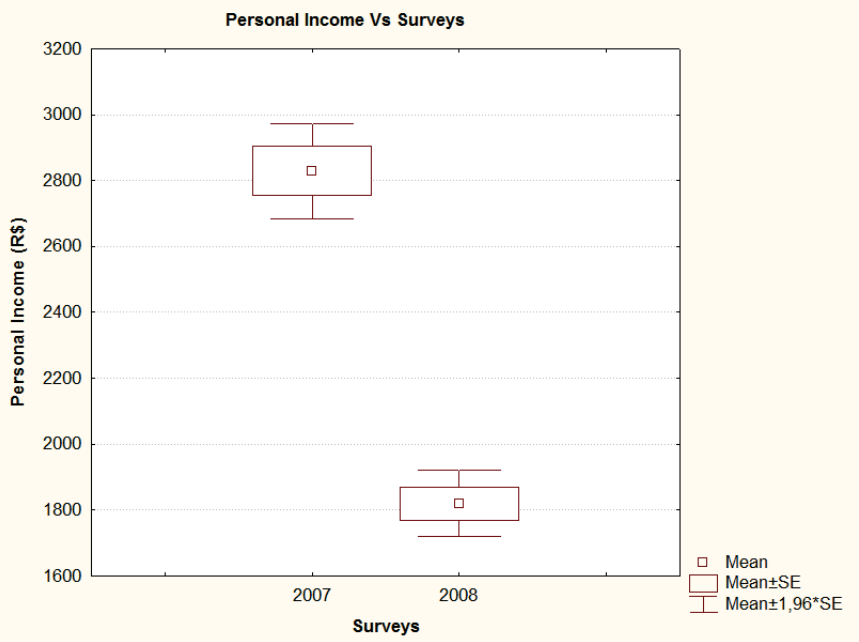

Figure 6.2: Personal Income Vs Surveys

restaurants.

From figures 6.3 and 6.4 it is possible to see that consumer's from the 2007 survey has also higher level of education, and higher level of gastronomic knowledge. The differences are significant according to the Mann-Whitney U test, both with p-values of 0.00.

In summary, respondents from the first survey have on average, higher level of educa-

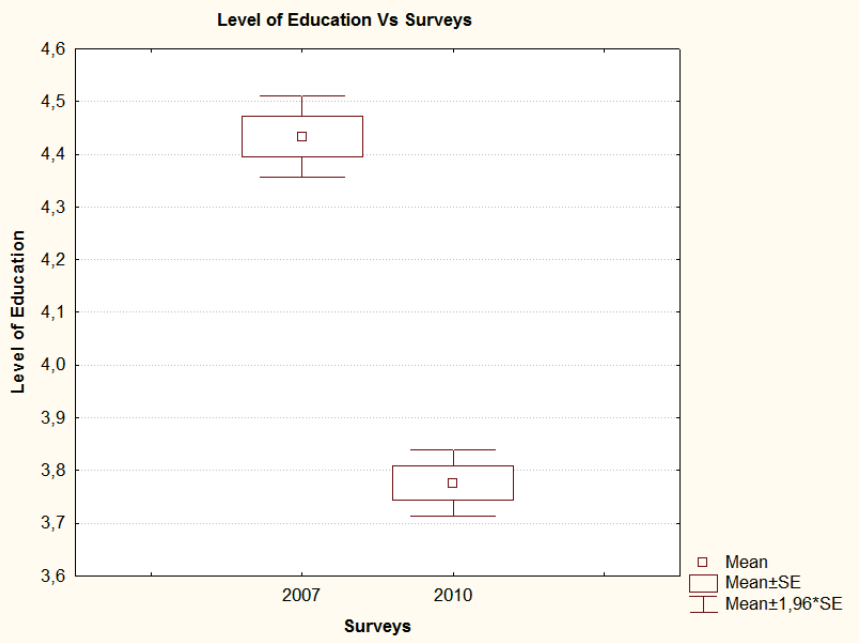

Figure 6.3: Level of Education Vs Surveys

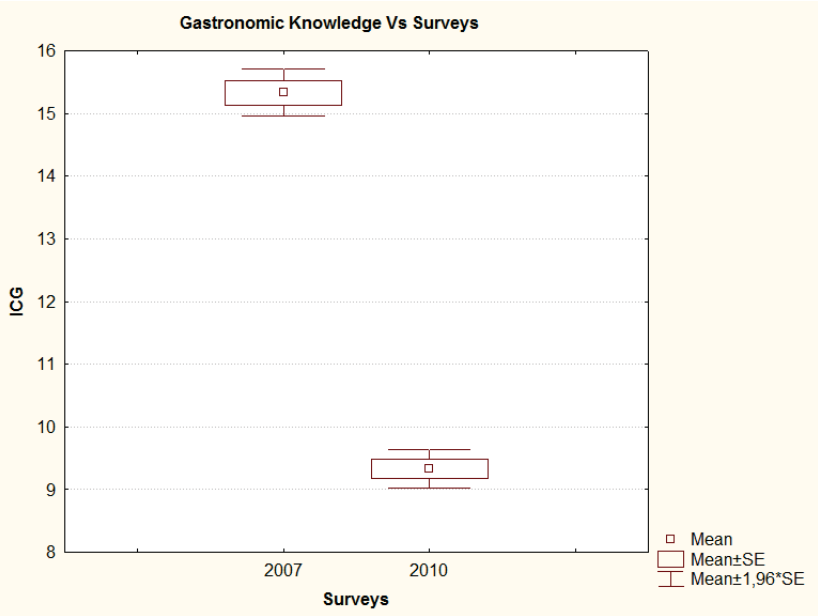

Figure 6.4: ICG Vs Surveys

tion, higher personal and household incomes, and higher gastronomic knowledge comparing to respondents from the 2010 survey.

6.3 Comparison between Consumers' Preferences and Habits

The first topic to be evaluated is the variable demand, which was defined by the number of time a respondent usually go to restaurants in a month, multiplied by the group size of people that accompany him to restaurants. The graph in figure 6.5 shows that in 2007 the average demand of respondents was about 19 people per month while in 2010 this average decreased to about 12 people (Mann-Whitney U test - p=0.00). Despite the average group size by respondents in 2010 being superior to the one in the 2007 database (Mann-Whitney U test - p=0.01), the number of visits to restaurants in a month was far inferior (Mann-Whitney U test - p=0.00), as shown in graphs 6.6 and 6.7.

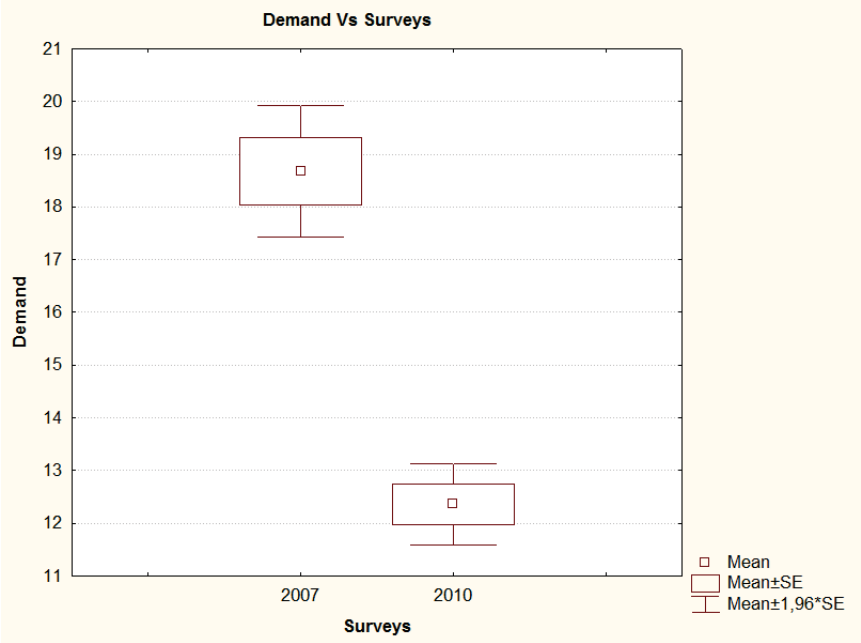

Figure 6.5: Demand Vs Surveys

Another analysis was made regarding the preference of consumers from the samples of the time of the week to visit a restaurant. The respondents from both samples are divided in three groups: those who usually go to a restaurant on weekdays (from Monday to Thursday), those who choose the weekends, and finally the ones who visit restaurants most on holydays or special occasions. The table 6.1 indicates the changes between samples. According to the Chi-square test (p= 0.00) the proportions change across the

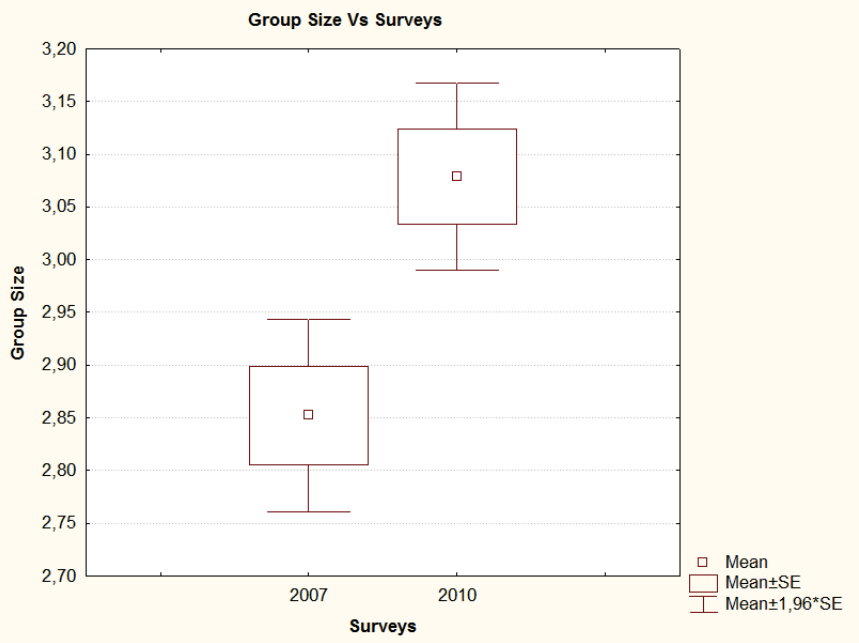

Figure 6.6: Group Size Vs Surveys

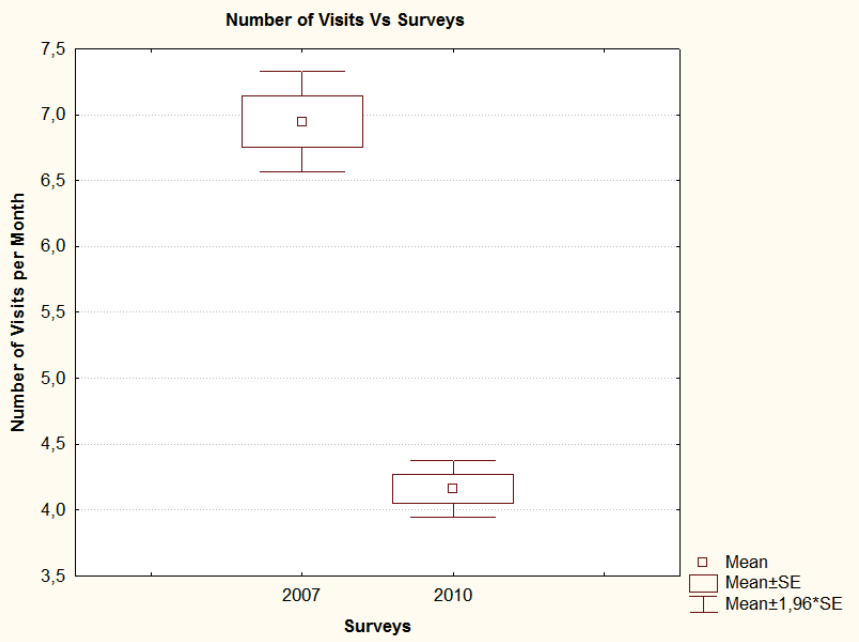

Figure 6.7: Number of Visits Vs Surveys

years. It is possible to see that the percentage of respondents who went to restaurants during the weekend and weekdays decreased from 2007 to 2010, while the one regarding holidays and anniversaries increased.

In the surveys from 2007 and 2010, respondents were asked about their preferable form of payment. The table 6.2 shows the percentages of each sample for the respective choice

of payment. According to the Chi-Square Test (p= 0.00) the variables are dependent. From the table it is possible to see that the frequencies vary across the years. The biggest difference from 2007 and 2010 here is the change of the favorite form of payment. Most respondents from 2007 report that the most used form of payment was credit card, while in 2010 respondents report that cash was the preferable form of payment.

Respondents were also questioned about their appreciation for different types of international cuisines including Japanese, French, Chinese, Italian, Portuguese and Mexican. Consumers from the 2007 survey appreciate more different types of cuisines than 2010 consumers. The result is shown in figure 6.8. Respondents from the 2007 sample appreciate on average more than 3 different kinds of international culinary, while respondents

Table 6.1: Contingency Table - Period Vs Surveys

Observed Frequencies - Period of Visit			
Period	2007	2010	Totals
Weekdays	289	371	660
Column %	23.69	18.50	
Row %	43.79	56.21	
Ween-end	806	1098	1904
Column %	66.06	54.76	
Row %	42.33	57.67	
Holidays	125	536	661
Column %	10.25	26.73	
Row %	18.91	81.09	
Totals	1220	2005	3225

Table 6.2: Contingency Table - Payment Vs Surveys

Observed Frequencies - Form of Payment			
Forms of Payment	2007	2010	Total Count
Debit Card	258	255	513
Column (%)	21.41	12.83	
Row (%)	50.29	49.71	
Credit Card	548	705	1253
Column (%)	45.48	35.48	
Row (%)	43.74	56.26	
Cash	323	941	1264
Column (%)	26.80	47.36	
Row (%)	25.55	74.45	
Meal Vouchers	50	68	118
Column (%)	4.15	3.42	
Row (%)	42.37	57.63	
Check	26	18	44
Column (%)	2.16	0.91	
Row (%)	59.09	40.91	
Totals	1205	1987	3192

of the 2010 survey appreciate on average less than 2 distinct cuisines. The difference between means is statistically significant (Mann-Whitney U Test - p= 0.00).

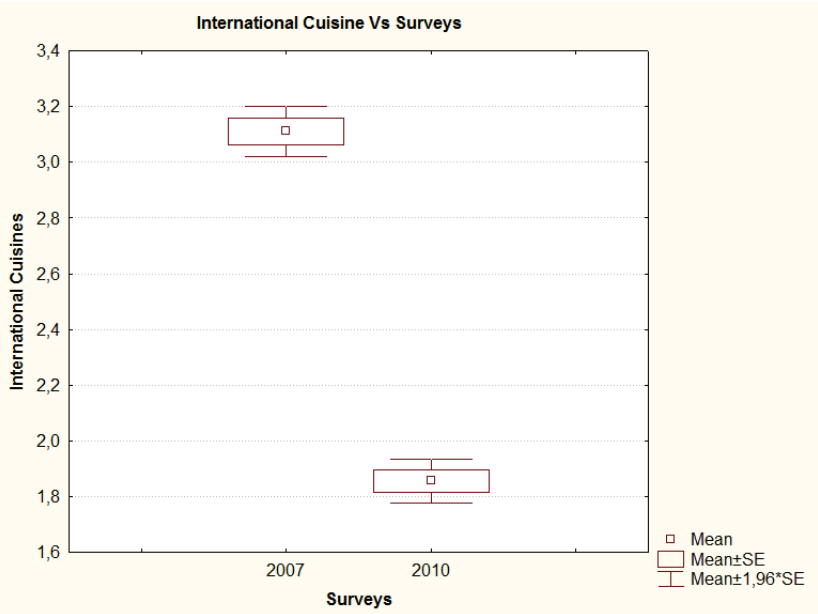

Figure 6.8: International Cuisines Vs Surveys

The next results are based on questions 23 from both surveys. Analyzing the perception of consumers from both samples when it comes to the influence of some professional on the quality of a restaurant, it could be seen that respondents from the 2010 survey find that all professionals, but cook and waiter, have greater influence on the quality of a restaurants in comparison to what respondents from the 2007 report. The results are shown in figure 6.9. Besides the numerical difference between means being small the differences are statistically significant, according to the Mann-Whitney U test presented in table 6.3. The evaluation of the importance of the cook had a slight fall in 2010 (Mann-Whitney test - $p<$ 0.01), while the importance of the waiter has not changed.

Table 6.3: Professionals Vs Surveys Mann Whitney U Test

Mann-Whitney Test - Professionals	
Professionals	p-value
Chef	0.00
Cook	0.00
Maître	0.00
Waiter	0.65
Receptionist	0.00
Manager	0.00
Musician	0.00

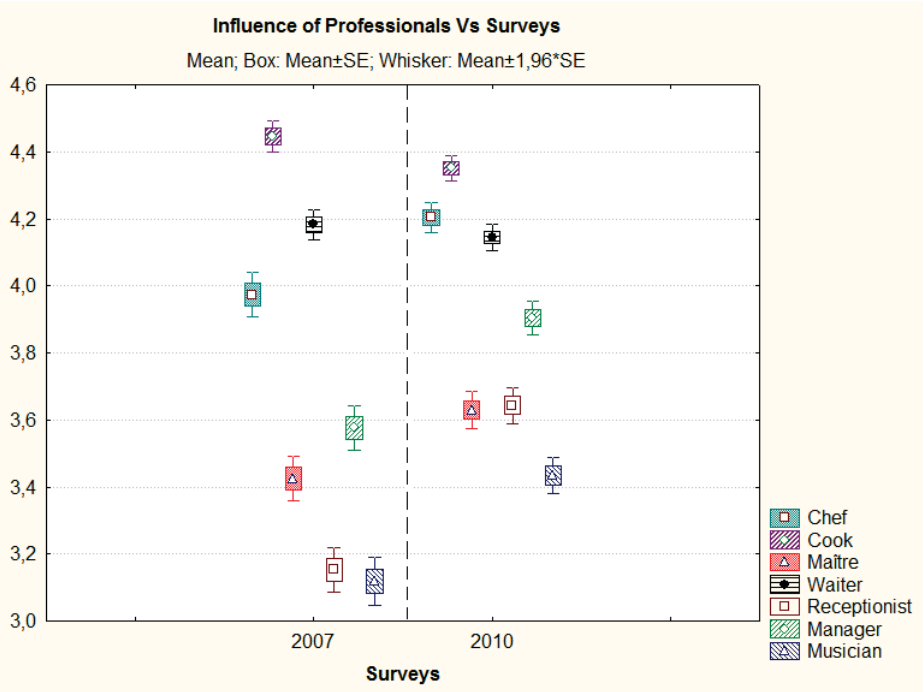

Figure 6.9: Professionals Vs Surveys

7.1 The Enquete

The interviews were conducted with restaurant owners, managers or chefs, with only one representative for each restaurant, being over 18 years old. The sample was a convenience sample, as the questionnaires were applied to the establishments of the Metropolitan Area of Recife that belonged to a list provided by ABRASEL. The ABRASEL list is presented in B.1.

The sample contains information of 113 restaurants of the metropolitan area of Recife.

7.2 Restaurants' Profile

This section will show the characteristics of the restaurants and respondents such as business method, capacity and specialty, among others. The section will also explore how variables like level of sophistication, quality and revenue are influenced by some characteristics and services offered by the restaurants.

7.2.1 Year of Opening, Location and Level of Education

The graph in figure 7.1 represents the year that the restaurants of sample opened. There is a distribution concentration from 2000 to 2010. Almost 60% of the sample have a restaurant up to 10 years of operation (being the moment of the interview the reference). That doesn't mean that the administration is new. Some establishments were already a restaurant before, but to unknown and varied reasons reopened as a different restaurant.

The graph in figure 7.2 represents the areas where the restaurants are located. There is a distribution concentration in Area 5 with about 42% of the sample. The areas 4 and 1 come next with 18% and 15% of respondents, respectively.

The graph in figure 7.3 represents level of education percentage of the restaurants owners. As shown, the majority of answers, about 67% of the sample reports that the

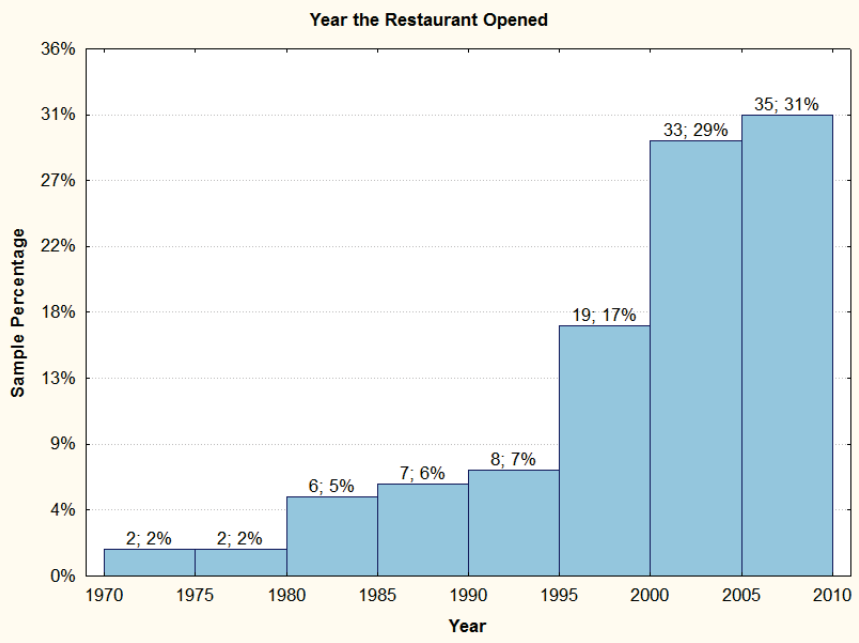

Figure 7.1: Frequencies - Comparison between the Age of Restaurants

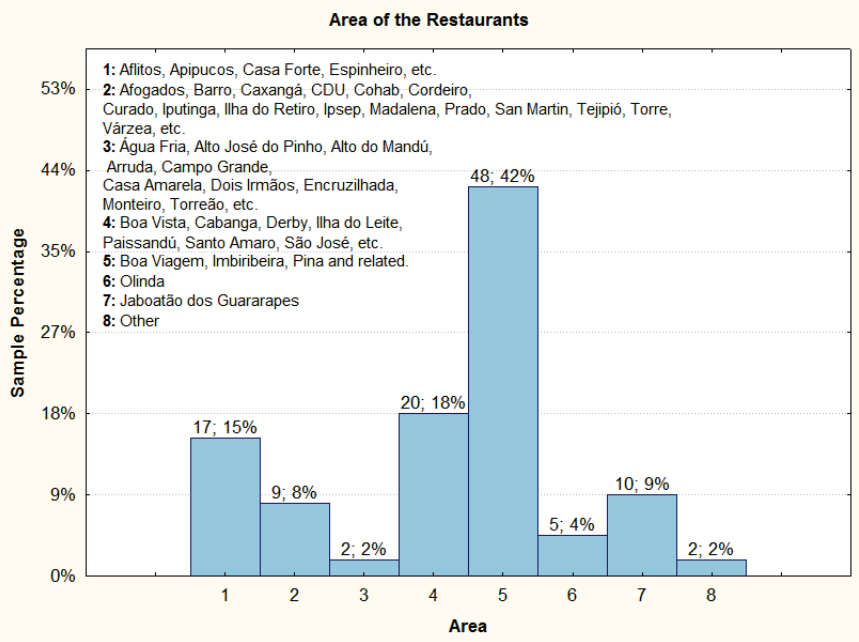

Figure 7.2: Frequencies - Comparison between the Location of Restaurants

restaurant main owner has a superior level of education. Also about 95% of respondents have at least finished high school. Perhaps they are owners for having a higher level of education or, to better manage the establishment, a higher level of education is desired.

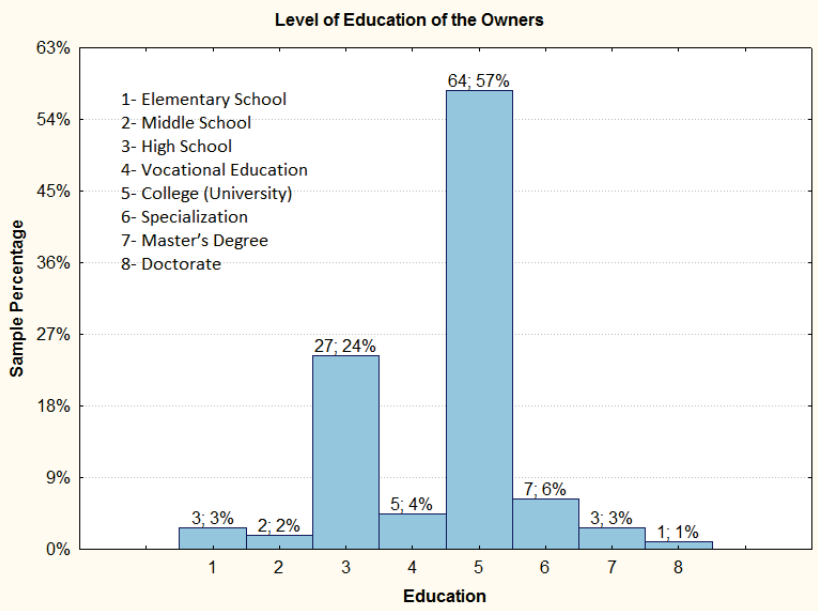

Figure 7.3: Frequencies - Comparison between the Level of Education of the Main Owner

7.2.2 Business Method, Business Plan, Seating Capacity and Main Dish

The interviewees were questioned about the business method of the restaurant. According to the graph in figure 7.4 it is possible to see that the vast majority, about 75% of the sample reports to have their own trademark, while 23% has a franchise.

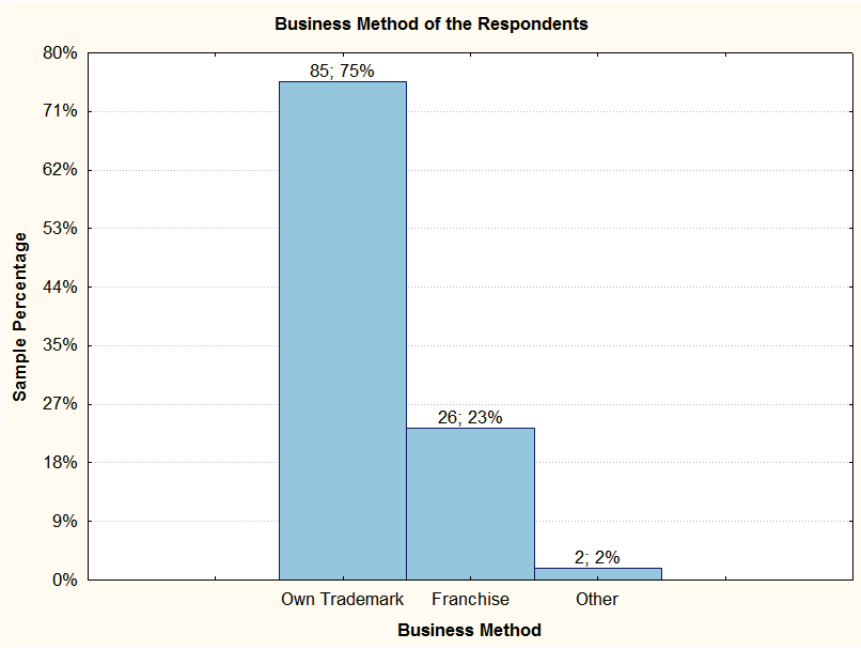

Figure 7.4: Frequencies - Business Method

The respondents also answered if their restaurant had a business plan. According to the graph in figure 7.5 it is possible to see that about 64% of the restaurants interviewed do have a business plan.

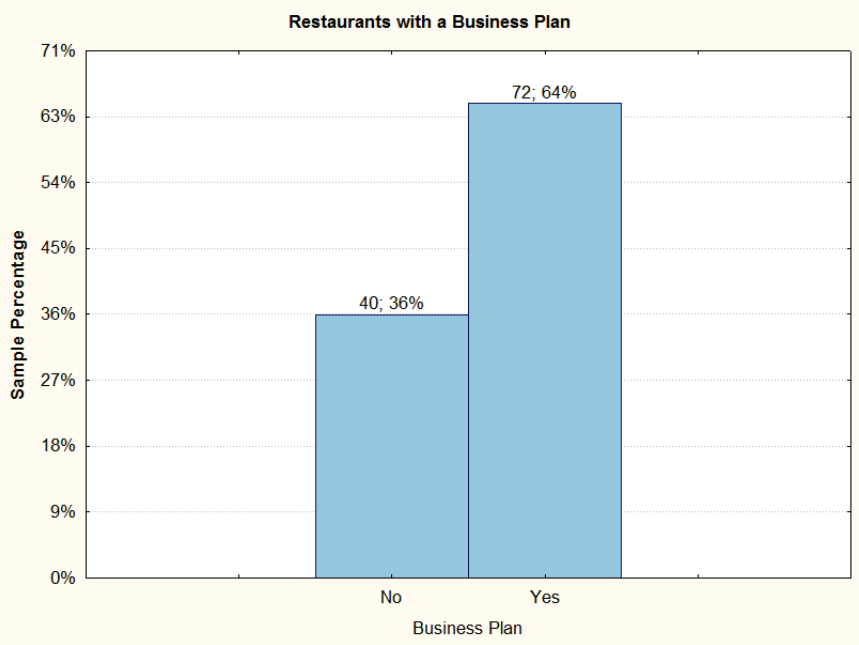

Figure 7.5: Frequencies - Business Plan

The graph from figure 7.6 represents the seating capacity percentage of the restaurants. About 88% of the sample has a seating capacity of less than 250 seats.

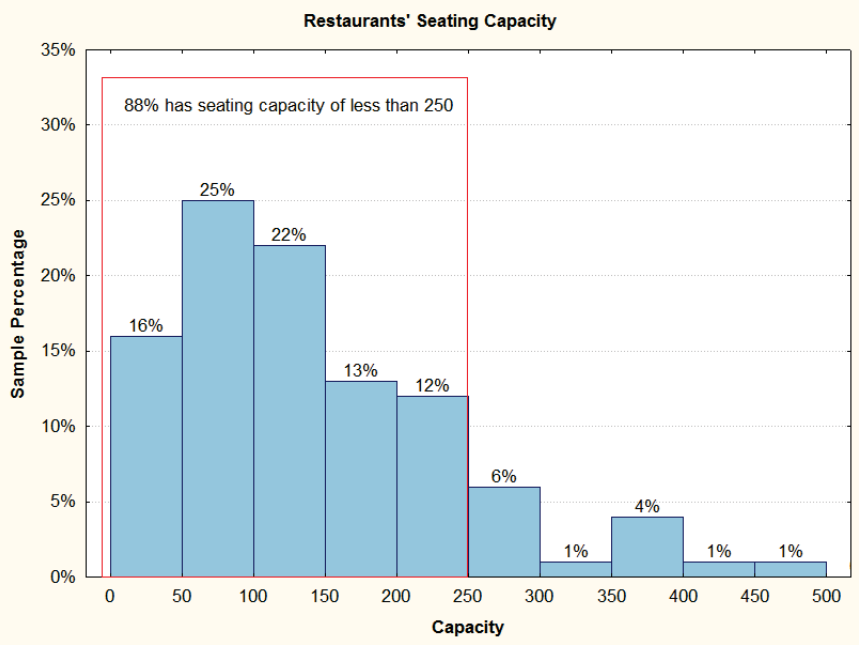

Figure 7.6: Frequencies - Comparison between the Seating Capacity of Restaurants

The respondents were questioned about what dish they served the most in their restaurant. The distribution of the sample by dish is shown in figure 7.7. About 43% of respondents report that "beef" is the dish usually ordered by consumers. Fish, seafood, pasta and pizza were the other most chosen options by restaurants representing 16%, 12%, 9% and 9% of the sample respectively.

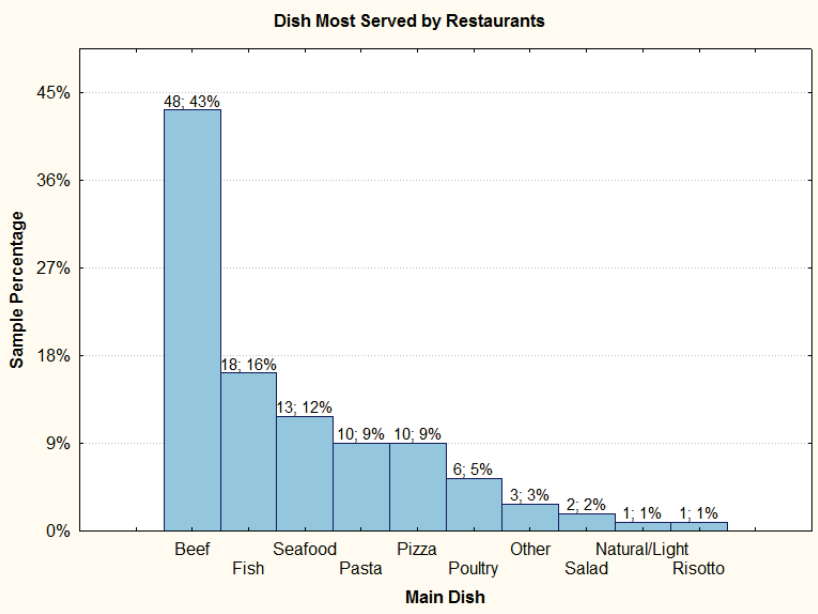

Figure 7.7: Frequencies - Dish Most Served

Respondents were questioned if they made part of associations, such as "ABRASEL" and "Prato da Boa Lembrança". ABRASEL is the Brazilian association of bars and restaurants; its purpose is to represent the sector by encouraging public policies for the development of the sector and by doing service qualification projects and promoting the Brazilian gastronomy as an important driving force to tourism (ABRASEL, 2010). "Prato da boa Lembrança" is an association where restaurants create a plate as a souvenir for consumers to take home. This practice subsequently led to the creation of the Club of the Collector. Besides the souvenirs, the restaurants' chefs gather to talk about the decisions and financial matters of the association, and also to exchange gastronomic experiences (Matsumoto, 2011). From figure 7.8 it is possible to see that about 70% of the sample is a member of ABRASEL. On the other hand less than 10% of the restaurants have joined the association "Prato da boa Lembrança" and about 10% is associated with another entity.

The graph in figure 7.9 represents the percentage of restaurants that serve each type

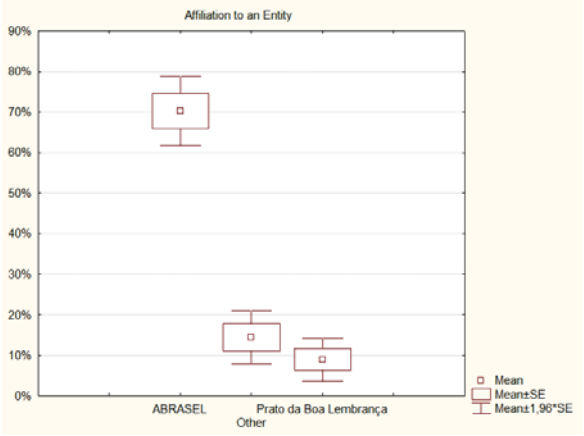

Figure 7.8: Box & Whisker Plot - Affiliation

of cuisine. As shown, about 60% of the sample offers Brazilian food on their menus. The Italian food is the second most served food in the restaurants with 40% of the sample. The Italian and "other" cuisines also have a substantial distribution with just over 30% of the sample. When figures 7.9 and 4.20 (section 4.1.7), are compared it is easy to see that only a few restaurants offer certain cuisines that are reasonably appreciated by customers as for example the Chinese culinary. About 40% of customers from the 2010 survey enjoy Chinese food and only 20% of restaurant offers it. Perhaps this shows a portion of the market that hasn't been yet explored, in other words, it could be interesting to discover if the offer is below the demand for Chinese food.

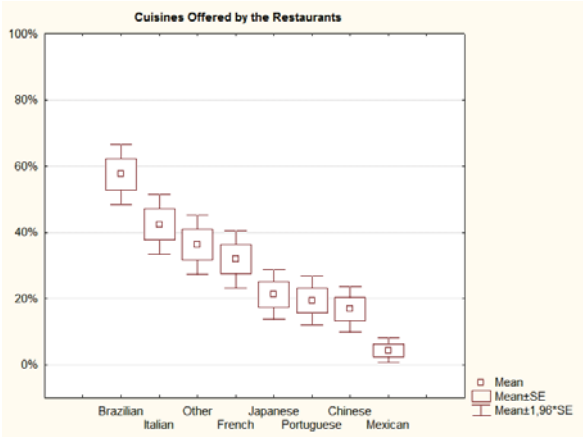

Figure 7.9: Box & Whisker Plot - Cuisines

7.2.3 Customer Frequency per Period, Meals and Client Permanence per Visit

The graph in figure 7.10 shows the frequency of the restaurants during each period of a week. The average number of customers in restaurants per day is higher during weekends and holidays, which about 263 and 242 clients respectively. On weekdays, the restaurants welcome daily 176 clients on average.

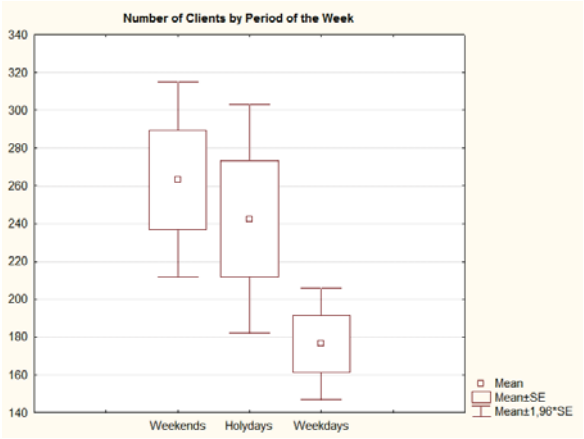

Figure 7.10: Box & Whisker Plot - Number of Customers per Period

The graph in figure 7.11 represents the percentage of restaurants that serve each type of meal. As shown, almost every restaurant of the sample offers lunch and dinner, with a percentage higher than 90%. On the other hand less than 10% of restaurants serve meals for breakfast.

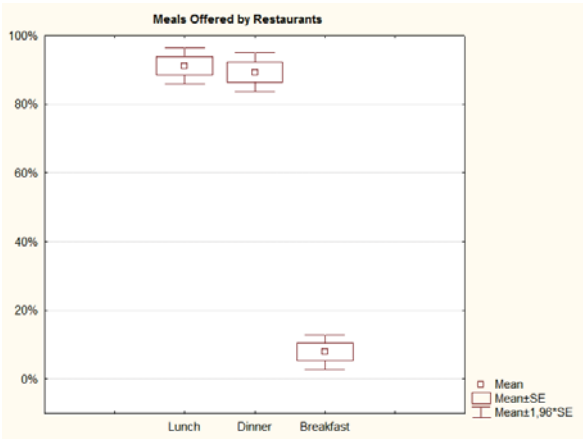

Figure 7.11: Box & Whisker Plot - Meals Served by Restaurants

Respondents were asked about the average time their customers spent in the restau-

rant. Table 7.1 shows the descriptive statistics. Clients stay in a restaurant for 1 hour and 5 minutes on average. The minimum stay is 20 minutes.

Table 7.1: Descriptive Statistics - Stay per Visit

Descriptive Statistics						
	n	Mean	Median	Minimum	Maximum	Std. Deviation
Stay (minutes)	101	65.04	60	20	210	42.28

7.2.4 Service System, Consumption and Variety of Alternative Dishes

The following graph in figure 7.12 shows the distribution of the sample by the main service system adopted by restaurants. About 65% of the sample report that "À La Carte" is their main service system. The service least adopted by restaurants is "Rodízio" with only 4% of the sample.

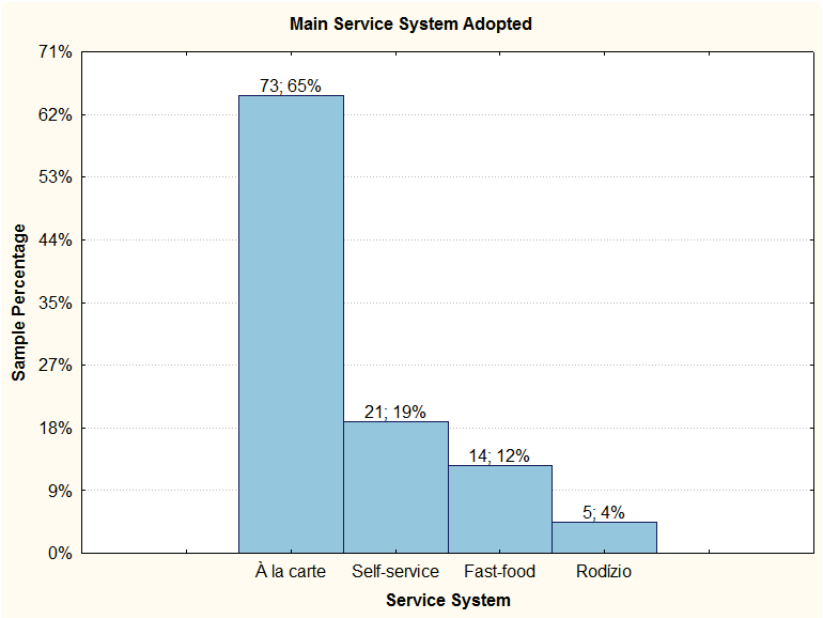

Figure 7.12: Frequencies - Service System

Table 7.2 presents the descriptive statistics of the variable "consumption". The restaurants customers consume on average R$ 42.48 each. The minimum consumption reported was R$ 8.00, and the maximum R$ 250.00.

Respondents were asked to rank from 1 to 5 the level of variety of alternative dishes offered in the restaurants. This topic refers to question 22 in the 2011 questionnaire. The

graph in figure 7.13 shows the average ranks for each type of dish. Dessert has the highest level of variety between the dishes with an average of 3.26, while broth and cheese have the lowest level, with averages of 1.24 and 1.62 respectively.

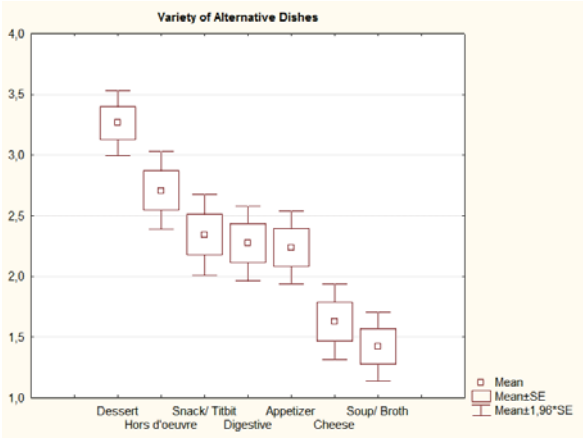

Figure 7.13: Box & Whisker Plot - Level of Variety of Dishes

7.2.5 Additional Services and Training

The following graphs in figures 7.14 and 7.15 show the percentage of the sample that offers the additional services specified in question 25 from the 2011 questionnaire. It is possible to see that almost 80% of the restaurant have a parking lot available for clients, 72% make table reservation, 76% works with offers and discounts, 69% of restaurants provides courtesy and gifts to customers and 68% have access for disabled. Some other services are offered by a small percentage of the sample, which is the case of the services space to dance with 18% of restaurants, playground with 19%, salad bar with 25%, valet which is offered by 29% of restaurants, live performances with 35% and delivery with 36% of the sample.

Respondents were asked where they train their employees, whether in universities and faculties, public training centers, in-house or in another center. The sample percentage

Table 7.2: Descriptive Statistics - Consumption per Customer

Descriptive Statistics						
	n	Mean	Median	Minimum	Maximum	Std.Deviation
Consumption	113	42.48	30	8	250	36.253

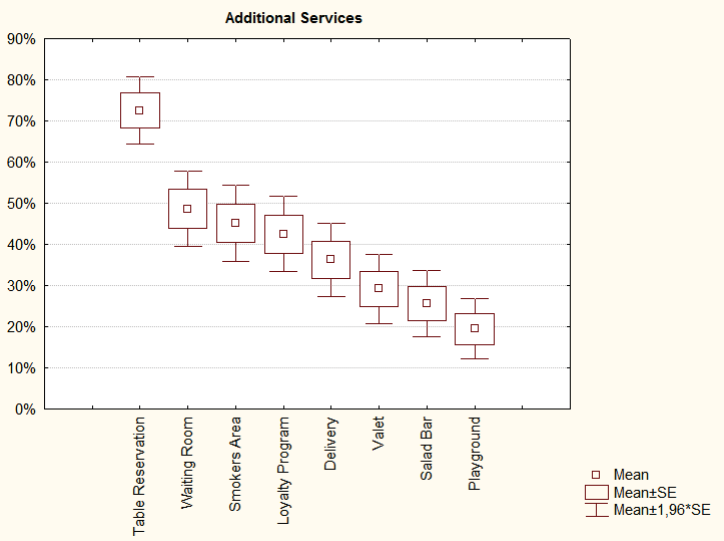

Figure 7.14: Box & Whishker Plot - Additional Services (Part I)

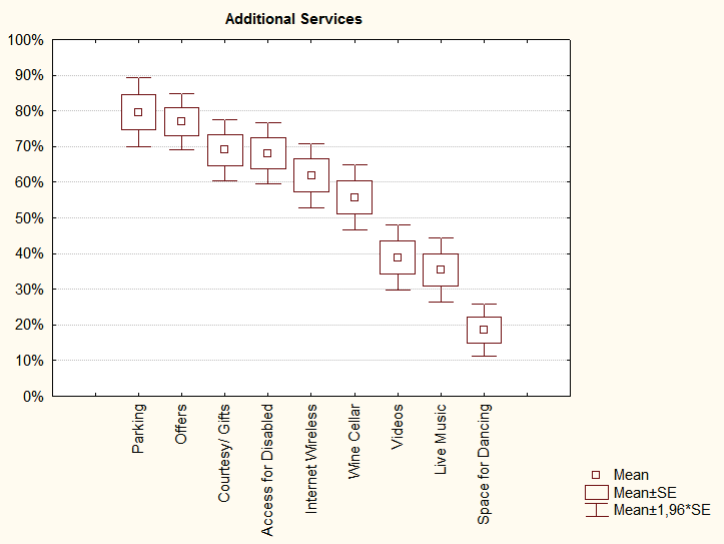

Figure 7.15: Box & Whisker Plot - Additional Services (Part II)

by the number of center used by restaurants for training is presented in figure 7.16. The vast majority of 84% of restaurants use less than 4 training centers.

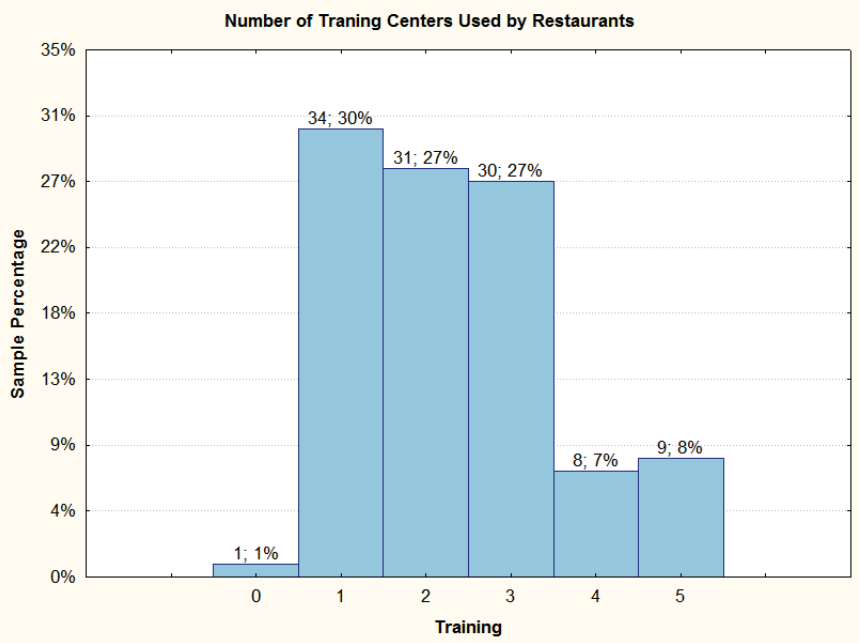

Figure 7.16: Frequencies - Training Centers

8.1 Introduction

The previous chapter showed the characteristics of the restaurant sample. In this section the consumers' perceptions from the 2010 sample and the perception of restaurants' representatives will be compared to assess the similarities and contrasts between them. For the comparison all questionnaires from the 2010 and 2011 surveys were used. The comparisons were made in order to provide a better understanding of the research to restaurant owners and consumers.

8.2 Comparison between Customer Perceptions and Representatives of Restaurants

8.2.1 Beverage Type and Consumption

Consumers were asked about the beverage they usually order when in a restaurant, including appetizer, beverage to accompany main meal, and digestive. The question to the restaurants however, as the type of beverage their customers ordered the most during the stages of a meal. The table 8.1 shows the frequencies of each sample for the respective choice of beverage. 22.43% of consumers report that they do not order beverages as appetizer against 7.96% of restaurants' representative. The most ordered beverage from customers is soda, with 24.43% of the sample, and is also the most ordered appetizer according to restaurants with 39.82% of respondents. The Chi-Square Test of 36.613 and p-value of 0.00 shows that the variable are associated and that the frequencies vary across the surveys

When it comes to the main meal beverage, half of the restaurants answered that soda is the most ordered beverage, against 35.38% of consumers. Only 13.27% of restaurants reported that juice is the preferable beverage against 29.24% of the consumer's sample.

The observed frequencies are presented in table 8.2. According to the Chi-Square Test for independence, the frequencies vary across the surveys (p= 0.00).

Table 8.1: Contingency Table - Appetizers Vs Surveys

Observed Frequencies - Appetizer Vs Surveys			
Beverages	2010	2011	Total Count
NONE	450	9	459
Column %	22.43	7.96	
Row %	98.04	1.96	
WATER	142	12	154
Column %	7.08	10.62	
Row %	92.21	7.79	
SODA	490	45	535
Column %	24.43	39.82	
Row %	91.59	8.41	
JUICE	298	7	305
Column %	14.86	6.19	
Row %	97.70	2.30	
RED WINE	58	9	67
Column %	2.89	7.96	
Row %	86.57	13.43	
BEER	297	17	314
Column %	14.81	15.04	
Row %	94.59	5.41	
OTHER	271	14	285
Column %	13.51	12.39	
Row %	95.09	4.91	
Totals	2006	113	2119

Table 8.2: Contingency Table - Main Meal Beverage Vs Surveys

Frequencies - Main Meal Beverage Vs Surveys			
Beverages	2010	2011	Total Count
WATER	49	5	54
Column %	2.45	4.42	
Row %	90.74	9.26	
SODA	708	61	769
Column %	35.38	53.98	
Row %	92.07	7.93	
JUICE	585	15	600
Column %	29.24	13.27	
Row %	97.50	2.50	
RED WINE	60	19	79
Column %	3.00	16.81	
Row %	75.95	24.05	
BEER	324	7	331
Column %	16.19	6.19	
Row %	97.89	2.11	
OTHER	275	6	281
Column %	13.74	5.31	
Row %	97.86	2.14	
Totals	2001	113	2114

The digestives most chosen by customers were "none", "soda" and "other" with 23.94%, 19.19% and 21.89% of the sample respectively. About 38% of the restaurants interviewed answered that coffee was the most ordered digestive. Table 8.3 shows the observed frequencies. When evaluating the independence of the variables "digestives" and "surveys", the chi-square test of 150.79 and p-value of 0.00 indicates that the variables are dependent, and that digestives varies across surveys.

Table 8.3: Contingency Table - Digestive Vs Surveys

Observed Frequencies - Digestive Vs Surveys			
Beverages	2010	2011	Total Count
NONE	479	10	489
Column %	23.94	8.85	
Row %	97.96	2.04	
WATER	171	7	178
Column %	8.55	6.19	
Row %	96.07	3.93	
SODA	384	19	403
Column %	19.19	16.81	
Row %	95.29	4.71	
COFFEE	230	44	274
Column %	11.49	38.94	
Row %	83.94	16.06	
RED WINE	32	5	37
Column %	1.60	4.42	
Row %	86.49	13.51	
BEER	224	4	228
Column %	11.19	3.54	
Row %	98.25	1.75	
LIQUOR	43	16	59
Column %	2.15	14.16	
Row %	72.88	27.12	
OTHER	438	8	446
Column %	21.89	7.08	
Row %	98.21	1.79	
Totals	2001	113	2114

8.2.2 Professional's Influence on the Quality

Restaurant's representatives answered how they think their clients evaluate the importance of some professional in the quality of a restaurant. The comparisons with the answers given by customers from the 2010 questionnaire are presented in figure 8.1.

In general, consumers gave more importance to the influence of the professionals in the quality of restaurants, compared to the assessment made by the representatives of the

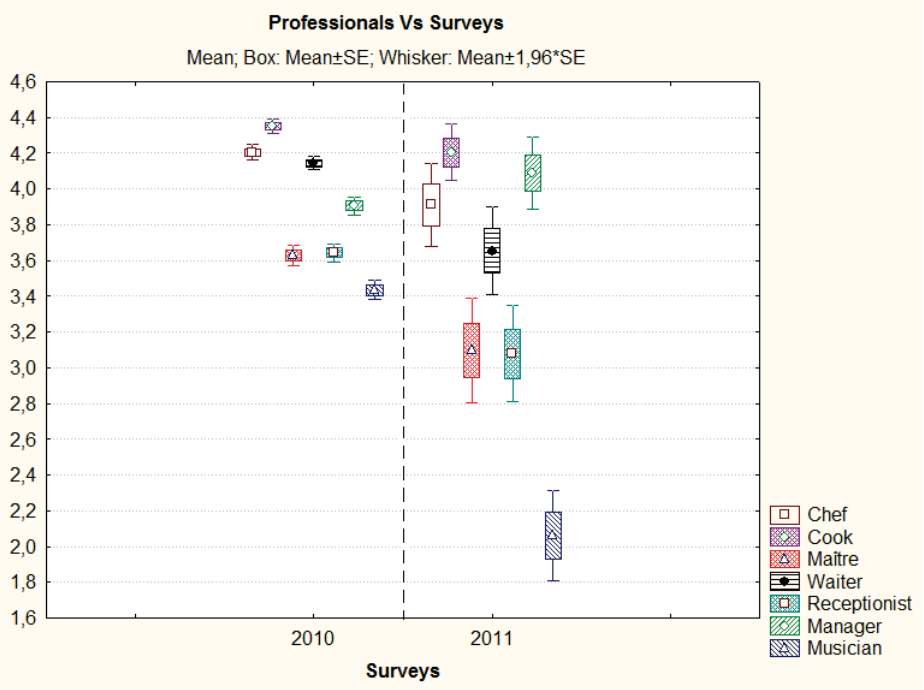

Figure 8.1: Box and Whiskers Plot - Professionals' Influence Vs Surveys

restaurants. The only evaluation that the difference between means was not statistically significant (p= 0.09), was the manager's. The difference between the rates of cooks and chefs was statistically significant, but the numerical difference between the averages is irrelevant. The evaluation of the importance of musicians also draws attention, as the numerical difference of the means for the two surveys is the highest between the professionals. The Customers evaluation is on average about 3.4, while restaurants' is 2.1. The Mann-Whitney U test results are presented in table 8.4.

Table 8.4: Mann-Whitney U Test - Professional's Influence

Mann-Whitney U Test - Difference between Surveys	
Professionals	p-level
Chef	0.03
Cook	0.01
Maître	0.00
Waiter	0.00
Receptionist	0.00
Manager	0.09
Musician	0.00

8.2.3 The Importance of Restaurant Quality Criteria

Restaurant's representatives were questioned about how they think their customers rate the importance of some restaurant quality criteria from 1 to 5. The questionnaire from 2010 brought the same question. The comparisons between both surveys are shown in figure 8.2.

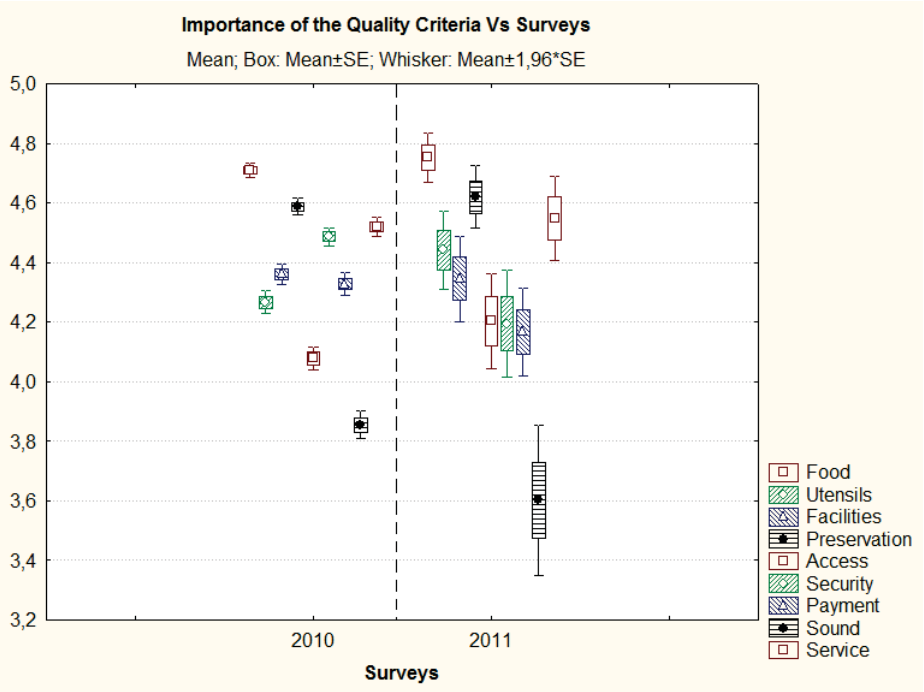

Figure 8.2: Restaurant Quality Criteria Vs Surveys

According to the Mann-Whitney U test results presented in table 8.5, almost every quality criterion had no statistical difference between means except for the criteria "security" and "payment" with p-values of 0.00 and 0.01, respectively. The difference between the means of both surveys for these criteria, despite being statistically significant is numerically too small.

8.2.4 Form of Payment

The perception of restaurants regarding the form of payment most used by their clients was that credit card and debit card were the preferable forms as shown in figure 8.3. On average, they rated the frequency of use of cash as intermediate. According to the graph in figure 8.4 the most widely used form of payment by respondents from the 2010 survey

is cash. Credit card and debit card have a high frequency as well being the second and third preferable forms of payment.

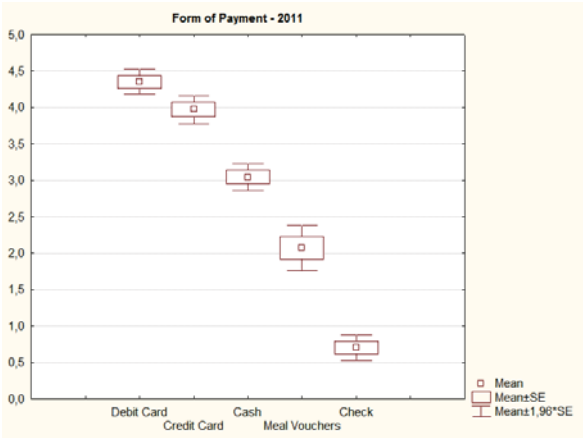

Figure 8.3: Form of Payment Most Used - 2011 Survey

8.2.5 Media

The graph in figure 8.5 shows the means of communication used by restaurants for promotion. More than 90% of the sample reported to use family and friends to promote the restaurant. Other highly used Medias are internet, gastronomy guides, magazines and newspapers. As presented in figure 8.6, 67% of respondents from the 2010 survey, answered that the best ways to inform themselves about restaurants was family and friend, 10% uses television as the first mean of information, and 6% newspapers.

The recommendation of restaurants by family and friends is very important mean of communication. The internet is a cheap form of publicity that can reach thousands of

Table 8.5: Mann-Whitney U Test - Quality Criteria

Mann-Whitney U Test - Difference between Surveys	
Quality Criteria	p-level
Food	0.75
Utensils	0.06
Facilities	0.78
Preservation	0.86
Access	0.15
Security	0.00
Payment	0.01
Sound	0.20
Service	0.49

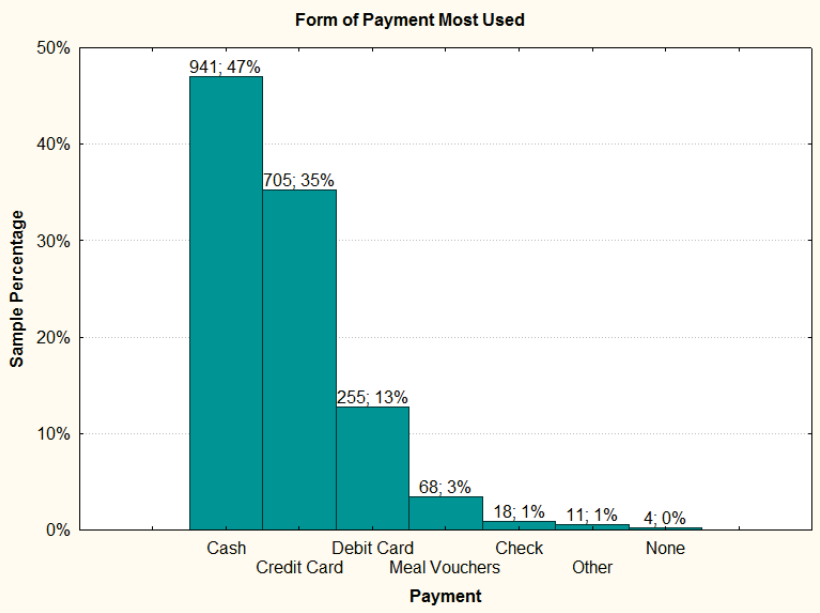

Figure 8.4: Forms of Payment Frequencies - 2010 Survey

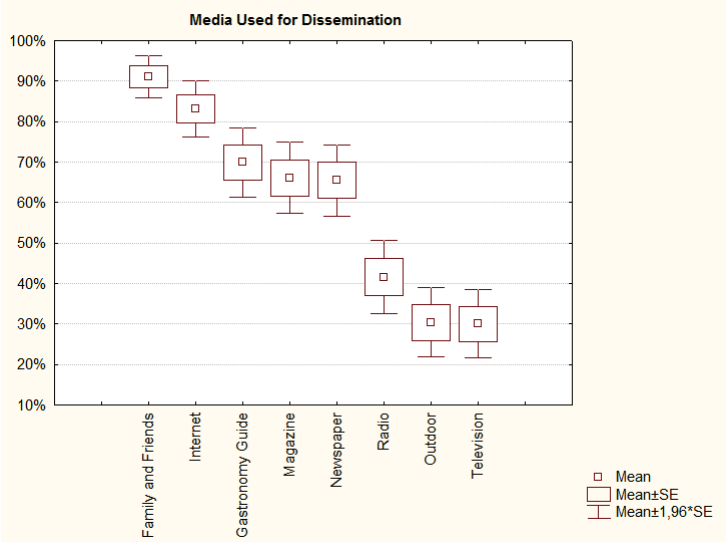

Figure 8.5: Media Used by Restaurants

people quickly, and it's used by more than 80% of the restaurants. Perhaps the advantages of using the internet as Media and the importance the recommendation of family and friend have increased the practice of companies from all around the world to use social media as twitter, facebook, orkut and myspace for publicity.

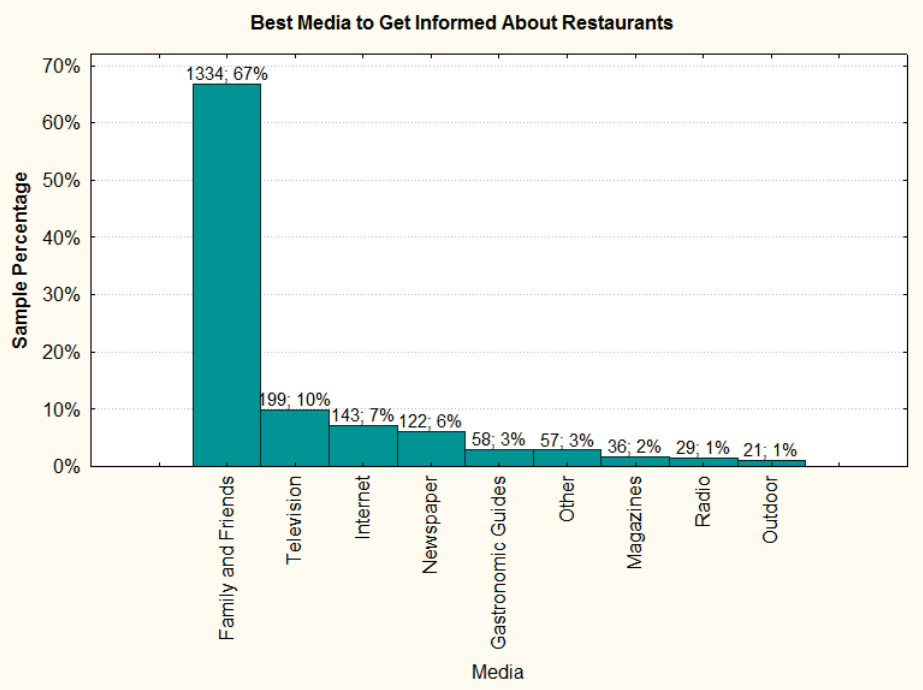

Figure 8.6: Frequencies - Media Used by Customers

8.2.6 Level of Gastronomic Knowledge (ICG)

The graph in figure 8.7 shows the difference between the perception of restaurants' representatives about the gastronomic knowledge of their clients, and the gastronomic knowledge of consumers from the 2010 survey. The average ICG of the 2010 sample is about 9, while the average ICG from the 2011 survey is about 17. The difference between means is statistically significant according to the Mann-Whitney U Test with $p< 0.01$.

8.2.7 Queue Management Policies

The restaurants were asked about how they think their clients would evaluate some queue management policies from 1 to 5. Consumers from the 2010 questionnaire also rated the policies. The comparisons between the evaluations are shown in figure 8.8. According to the Mann-Whitney U tests presented in table 8.6 the policies with different average evaluation between surveys is the "VIP", "Large Group" and "Call in Advance the Same Day" policies. The numerical difference between the means of both surveys for the "VIP" and "Call in Advance the Same Day" policies is irrelevant. On the other hand, the numerical difference between the means for the "Large Group" policy is substantial, as

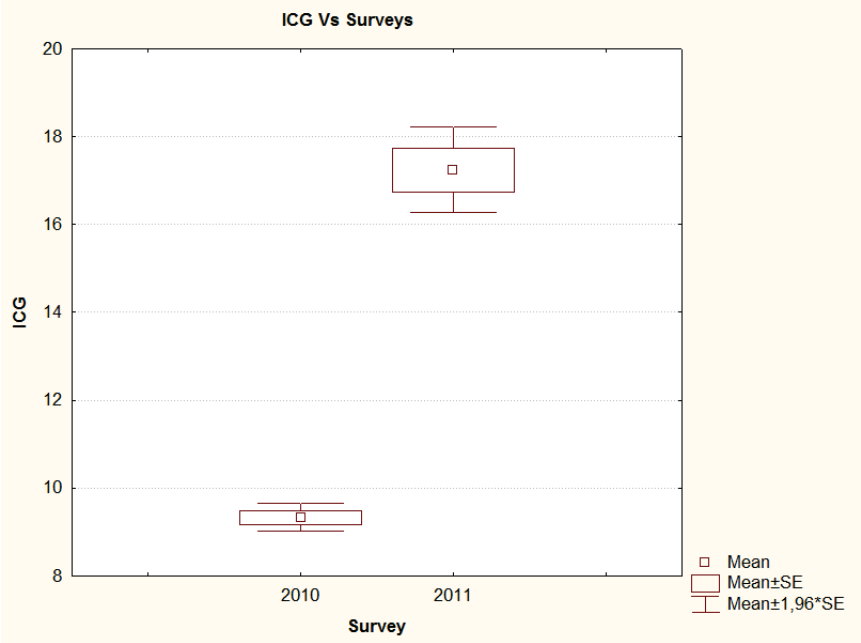

Figure 8.7: Level of Gastronomy Knowledge

consumers rated this policy with almost 3.7 and restaurants with almost 3.

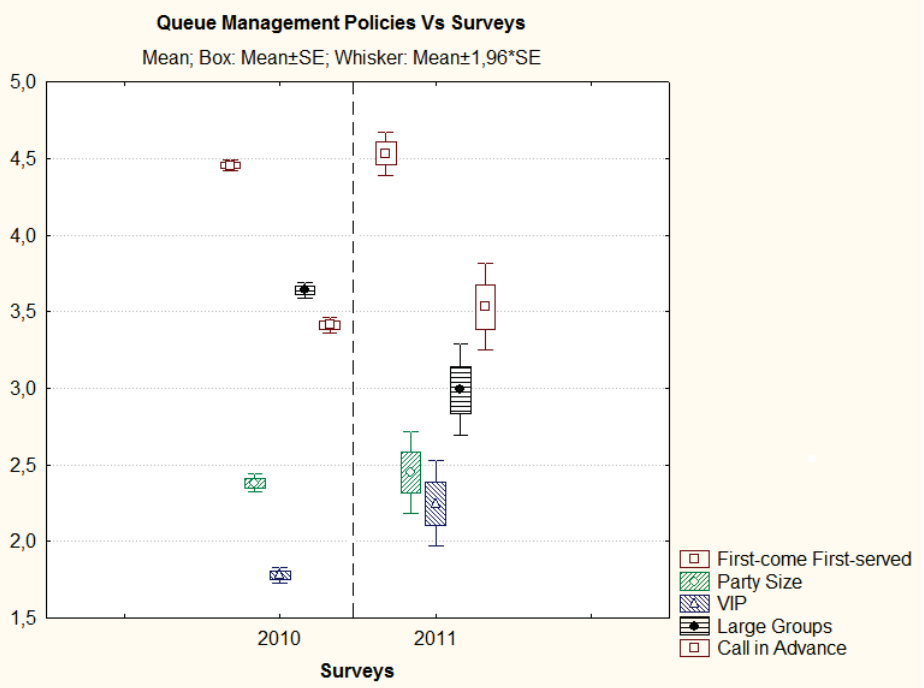

Figure 8.8: Queue Management Policies Vs Surveys

Table 8.6: Mann-Whitney U Test - Queue Policies Vs Surveys

Mann-Whitney U Test - Difference between Surveys	
Policies	p-level
First-come First-Served	0.31
Party Size	0.83
VIP	0.01
Large Group	0.00
Call in Advance	0.02

9.1 Introduction

This dissertation brings valuable information to a better understanding about the Restaurant Industry. First was presented a historical review about the origins of restaurants and gastronomy, and as well the current scenario of the restaurant sector. After, the data bases were analyzed, always using the 2010 sample as reference. It will be present an overview of the most important results, without the analysis, showed during this study including a brief discussion to provide a better comprehension of the results. Some suggestions for future work and the conclusions will finish the dissertation.

9.2 The Consumer Profile

Several aspects about the 2010 survey were analyzed in chapter 3 regarding the descriptive characteristics of the sample, including its social-economic profile and information about professional matters. The main results are as follow:

- the 2010 database is robust, which shows that the number of interviews collected is large enough to present the profile of the sample and to report the preferences of Recife's restaurant consumers;
- the survey was balanced between gender, age range and area of residence; thus, the sample was conducted with approximately the same number of men and women, with similar percentage of respondents in every age range that was suggested before the data collection and also with approximately the same number of people in each area of residence considered for the survey;
- 56% of respondents does not have a partner, that includes common-law marriages;
- 73% of the sample reported to not have children under twelve years old;

- 40% of the sample has at least a superior level of education (college/university);
- 72% of respondents earns less than R$ 2,000.00 per month;
- 74% of respondents has household income inferior to R$ 4,000.00 per month;
- 50% of respondents reported to have at least one car. In this case it wasn't clear if the car belonged only to the respondents themselves or to family members such as parents, or anyone who lived with them providing the respondents the possibility to use the car;
- 30% of the sample are private employees, 21% is retiree, 14% is public employee and 13% is autonomous worker. Each other category has less than 10% of the sample. The high percentage of retirees can be easily explained by the number of people older than 65 year old that was interviewed, which represents 28% of the sample;
- 30% of respondents report that their organization is in a different sector then the ones listed in the questionnaire. 21% chose "none", each can lead to the thought that they don't work at and organization. The sections with the highest concentration of respondents are service and commerce both with 18% of the sample each;
- the household income varies across the area of residence. This happens mainly because the areas were chosen not only considering the geographic region, but the economic characteristics. Areas 1 and 5 are the ones with the highest incomes and are also the areas with the most expensive square meter in Recife. Other study also state that Areas 1 and 5 have the highest income between areas (Mendes, 2011);
- there is also personal income difference between genders. Men have personal income 25% higher than women. In the United States there is also a wage gap between men and women. In general men have higher wages than women for the same job position. The differences for racial and ethnic matters are even greater than between gender (McCall, L., 2001);
- respondents from 18 years old to 40 years old have lower personal income than respondents from other age ranges. Perhaps this can be explained by the fact that

younger people haven't yet concluded their studies and that some might be at the beginning of their careers and aren't well paid as are experienced professionals;

- another important result is that entrepreneurs have higher personal income than those who have other occupation. People that have a direction job position have also higher personal income than professionals that occupy other positions;

9.3 Respondents' Habits and Preferences

The main results found in chapter 4 are as follow:

- the average number of people that accompany respondents to restaurants is three;
- 81% goes to restaurant for leisure. This information is important to show that these customers do not go to restaurants only to eat, they choose restaurants as an entertainment. In this case, principally, the service has to be differentiated as a package of a good meal, pleasant ambience, and good service of all professionals, including waiter, receptionist, cook, chef etc. Respondents that go to restaurants mainly for business matters have the highest level education;
- 55% of respondents reported to go to restaurants most often during the weekend. Respondents that chose the weekdays have the highest level of education and personal income averages;
- 53% of respondents usually go to restaurants to eat lunch;
- on average respondents go to restaurants four times per month. The higher the level of education or the higher the personal income, the higher the number of visits to restaurants in a month;
- 49% of respondents chose "à la carte" as their preferable service system;
- Beef is the main dish most ordered by the customers. The light food such as salad, fish and natural food are ordered by consumers that are on average older, being between 53 and 57 years old. Maybe it reflects a preoccupation, as the age comes,

with diseases associated to nourishment. Customers that usually order pizza are on average the youngest ones;

- the most used form of payment is cash with 47% of respondents, followed by credit card and debit card with 35% and 13% respectively. The different available forms of payment in a restaurant might be an important aspect to be considered. Clients could easily not return to the establishment if their preferable form of payment is not available or even leave the restaurant for another one with a different option of payment;

- 49% has gastronomic knowledge (ICG) inferior to eight. The higher the educational level, the higher the ICG. The same relation occurs with the personal income. Respondents with gastronomic knowledge superior to eight have personal income higher than R$ 3,000.00. It is a natural thought that people with a better knowledge of gastronomy go more often to sophisticated restaurants, or even order a whole meal with appetizer, hors d'oeuvre, main dish, dessert and digestive. They might also give more importance about the presentation of food, and the way they are warily prepared; and they also might be able to spent more at a meal. These three last aspects were not considered in this study, but are of great importance as they aggregate value to the final product, the food. It is also substantial to highlight the importance of specialized media to inform the community about gastronomy, and even the role of the entrepreneurs and government for the same purpose, as they could stimulate consumers to consume and pay more. In addition to the restaurants gain, customers would also benefit as they would be able to enjoy a meal with as much pleasure as a gastronomic restaurant could offer.

9.4 Clusters' Preferences and Habits

In chapter 5, five clusters were created to try to explain most of the variability of the data. The main results are as follow:

- most respondents from all clusters goes to restaurants for the reason "leisure";

- the period of visit vary across clusters, however the majority of every cluster goes to restaurants usually on weekends;
- for every cluster "lunch" is the meal most eaten out;
- cluster 5 is the cluster with the highest number of visits to a restaurant in a month average which is about 6;
- cluster 5 is the one with the highest demand followed by cluster 4, while cluster 2 has the lowest demand average;
- for all clusters "à la carte" is the most preferable service system followed by "self-service" and "rodízio";
- the evaluation of restaurant professionals by clusters is different but numerically irrelevant;
- all quality criteria rates vary across clusters, but the numerical differences between them are also irrelevant;
- the evaluations of additional services offered by restaurants are also different between clusters, but the numerical differences are not substantial.
- the majority of all clusters prefer cash as a form of payment, followed by debit card, credit card and vouchers. The percentages for each form of payment are different by cluster.
- word of mouth is the most important mean of information about restaurant for every cluster. Restaurants in Brazil have been using "deal-of-the-day" websites that are sites that offer deals/discounts through companies in order to attract clients to periods where the demand is low, as a way to promote the restaurant selling as much as possible (ABRASEL, 2010). However if the restaurant is not prepared to welcome clients with its standard services, this practice could possibly lead to a bad propaganda
- the evaluation of queue management policies had no substantial numerical differences between clusters.

- clusters 5 and 1 have the highest ICG, while cluster 2 has the lowest.
- clusters 5 and 1 are the ones that most appreciate international cuisines.

9.5 Tendencies of the Restaurant Sector

The items listed below are the main differences between consumers' behavior and profile from the 2007 and 2010 surveys presented in chapter 6.

- respondents from the 2007 survey have higher income, level of education and gastronomic knowledge compared to respondents from the 2010 survey;
- the demand of the 2007 survey is also higher than the 2010;
- the group size taken to restaurants by respondents is higher in the 2010 survey. On the other hand, the number of visits is lower;
- the 2007 respondents enjoy more types of international food than the 2010's.
- the 2010 respondents find that all professional but cook and waiter have greater influence in the quality of a restaurant;

9.6 Restaurants' Profille

This section will show the main characteristics of the 2011 sample showed in chapter 7.

- 60% of restaurants was opened between 2000 and 2010;
- 42% of the restaurants is located in Area 5;
- 67% of respondents has a superior educational level;
- 75% of the sample has their own trade mark;
- 64% reported to have a business plan;
- 88% of the restaurants have seating capacity of less than 250 seats;

- 43% answered that "beef" was the most ordered main dish;
- 70% of the sample is a member of ABRASEL
- restaurants accommodate on average 263 customers during the weekend
- more than 90% of restaurants serve lunch or dinner and only 10% serve breakfast;
- Clients stay on average 1 hour and 5 minutes at a restaurant;
- 65% of the sample has "à la carte" as their main service system;
- customers spend on average R$ 42.48;
- dessert has the highest variety between dishes;
- 80% of restaurants have parking lot;
- 72% makes table reservation;
- 76% works with offers and discounts;
- 68% has access for disabled;
- 18% has a space for dance;
- 35% has live performances
- 36% works with delivery
- 84% of the restaurants use less than 4 training centers to train their employees;

9.7 Comparison between 2010 and 2011 Surveys

This section summarizes the comparison between the consumers' perception from the 2010 survey and the perception restaurants' representatives showed in chapter 8. The main results are presented as follow:

- about 35.38% of customers asks for soda during the main meal, while 50% of restaurants answered that their clients order soda. Only 13.27% of restaurants chose juice as the most ordered beverage during the main meal against 29.24% of customers;

- consumers give more importance to the influence of restaurants professionals on the quality of a restaurant than restaurants' representatives;
- security and payment are quality criteria better evaluated by clients than restaurants;
- restaurants reported that the most used forms of payment was credit card and debit card, while clients chose cash as their preferable form of payment;
- 90% of restaurants use "family and friends" as a way of promoting the restaurant, which is the preferable mean of information about restaurants to customers;
- the restaurants reported that their clients had on average 17 of ICG, while the costumers have approximately nine of average;
- customers accept more than restaurants the "large groups" queue management policy.

9.8 Suggestions for Future Studies

The opinion survey is an important tool to provide a better insight about any sector, in this particular case to the restaurant sector. A few suggestions for futures works are listed bellow in order to improve and continue this study:

- to make changes in the questionnaires so that different and valuable information can be obtained. For example, in the 2010 questionnaire wasn't asked to costumers how much they usually spent when visiting a restaurant. Another interesting question would be for how long they would wait at a waiting queue to have a regular meal;
- to continue the data collection about the restaurant sector to compare its evolution with the earlier samples;
- to include in the questionnaire some questions about the psychological characteristics of the consumers, as the social-economic profile cannot explain all.

- to study the nutritional quality of the food served by restaurants and how eating outside home influences on the health, weight and diseases related to alimentation of customers.

9.9 Conclusions

This dissertation brings several results that provide a better understanding about the Restaurant Industry of the Metropolitan Region of Recife and that can be used to support decision-making. Other results could have been concluded from the data bases and also other statistical techniques could have been used, but the focus of this study was to provide a first overview about the surveys using the 2010 survey as reference and the others for comparisons. The questionnaires were well structured to make the comparisons possible. The cluster analysis was useful to better explain how the consumers' profile influence on their habits and preferences. Other variables could have been used to create the clusters, however, for a first analyses, basic variable such as age, income and gender were chosen. The differences between the restaurants' and consumer's perception can also be very helpful to restaurant owners have a greater insight about their costumers preferences. It is important to say that the results showed in this study, as in any other opinion research, might not be the useful years from now, as the restaurant sector is in constant change. However, it is unlikely that the sector changes radically in a short period of time. With that said, hopefully the results of this dissertation will have its importance for a reasonable time.

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A.1 The Enquettes

QUESTIONÁRIO
RESTAURANTES (2010)

1. Sexo

(0) Feminino (1) Masculino

2. Nascimento

_____/_____/_____

3. Maior nível de instrução concluído

(1) Ensino Básico
(2) Ensino Fundamental
(3) Ensino Médio
(4) Curso Técnico
(5) Curso Superior
(6) Especialização
(7) Mestrado
(8) Doutorado

4. Estado civil

(1) Solteiro (3) Desquitado (5) União Informal
(2) Casado (4) Viúvo

5. Qual a área onde você reside?

(1) Recife - ÁREA 1: Aflitos, Apipucos, Casa Forte, Espinheiro, Graças, Jaqueira, Parnamirim, Poço, Tamarineira, etc.
(2) Recife - ÁREA 2: Afogados, Areias, Barro, Bongi, Caxangá, CDU, Cohab, Cordeiro, Curado, Engenho do Meio, Estância, Ibura, Iputinga, Ilha do Retiro, Ipsep, Jardim São Paulo, Madalena, Mangueira, Mustardinha, Prado, Sancho, San Martin, Tejipió, Torre, Torrões, Várzea, etc.
(3) Recife - ÁREA 3: Água Fria, Alto José Bonifácio, Alto José do Pinho, Alto do Mandú, Alto Sta. Terezinha, Arruda, Beberibe, Cajueiro, Campina do Barreto, Campo Grande, Casa Amarela, Dois Irmãos, Encruzilhada, Fundao, Linha do Tiro, Macaxeira, Monteiro, Morro da Conceição, Nova Descoberta, Torreão, Vasco da Gama, etc.
(4) Recife - ÁREA 4: Boa Vista, Cabanga, Derby, Ilha do Leite, Ilha Joana Bezerra, Paissandú, Santo Amaro, Santo Antônio, São José, etc.
(5) Recife - ÁREA 5: Boa Viagem, Imbiribeira, Pina e afins.
(6) Olinda
(7) Jaboatão dos Guararapes

6. Quantos filhos menores de 12 anos você tem?

_____ filhos

7. Qual a sua faixa de renda individual?

(01) Até R$ 1.000,00
(02) De R$ 1.000,01 a R$ 2.000,00
(03) De R$ 2.000,01 a R$ 3.000,00
(04) De R$ 3.000,01 a R$ 4.000,00
(05) De R$ 4.000,01 a R$ 5.000,00
(06) De R$ 5.000,01 a R$ 6.000,00
(07) De R$ 6.000,01 a R$ 8.000,00
(08) De R$ 8.000,01 a R$ 10.000,00
(09) De R$ 10.000,01 a R$ 12.000,00
(10) Acima de R$ 12.000,00.

8. Qual a sua faixa de renda familiar?

(01) Até R$ 2.000,00
(02) De R$ 2.000,01 a R$ 4.000,00
(03) De R$ 4.000,01 a R$ 6.000,00
(04) De R$ 6.000,01 a R$ 8.000,00
(05) De R$ 8.000,01 a R$ 10.000,00
(06) De R$ 10.000,01 a R$ 12.000,00
(07) De R$ 12.000,01 a R$ 14.000,00
(08) De R$ 14.000,01 a R$ 16.000,00
(09) Acima de R$ 16.000,00

9. Quantos automóveis você possui?

_____ automóveis

10. Principal ocupação (atual ou a última)

(01) Nenhuma
(02) Empregado Público
(03) Empregado Privado
(04) Autônomo
(05) Empresário
(06) Estudante
(07) Do Lar
(08) Produtor Rural
(09) Aposentado
(99) Outra

11. Qual o setor no qual você ou sua organização atua?

(1) Nenhum
(2) Comércio
(3) Indústria
(4) Serviço
(5) Construção
(6) Agricultura
(9) Outro

12. Que tipo de posição ou cargo que você exerce atualmente?

(1) Nenhum
(2) Estagiário
(3) Administrativa (Agente Administrativo/Secretário/Assistente/Auxiliar/Atendente)
(4) Supervisão ou Gerência (Chefia de Setor ou Divisão/Direção de Departamento)
(5) Diretoria (Presidência/Direção Geral/Superintendente)
(9) Outro

13. Quantas pessoas tipicamente o acompanham a um restaurante?

_____ pessoas

14. Qual o seu principal motivo de idas a restaurantes?

(1) Lazer
(2) Negócios / Trabalho
(3) Status
(4) Comodidade
(5) Falta de opção
(9) Outro

15. Em que período você tipicamente vai a um restaurante?

(1) Dias úteis (Seg-Sex)
(2) Fim-de-semana (Sáb-Dom)
(3) Feriados / Datas comemorativas

16. Que refeição você usualmente faz quando vai a restaurantes?

(1) Almoço
(2) Jantar
(3) Outra

17. Quantas vezes por mês, em média, você freqüenta restaurantes?

_____ vezes / mês

18. Qual o seu sistema de atendimento preferido em um restaurante?

(1) À la carte	(3) Rodízio	(9) Outro
(2) Self service	(4) Fast food	

19. Você aprecia as seguintes culinárias?

A) Chinesa	(0) Não	(1) Sim
B) Francesa	(0) Não	(1) Sim
C) Italiana	(0) Não	(1) Sim
D) Japonesa	(0) Não	(1) Sim
E) Mexicana	(0) Não	(1) Sim
F) Portuguesa	(0) Não	(1) Sim
G) Regional	(0) Não	(1) Sim

20. Que prato (principal) você costuma pedir mais em um restaurante?

(01) Carnes	(05) Massas	(11) Risotos
(02) Aves	(06) Saladas	(10) Feijoadas
(03) Peixes	(07) Natural / Leve	(99) Outro
(04) Frutos do mar	(08) Pizzas	

21. Que bebida você costuma pedir mais em um restaurante?

A) Início (Aperitivo) _____
B) Meio (Refeição) _____
C) Fim (Digestivo) _____

(01) Nenhuma	(10) Cerveja	(19) Run
(02) Água mineral	(11) Chopp	(20) Dry Martini
(03) Refrigerante	(12) Coquetel de frutas	(21) Daikiri
(04) Suco	(13) Whisky	(22) Licor
(05) Água de coco	(14) Vodka	(23) Cognac
(06) Café	(15) Gin	(24) Tequila
(07) Vinho branco	(16) Caipirinha	(25) Cachaça
(08) Vinho tinto	(17) Caipiroska	(99) Outra
(09) Champanhe	(18) Batida tropical	

22. Que outros pedidos costumam acompanhar as suas refeições?

A) Tira-gosto / Petiscos	(0) Não	(1) Sim
B) Aperitivos	(0) Não	(1) Sim
C) Entrada / Antepasto	(0) Não	(1) Sim
D) Sopas / Caldos	(0) Não	(1) Sim
E) Queijos	(0) Não	(1) Sim
F) Sobremesas	(0) Não	(1) Sim
G) Digestivos	(0) Não	(1) Sim

23. Qual a influência dos seguintes profissionais sobre a qualidade de um restaurante?

A) Chef	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme
B) Cozinheiro	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme
C) Maitre	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme
D) Garçom	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme
E) Recepcionista	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme
F) Gerente	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme
G) Músico	(1) Nenhuma	(2) Pequena	(3) Razoável	(4) Grande	(5) Enorme

24. Que importância você atribui aos seguintes critérios de qualidade de um restaurante?

(1) Nenhuma (2) Pequena (3) Razoável (4) Grande (5) Enorme

A) Alimentos (sabor, temperatura, apresentação, variedade etc.) _____
B) Utensílios (louça, talheres, taças, copos etc.) _____
C) Instalações (conforto, climatização, decoração, iluminação etc.) _____
D) Conservação (manutenção, higiene, limpeza etc.) _____
E) Acesso (localização, estacionamento, distância etc.) _____
F) Segurança (vigilância, equipamentos, policiamento etc.) _____
G) Pagamento (preço, desconto, prazo, forma etc.) _____
H) Sonorização (acústica, música, ruído etc.) _____
I) Atendimento (cordialidade, tempo, atenção, apresentação etc.) _____

25. Na escolha de um restaurante, como você avalia os seguintes serviços complementares?

A) Reserva de área / mesa	(1) Negativamente	(2) Neutro	(3) Positivamente
B) Entrega em domicílio	(1) Negativamente	(2) Neutro	(3) Positivamente
C) Manobrista	(1) Negativamente	(2) Neutro	(3) Positivamente
D) Ambiente de espera	(1) Negativamente	(2) Neutro	(3) Positivamente
E) Área para fumantes	(1) Negativamente	(2) Neutro	(3) Positivamente
F) Espaço infantil / Playground	(1) Negativamente	(2) Neutro	(3) Positivamente
G) Mesa de frios	(1) Negativamente	(2) Neutro	(3) Positivamente
H) Programa fidelidade	(1) Negativamente	(2) Neutro	(3) Positivamente
I) Adega de vinhos	(1) Negativamente	(2) Neutro	(3) Positivamente
J) Vídeos	(1) Negativamente	(2) Neutro	(3) Positivamente
K) Apresentação musical	(1) Negativamente	(2) Neutro	(3) Positivamente
L) Cortesia / Brinde	(1) Negativamente	(2) Neutro	(3) Positivamente
M) Promoção	(1) Negativamente	(2) Neutro	(3) Positivamente
N) Acesso para deficientes físicos	(1) Negativamente	(2) Neutro	(3) Positivamente
O) Espaço para dança	(1) Negativamente	(2) Neutro	(3) Positivamente

26. Qual forma de pagamento você mais adota ao consumir em um restaurante?

(1) Nenhuma
(2) Cartão de débito
(3) Cartão de crédito
(4) Dinheiro em espécie
(5) Cartão/Tíquete refeição
(6) Cheque
(9) Outra

27. Qual o principal meio de comunicação pelo qual você é informado sobre restaurantes?

(1) Revista	(4) Familiares e Amigos	(7) Rádio
(2) Jornal	(5) Guia gastronômico	(8) Televisão
(3) Internet	(6) Outdoor	(9) Outra

28. Indique os cinco restaurantes que você costuma freqüentar mais

A) _____ B) _____ C) _____ D)_____ E) _____ (Consultar código)

29. Indique que restaurante você:

A) recomendaria a familiares, amigos ou conhecidos _____
B) acha ser o melhor _____
C) visitou pela última vez _____

(Consultar código)

30. Qual a avaliação dada ao restaurante que freqüentou pela última vez

(1) Péssimo (2) Ruim (3) Razoável (4) Bom (5) Ótimo

31. No contexto gastronômico, você sabe o que é:

A) Sommelier	(0) Não	(1) Sim
B) Bistrot	(0) Não	(1) Sim
C) Gourmet	(0) Não	(1) Sim
D) Cabernet Sauvignon	(0) Não	(1) Sim
E) Bouquet	(0) Não	(1) Sim
F) Couvert	(0) Não	(1) Sim
G) Sauté	(0) Não	(1) Sim
H) Á la coq	(0) Não	(1) Sim
I) Escargot	(0) Não	(1) Sim
J) Merlot	(0) Não	(1) Sim
K) Hord'oeuvres	(0) Não	(1) Sim
L) Gratinado	(0) Não	(1) Sim
M) Guarnição	(0) Não	(1) Sim
N) Crème brullée	(0) Não	(1) Sim
O) Crêpe	(0) Não	(1) Sim
P) Flambado	(0) Não	(1) Sim
Q) Cassoulet	(0) Não	(1) Sim
R) Fondue	(0) Não	(1) Sim
S) Patê de foie gras	(0) Não	(1) Sim
T) Papaya	(0) Não	(1) Sim
U) Linguini	(0) Não	(1) Sim
V) Pesto	(0) Não	(1) Sim
W) Patê	(0) Não	(1) Sim
X) À grega	(0) Não	(1) Sim
Y) Entrada	(0) Não	(1) Sim
Z) Doré	(0) Não	(1) Sim

32. A vasta maioria dos restaurantes opera tipicamente com as portas abertas e vai atendendo os clientes à medida em que eles vão chegando. Se o restaurante estiver cheio, o cliente é colocado numa fila de espera, onde as pessoas ficam esperando por mesas que venham a ser desocupadas. Normalmente que estiver no início da fila é o primeiro a ser atendido, e assim por diante. Esta política pode não ser a mais rentável, no curto prazo, para o restaurante, pois ele pode perder muita receita em função de clientes que vão deixar a fila, ou mesmo nem venham a entrar nela (por acharem-na grande demais, ou por não gostarem de filas). E se o restaurante não for bem, o cliente também perde, no médio e longo prazo. Num gerenciamento mais moderno, outras maneiras de gerenciar a fila são disponíveis: 2) Priorizar em função do número de clientes no grupo; 3) Pessoas importantes (VIP's, como autoridades, clientes freqüentes, artistas famosos, etc.) têm prioridade; 4) Reservas para grandes grupos; 5) Cliente que telefona com antecedência (no mesmo dia), pedindo para guardar um lugar na fila (não é a mesma coisa que reservar mesa, pois não se promete ao cliente uma mesa, ou mesas, assim que ele chegar, mas que ele vai ganhar um tempo menor de espera, por ter informado ao restaurante mais ou menos a hora em que ele vai chegar). Pode até haver uma negociação desse tempo. Em qualquer dessas políticas de gerenciamento de filas, o restaurante tenta racionalizar e acomodar a demanda, de forma a maximizar o seu retorno. Neste sentido, a política do primeiro que chega é o primeiro a ser atendido, não é a melhor para o restaurante, no que diz respeito ao retorno de curto prazo. Não haveria um deslocamento da demanda. Quanto às outras políticas, dependendo se o cliente espera mais ou menos para ser atendido, do que um "vizinho" de fila que estava atrás, ele poderia se sentir injustiçado ou, satisfeito porque o restaurante é racional, e portanto permanecerá viável e oferecendo bons serviços dos quais ele gosta, e se sentir tratado de forma justa.

    Quando o cliente chega num restaurante e este está cheio, ele pensa logo que a fila é do tipo 1) Primeiro que chega é atendido, e assim por diante. Dependendo da situação, você pode se encontrar num momento, numa fila, em que, qualquer que seja uma das 5 (cinco) políticas de gerenciamento desta por parte do restaurante, vai demorar menos ou mais para ser atendido. Você pode estar com um grupo grande e entrar na frente, ou estar sozinho e um grupo entrar na sua frente, ou uma pessoa importante (VIP) entrar na sua frente, ou ter telefonado antes e entrar na frente de quem não o fez, mesmo tendo chegado antes, etc., etc. Da mesma forma, ele poderia "passar na frente" de um "vizinho" de fila que estava na frente, e a situação se inverteria. Vai depender da demanda; da sorte. É aleatório. Assuma que você conhece a política do restaurante.

    Como você classifica estas 5 (cinco) políticas?

    (1) Ruim (2) Sofrível (3) Razoável (4) Boa (5) Ótima

    A) Política 1: Primeiro que chega é o primeiro que é atendido e assim por diante
    B) Política 2: Priorizar em função do número de clientes no grupo
    C) Política 3: Pessoas importantes (VIP) (para o restaurante; é ele quem decide) têm prioridade
    D) Política 4: Reserva de mesas para grandes grupos
    E) Política 5: Cliente que telefona com antecedência no mesmo dia

LISTA DE RESTAURANTES DAS CIDADES DE RECIFE, OLINDA E JABOATÃO DOS GUARARAPES

001	Adega
002	Adoratto
003	Al Paço
004	Almoxarifado
005	Alphaiate
006	Amadeu
007	Amarelo Manga
008	Apipucos
009	Applebee's
010	Arcada Bistrô
011	Armazem Guimarães
012	Arriégua
013	Asa Branca
014	Assucar
015	Baguete
016	Balanceado
017	Bar 10
018	Barazzone
019	Barbarico Bongiovanni
020	Bargaço
021	Barlavento
022	Barraco
023	Basílico
024	Biruta
025	Bistrô Provence
026	Bistrot Du Vin
027	Blu'nelle
028	Bode do Nó
029	Bode Dourado
030	Bodega e Pizza
031	Boi Preto Grill
032	Bom Grillê
033	Bom Sabor
034	Bonaparte
035	Brasserie
036	Buongustaio Famiglia Giuliano
037	Burgogui
038	Café Gaudí
039	Café Porteño
040	Cais e Restaurante
041	Camarão & Cia
042	Camarão do Zito
043	Candelabro
044	Cantinho da Paz
045	Canto da Barra
046	Capitão Lima
047	Carcará
048	Carne de Sol do Cunha
049	Casa d´Itália
050	Casa da Feijoada
051	Casa de Noca
052	Casa do Naturista
053	Casa dos Frios
054	Céu e Terra
055	Chalet
056	Charque do Alemão
057	Château Brilliant
058	Chez Georges
059	Chica Pitanga
060	China In Box
061	Chinatown
062	Cintura Fina
063	Cipó nativo
064	Coffee Show
065	Comanche Grill
066	Comedoria Praça do Gomes
067	Constantine
068	Costa Brava
069	Costelaria Boi no Bafo
070	Couvert
071	Cucina De'Carli
072	Dão João
073	Deu Bode
074	Divino
075	Divino Portugal
076	Dobradinha do Gordo
077	Dojo
078	Dom Pedro
079	Dom Supremo
080	Don Francisco
081	Don Quixote
082	Dona Flor
083	Dona Salsa
084	Donatário
085	Dragão Chinês
086	É
087	Edmilson da Carne-de-Sol
088	Eki Sushi Mi
089	Entre Amigos - O Bode
090	Espaço Galeria
091	Estrela do Mar
092	Famintos
093	Faro
094	Fazendinha
095	Feijoada do Vavá
096	Feijoada do Vovô
097	Fellini Ristorante & Vineria
098	Ferreiro Café
099	Flor de Cheiro
100	Flor do Coco
101	Flor do Jucá
102	Fogo na Brasa
103	Fornaretto Osteria
104	Frangettus
105	Futaba
106	Galetasso
107	Galeto Amélia
108	Gameleira Regional
109	Georgina
110	Gio Pizzaria D.O.C.& Grill
111	Govinda
112	Goya
113	Grill & Cia
114	Habib´s
115	Hakata
116	Iang Chao
117	Ilha da Kosta I
118	Ilha da Kosta II
119	Ilha Sushi
120	Império dos Camarões
121	Itban
122	João da Carne de Sol
123	Jucazinho 24h
124	Julietto
125	Kampai
126	Kin Sei
127	Kojima
128	Komida Kazeira
129	Kwetu
130	La Capannina
131	La Comedie
132	La Cuisine Bistrô
133	La Douane Bistrot
134	La Fondue
135	La Maison
136	La Maza
137	Lá Nú Ari
138	La Pasta Gialia
139	Le Bistrô
140	Leite
141	Les Cuisinères Bistrô

142	L'etoile
143	Macunaima
144	Maison do Bomfim
145	Mamthara
146	Mamulengo
147	Mané Matuto
148	Manga Rosa
149	Manghará
150	Mangitos Café Bar
151	Manjericão
152	Mao Tai
153	Maré Cheia
154	Maricota
155	Marim dos Caetés
156	Marruá
157	Matita Perê
158	Maxixe Bar e Restaurante
159	Meijin
160	Michelli
161	Mingus
162	Mini Calzone
163	Mirage
164	Mister Grill
165	Mister Pizza
166	Moderatto Cozinha Light
167	Monalisa
168	Montana Grill
169	Montmartre Crêperie
170	Moranga
171	Mourisco
172	Mulher Rendeira
173	Naturalle
174	Nouvelle Vague Bistrot
175	Novo Varanda
176	O Buraquinho
177	O Cangaceiro
178	O Laçador
179	O Lenhador
180	Ô Mineiro
181	O Pátio Café & Cozinha
182	O Poeta
183	O Vegetariano
184	Oásis
185	Oficina do Crepe
186	Oficina do Sabor
187	Osaka
188	Othello
189	Paesano
190	Pagoda
191	Paid'égua
192	Panquecas e Saladas
193	Pantagruel
194	Papa Angu
195	Papa Capim
196	Papaya Verde
197	Paranoia do Mar
198	Paris Bohème
199	Parraxaxá
200	Patuá - Coisas do Mar
201	Pé de Mandacaru
202	Pé de Serra
203	Peixe na Telha
204	Peng
205	Phernando
206	Pier 2290
207	Pimenta com Mel Bistrot
208	Pimenta de Cheiro
209	Pirão de Parida
210	Pizza Hut
211	Pizza Pronta Express
212	Pizza Quanti
213	Pizzaria Atlântico
214	Pizzaria Siciliana
215	Pizzeria Armazém Guimarães
216	Planetário
217	Plim Restaurante
218	Pomodoro Café
219	Ponte Nova
220	Ponteio Grill
221	Portoferreiro
222	Poseidon
223	Pra Vocês
224	Puerto Madero
225	Puxinanã
226	Qin Xian
227	Quanto Prima
228	Quinto Pecado
229	Quitanda
230	Raspa Tacho
231	Raval Bistrot
232	Recanto do Picuí
233	Recanto dos Amigos
234	Recanto Gaúcho
235	Recanto Lusitano
236	Recanto Paraibano
237	Recife Antigo
238	Restaurante da Mira
239	Restaurante e Bar 75
240	Restaurante-Escola Senac
241	Roof Garden
242	Rosário Ponte Nova
243	Royal
244	Sabor Antigo
245	Sabor da Ilha
246	Sabor Tropical
247	Salada Café
248	Salamaleque
249	Samburá
250	Samurai
251	Sinhá Joana
252	Siriguela
253	Skillus Steak House
254	Soho Restaurante
255	Spedini
256	Spettus
257	Spoleto
258	Steffano Grill
259	Stillus
260	Sucata
261	Sushi da Hora
262	Sushi Mi
263	Sushi Wine
264	Sushi Yoshi
265	Sushilogia
266	Ta San Yuen
267	Taberna Inspiração Nordestina
268	Taberna Japonesa Quina do Futuro
269	Taberna Portuguesa
270	Tábua de Carne
271	Taipei
272	Talude
273	Tasca
274	Tempero da Fazenda
275	Tio Armênio
276	Tio Pepe
277	Tokyo
278	Tomaselli La Gondola
279	Via Appia
280	Via Paladar
281	Victoria Grill
282	Vida Longa
283	Villa
284	Villa Vecchia

285	Vivenda do Camarão
286	Wadamon
287	Wiella Bistrô
288	Xangai
289	Yan Ping
290	Yang Ling
291	Yellow Submarine
292	Yoki Galeto
293	Zen
999	Outro
294	Afonso e Anísio Cozinha Criativa
295	Anjo Solto
296	Antiquário
297	Babette
298	Baby Beef Express
299	Bar do Geraldo
300	Beijupirá
301	Benedictus
302	Bistrot La Comedie
303	Bode e Cia
304	Bode Sertanejo
305	Bom Paladar
306	Boratcho
307	Brennand Café
308	Buca Trattoria
309	Ça Va
310	Camarão do Léo
311	Candellabro Pizzaria
312	Canting Restaurante
313	Capitania
314	Caprino's
315	Carne de Sol do João
316	Casa da Moeda
317	Casa da Picanha
318	Castelo do Camarão
319	Central
320	Chez Brigitte
321	Chez Wiet Patisserie
322	Chiwake
323	Churrascaria Pajuçara
324	Comer Bem
325	Companhia
326	Confraria da Pizza
327	Conselheiro
328	Costeiro
329	Cumbuca de Barro
330	Da Vinci
331	Dali Cocina
332	Dinny
333	Dom Ferreira
334	Dom Rafael
335	Domingos
336	Don Francesco
337	Du Maranhão
338	Due
339	Due
340	É
341	Estação Café
342	Expresso Sushi
343	Famiglia Lucco
344	Galetus
345	Giraffas
346	Gota Serena
347	Guaiamum Gigante
348	Guetária
349	Ile de Crepe
350	Ilha do Guaiamum
351	Ilha dos Navegantes
352	Itiban
353	Jalan Jalan
354	Kung Food
355	Kyoto
356	La Pizza
357	La Plage
358	La Tratoria
359	Libório
360	Mania Caseira
361	Maria Maria
362	Marias de Mila
363	Marisqueira
364	Mc Donalds
365	Mercado 153
366	Nippon
367	Nippon
368	O Castelinho
369	O Rei da Picanha
370	Orla
371	Parque da Pizza
372	Picanha do futuro
373	Picanha do Gordo
374	Picanha do Tio Dadá
375	Pizza Mia
376	Plates
377	Plin
378	Porto do Mar
379	Prediletto
380	Primo
381	Quebra Mar
382	Quintal da hora
383	Recanto Sertanejo
384	Sabor da Paixão
385	Sal e Brasa
386	Senac
387	Sertaneja
388	Sertanejo Guaiamum
389	Sítio das Artes
390	Sumô
391	Tepan
392	Tout Vin
393	Varekai
394	Vavá Grill
395	Veremundo
396	Viciu´s
397	Vila do Mar
398	Vintage
399	Yantai
400	Yume Temakeria

Table A.1: Influence of the Social-Economic Profile on the Number of People Respondents Bring to a Restaurant - Part I

	Group of People Consumers Bring to Restaurant		
GENDER	Means	n	Std d
Female	3,090547	1005	1,986699
Male	3,067134	998	2,062830
All Groups	3,078882	2003	2,024517
AGE	Means	n	Std.Dev.
18 - 21	3,245614	114	2,302601
21 - 40	3,103448	580	1,874192
40 - 65	3,162416	745	2,236473
>65	2,909735	565	1,799525
All Groups	3,078842	2004	2,024012
AREA	Means	n	Std.Dev.
1	3,136054	294	2,180082
2	3,379195	298	1,898210
3	3,230496	282	2,209666
4	3,405904	271	2,470081
5	2,204698	298	1,231617
6	3,189474	285	1,828730
7	3,047101	276	1,933802
All Groups	3,078842	2004	2,024012
MARITAL STATUS	Means	n	Std.Dev.
Single	3,128302	530	2,072995
Married	3,105528	995	1,905705
Divorced	3,128205	156	2,546897
Widowed	2,756219	201	1,683827
Common-law Marriage	3,084746	118	2,479234
All Groups	3,077000	2000	2,025123
CHILDREN <12	Means	n	Std.Dev.
0	3,011700	1453	1,974842
1	3,239766	342	2,371841
2	3,165644	163	1,410997
>2	3,733333	45	2,453198
All Groups	3,079381	2003	2,024374

Table A.2: Influence of the Social-Economic Profile on the Number of People Respondents Bring to a Restaurant - Part II

	Group of People Consumers Bring to Restaurant		
LEVEL OF EDUCATION	Means	n	Std.Dev.
Elementary School	3,406593	91	2,611845
Middle School	3,528497	193	2,495927
High School	3,082051	780	2,104079
Vocational Education	2,788845	251	1,522903
College (University)	3,085714	490	1,919867
Specialization	2,929825	114	1,549875
Master's Degree	2,666667	63	1,513381
Doctorate	2,857143	21	1,768777
All Groups	3,079880	2003	2,023984
HIGHER EDUCATION LEVEL	Means	n	Std.Dev.
Yes	3,033417	1197	1,898041
No	3,148883	806	2,197156
All Groups	3,079880	2003	2,023984
HOUSEHOLD INCOME	Means	n	Std.Dev.
< 2,000.01	3,073529	952	2,221881
2,000.01 - 4,000.00	3,066414	527	1,823315
4,000.01 - 6,000.00	3,040816	245	1,646646
6,000.01 - 8,000.00	3,225806	124	2,019574
8,000.01 - 10,000.00	3,295455	44	2,216005
10,000.01 - 12,000.00	3,040000	25	1,540563
12,000.01 - 14,000.00	3,333333	21	0,966092
14,000.01 - 16,000.00	2,181818	22	1,097025
> 16,000.00	2,967742	31	1,797848
All Groups	3,072828	1991	2,010080
PERSONAL INCOME	Means	n	Std.Dev.
< 1,000.00	3,204807	957	2,282794
1,000.01 - 2,000.00	3,012605	476	1,771068
2,000.01 - 3,000.00	2,961089	257	1,676598
3,000.01 - 4,000.00	2,693694	111	1,444694
4,000.01 - 5,000.00	2,942029	69	1,722550
5,000.01 - 6,000.00	2,516129	31	1,630357
6,000.01 - 8,000.00	3,774194	31	2,108865
8,000.01 - 9,000.00	2,875000	16	1,668333
9,000.01 - 12,000.00	2,523810	21	1,364516
> 12,000.00	2,909091	22	1,600866
All Groups	3,074837	1991	2,010006
NUMBER OF CARS	Means	n	Std.Dev.
0	3,051308	994	2,140198
1	3,055283	814	1,912126
2 or more	3,256410	195	1,660921
All Groups	3,072891	2003	2,006901

Table A.3: Influence of the Social-Economic Profile on the Number of People Respondents Bring to a Restaurant - Part III

	Group of People Consumers Bring to Restaurant		
JOB POSITION	Means	n	Std.Dev.
None	3,201613	496	2,200018
Trainee	3,206897	87	2,672591
Administrative	3,046875	256	1,725742
Management	2,931193	218	1,502637
Direction	2,750000	80	1,326459
Other	3,078916	849	2,090441
All Groups	3,081571	1986	2,023388
OCCUPATION	Means	n	Std.Dev.
None	2,844828	58	2,758093
Public Employee	3,135889	287	1,769695
Private Employee	3,011706	598	1,796571
Autonomous	3,011811	254	2,034257
Entrepreneur	3,013158	76	1,455962
Student	3,542373	118	2,728902
Homemaker	3,802198	91	3,124170
Farmer	4,000000	1	0,000000
Retiree	2,900000	420	1,879293
Other	3,207921	101	2,041161
All Groups	3,078842	2004	2,024012
SECTOR	Means	n	Std.Dev.
None	3,060096	416	2,275854
Commerce	3,071225	351	1,920729
Manufacturing	2,612500	160	1,341113
Services	3,149457	368	1,792187
Real State	3,052083	96	1,808575
Agriculture	3,500000	4	1,914854
Other	3,174129	603	2,196613
All Groups	3,077578	1998	2,023272

Table A.4: Influence of the Social-Economic Profile on the Reason Respondents Visit a Restaurant - Part I

	Main Reason to Visit a Restaurant (Counts)					
GENDER	Leisure	Business/work	Status	Convenience	Lack of choice	Other
Female	821	58	9	79	13	25
Male	807	69	11	71	12	28
All Groups	1628	127	20	150	25	53
AGE	Leisure	Business/work	Status	Convenience	Lack of choice	Other
18 - 21	95	2	0	8	5	4
21 - 40	478	35	6	43	4	14
40 - 65	586	66	6	55	8	24
>65	469	24	8	44	8	12
All Groups	1628	127	20	150	25	54
EDUCATION LEVEL	Leisure	Business/work	Status	Convenience	Lack of choice	Other
Elementary School	79	0	0	6	2	4
Middle School	172	3	0	11	0	7
High School	669	24	11	43	13	20
Vocational Education	206	20	2	15	4	4
College (University)	375	47	5	48	3	13
Specialization	76	17	0	16	3	2
Master's Degree	41	10	2	9	0	1
Doctorate	10	6	0	2	0	3
All Groups	1628	127	20	150	25	54
HIGHER EDUCATION LEVEL	Leisure	Business/work	Status	Convenience	Lack of choice	Other
No	950	99	13	91	15	30
Yes	678	28	7	59	10	24
All Groups	1628	127	20	150	25	54
ESTADOCIVIL	Leisure	Business/work	Status	Convenience	Lack of choice	Other
Single	431	27	6	39	12	16
Married	826	64	8	68	3	25
Divorced	114	17	3	12	5	6
Widowed	162	12	1	18	3	4
Common-Law Marriage	91	7	2	13	2	3
All Groups	1624	127	20	150	25	54
MARRIED	Leisure	Business/work	Status	Convenience	Lack of choice	Other
No	707	56	10	69	20	26
Yes	917	71	10	81	5	28
All Groups	1624	127	20	150	25	54

Table A.5: Influence of the Social-Economic Profile on the Reason Respondents Visit a Restaurant - Part II

	Main Reason to Visit a Restaurant (Counts)					
AREA	Leisure	Business/work	Status	Convenience	Lack of choice	Other
1	211	23	6	40	4	10
2	260	9	1	22	3	3
3	233	18	2	14	3	12
4	220	14	1	31	3	2
5	231	36	2	20	0	9
6	232	12	6	21	9	6
7	241	15	2	2	3	12
All Groups	1628	127	20	150	25	54
NUMBER OF CHILDREN $<$ 12	Leisure	Business/work	Status	Convenience	Lack of choice	Other
0	1184	89	13	105	20	41
1	276	23	6	27	4	7
2	132	13	1	14	0	3
$>$2	35	2	0	4	1	3
All Groups	1627	127	20	150	25	54
CHILDREN $<$12	Leisure	Business/work	Status	Convenience	Lack of choice	Other
No	1184	89	13	105	20	41
Yes	443	38	7	45	5	13
All Groups	1627	127	20	150	25	54
HOUSEHOLD INCOME	Leisure	Business/work	Status	Convenience	Lack of choice	Other
$<$ 2,000.01	828	26	8	47	15	29
2,000.01 - 4,000.00	440	38	2	29	5	13
4,000.01 - 6,000.00	168	30	4	39	3	1
6,000.01 - 8,000.00	92	14	0	14	2	2
8,000.01 - 10,000.00	29	6	2	5	0	2
10,000.01 - 12,000.00	18	3	0	4	0	0
12,000.01 - 14,000.00	13	3	2	1	0	2
14,000.01 - 16,000.00	10	3	2	7	0	0
$>$ 16,000.00	19	4	0	4	0	4
All Groups	1617	127	20	150	25	53
PERSONAL INCOME	Leisure	Business/work	Status	Convenience	Lack of choice	Other
$<$ 1,000.00	842	16	7	49	16	28
1,000.01 - 2,000.00	392	34	3	32	3	12
2,000.01 - 3,000.00	188	34	2	27	3	3
3,000.01 - 4,000.00	79	16	1	10	2	3
4,000.01 - 5,000.00	43	9	2	13	0	2
5,000.01 - 6,000.00	20	5	1	5	0	0
6,000.01 - 8,000.00	21	4	2	3	1	0
8,000.01 - 9,000.00	10	2	1	0	0	3
9,000.01 - 12,000.00	8	5	0	8	0	0
$>$ 12,000.00	15	2	1	3	0	1
All Groups	1618	127	20	150	25	52

Table A.6: Influence of the Social-Economic Profile on the Reason Respondents Visit a Restaurant - Part III

	Main Reason to Visit a Restaurant (Counts)					
NUMBER OF CARS	Leisure	Business/work	Status	Convenience	Lack of choice	Other
0	848	28	7	58	16	38
1	647	75	7	64	8	12
2 or more	132	24	6	28	1	4
All Groups	1627	127	20	150	25	54
OCCUPATION	Leisure	Business/work	Status	Convenience	Lack of choice	Other
None	46	1	2	2	4	3
Public Employee	227	28	1	25	2	4
Private Employee	471	53	7	47	5	17
Autonomous	206	17	3	17	4	6
Entrepreneur	42	16	5	12	0	1
Student	106	0	0	5	3	4
Homemaker	75	1	1	9	1	4
Farmer	1	0	0	0	0	0
Retiree	370	6	1	25	4	13
Other	84	5	0	8	2	2
All Groups	1628	127	20	150	25	54
SECTOR	Leisure	Business/work	Status	Convenience	Lack of choice	Other
None	364	3	4	19	9	16
Commerce	277	28	2	29	5	10
Manufacturing	124	22	3	10	1	0
Services	276	30	4	43	5	10
Real State	68	12	6	9	0	2
Agriculture	3	0	0	1	0	0
Other	512	32	1	37	5	16
All Groups	1624	127	20	148	25	54
JOB POSITION	Leisure	Business/work	Status	Convenience	Lack of choice	Other
None	434	4	2	30	10	15
Trainee	78	2	1	2	2	2
Administrative	204	25	2	17	1	7
Management	159	15	3	36	4	1
Direction	42	23	5	9	0	1
Other	698	55	7	55	7	28
All Groups	1615	124	20	149	24	54

Table A.7: Frequencies of Groups - Beverages During Meal

Beverages	Appetizer		During Main Meal		Digestive	
	Count	Percent	Count	Percent	Count	Percent
None	450	22,43270	87	4,34783	479	23,93803
Water	142	7,07876	49	2,44878	171	8,54573
Soda	490	24,42672	708	35,38231	384	19,19040
Juice	298	14,85543	585	29,23538	258	12,89355
Coconut Water	36	1,79462	12	0,59970	23	1,14943
Coffee	15	0,74776	9	0,44978	230	11,49425
White Wine	12	0,59821	18	0,89955	5	0,24988
Red Wine	58	2,89133	60	2,99850	32	1,59920
Champagne	2	0,09970	1	0,04998	3	0,14993
Beer	297	14,80558	324	16,19190	224	11,19440
Draft Beer	79	3,93819	68	3,39830	47	2,34883
Fruit Cocktail	10	0,49850	16	0,79960	9	0,44978
Whisky	67	3,33998	28	1,39930	28	1,39930
Vodka	4	0,19940	10	0,49975	9	0,44978
Gin	0	0,00000	0	0,00000	0	0,00000
Caipirinha	18	0,89731	7	0,34983	10	0,49975
Caipiroska	4	0,19940	3	0,14993	7	0,34983
Tropical Cachaça Drink	0	0,00000	1	0,04998	7	0,34983
Rum	1	0,04985	1	0,04998	3	0,14993
Dry Martini	0	0,00000	0	0,00000	2	0,09995
Daikiri	1	0,04985	0	0,00000	0	0,00000
Liquor	1	0,04985	2	0,09995	43	2,14893
Cognac	1	0,04985	1	0,04998	2	0,09995
Tequila	0	0,00000	0	0,00000	1	0,04998
Cachaça	19	0,94716	6	0,29985	9	0,44978
Other	1	0,04985	5	0,24988	15	0,74963

B.1 The Enquettes

QUESTIONÁRIO
RESTAURANTES

1. Qual o modelo de negócio do restaurante?

(0) Marca Própria (1) Franquia (9) Outro

2. Em que ano o restaurante começou a funcionar?

_____

3. Qual o maior nível de instrução concluído do principal proprietário?

(1) Ensino Básico
(2) Ensino Fundamental
(3) Ensino Médio
(4) Curso Técnico
(5) Curso Superior
(6) Especialização
(7) Mestrado
(8) Doutorado

4. O empreendimento possui um plano de negócios?

(0) Não (1) Sim

5. Em que área o restaurante se localiza?

(1) Recife - ÁREA 1: Aflitos, Apipucos, Casa Forte, Espinheiro, Graças, Jaqueira, Parnamirim, Poço, Tamarineira, etc.
(2) Recife - ÁREA 2: Afogados, Areias, Barro, Bongi, Caxangá, CDU, Cohab, Cordeiro, Curado, Engenho do Meio, Estância, Ibura, Iputinga, Ilha do Retiro, Ipsep, Jardim São Paulo, Madalena, Mangueira, Mustardinha, Prado, Sancho, San Martin, Tejipió, Torre, Torrões, Várzea, etc.
(3) Recife - ÁREA 3: Água Fria, Alto José Bonifácio, Alto José do Pinho, Alto do Mandú, Alto Sta. Terezinha, Arruda, Beberibe, Cajueiro, Campina do Barreto, Campo Grande, Casa Amarela, Dois Irmãos, Encruzilhada, Fundao, Linha do Tiro, Macaxeira, Monteiro, Morro da Conceição, Nova Descoberta, Torreão, Vasco da Gama, etc.
(4) Recife - ÁREA 4: Boa Vista, Cabanga, Derby, Ilha do Leite, Ilha Joana Bezerra, Paissandú, Santo Amaro, Santo Antônio, São José, etc.
(5) Recife - ÁREA 5: Boa Viagem, Imbiribeira, Pina e afins.
(6) Olinda
(7) Jaboatão dos Guararapes
(9) Outro

6. Quantas filiais fazem parte da marca?

_____ lojas

7. A que entidades ou associações o restaurante é afiliado?

A) Associação Brasileira de Bares e Restaurantes (ABRASEL) (0) Não (1) Sim
B) Associação dos Restaurantes da Boa Lembrança (0) Não (1) Sim
C) Outra (0) Não (1) Sim

8. Qual o nível de sofisticação do restaurante, em termos do serviço prestado?

(0) Nenhuma (1) Mínima (2) Pequena (3) Razoável (4) Grande (5) Enorme

9. Em quais dos seguintes eventos gastronômicos (festivais, concursos etc.) o restaurante participou nos últimos cinco anos?

A)	Recife Sabor & Arte	(0) Não	(1) Sim
B)	Brasil Sabor	(0) Não	(1) Sim
C)	Festival Gastronômico de Pernambuco	(0) Não	(1) Sim
D)	Recife Restaurante Week	(0) Não	(1) Sim
E)	Outro	(0) Não	(1) Sim

10. Que premiações ou destaques o restaurante recebeu nos últimos cinco anos?

A)	Revista Veja Recife Comer & Beber	(0) Não	(1) Sim
B)	Guia Quatro Rodas	(0) Não	(1) Sim
C)	Mídia espontânea (jornais, tvs etc.)	(0) Não	(1) Sim
D)	Eventos (concursos, festivais, etc.)	(0) Não	(1) Sim
E)	Outro	(0) Não	(1) Sim

11. Qual o consumo médio por cliente no restaurante?

R$ _____

12. Qual a capacidade do restaurante?

_____ lugares

13. Qual é tipicamente o tamanho dos grupos que freqüentam o restaurante?

_____ pessoas

14. Qual o principal motivo para aqueles que vão ao restaurante?

(1) Lazer	(4) Comodidade	(9) Outro
(2) Negócios / Trabalho	(5) Falta de opção	
(3) Status	(6) Preferência pessoal	

15. Quantas pessoas por dia tipicamente frequentam o restaurante?

A)	Dias úteis (Seg-Sex)	_____
B)	Fins-de-semana (Sáb-Dom)	_____
C)	Feriados / Datas comemorativas	_____

16. Que refeições são oferecidas pelo restaurante?

A)	Café da manhã	(0) Não	(1) Sim
B)	Almoço	(0) Não	(1) Sim
C)	Jantar	(0) Não	(1) Sim

17. Qual a permanência média dos clientes no restaurante?

_____ minutos

18. Qual o principal sistema de atendimento adotado no restaurante?

(1) À la carte (3) Rodízio (9) Outro
(2) Self service (4) Fast food

19. Que especialidades culinárias podem ser encontradas no restaurante?

A)	Chinesa	(0) Não	(1) Sim
B)	Francesa	(0) Não	(1) Sim
C)	Italiana	(0) Não	(1) Sim
D)	Japonesa	(0) Não	(1) Sim
E)	Mexicana	(0) Não	(1) Sim
F)	Portuguesa	(0) Não	(1) Sim
G)	Regional	(0) Não	(1) Sim
H)	Outra	(0) Não	(1) Sim

20. Que prato (principal) é o mais consumido no restaurante?

(01) Carnes (05) Massas
(02) Aves (06) Saladas (10) Feijoadas
(03) Peixes (07) Natural / Leve (11) Risotos
(04) Frutos do mar (08) Pizzas (99) Outro

21. Que bebida costuma-se pedir mais no restaurante?

A) Início (Aperitivo) _____
B) Meio (Refeição) _____
C) Fim (Digestivo) _____

(01) Nenhuma (10) Cerveja (19) Run
(02) Água mineral (11) Chopp (20) Dry Martini
(03) Refrigerante (12) Coquetel de frutas (21) Daikiri
(04) Suco (13) Whisky (22) Licor
(05) Água de coco (14) Vodka (23) Cognac
(06) Café (15) Gin (24) Tequila
(07) Vinho branco (16) Caipirinha (25) Cachaça
(08) Vinho tinto (17) Caipiroska (26) Chá
(09) Champanhe (18) Batida tropical (99) Outra

22. Qual a variedade de opções disponíveis como acompanhamento das refeições?

(0) Nenhuma (1) Mínima (2) Pequena (3) Razoável (4) Grande (5) Enorme

A) Tira-gosto / Petiscos _____
B) Aperitivos _____
C) Entrada / Antepasto _____
D) Sopas / Caldos _____
E) Queijos _____
F) Sobremesas _____
G) Digestivos _____

23. Qual a influência dos seguintes profissionais sobre a qualidade do restaurante?

(0) Nenhuma (1) Mínima (2) Pequena (3) Razoável (4) Grande (5) Enorme

A) Chef _____
B) Cozinheiro _____
C) Maitre _____
D) Garçom _____
E) Recepcionista _____
F) Gerente _____
G) Músico _____
H) Sommelier _____

24. Que importância é atribuída aos seguintes critérios de qualidade pelo restaurante?

(0) Nenhuma (1) Mínima (2) Pequena (3) Razoável (4) Grande (5) Enorme

A) Alimentos (sabor, temperatura, apresentação, variedade etc.) _____
B) Utensílios (louça, talheres, taças, copos etc.) _____
C) Instalações (conforto, climatização, decoração, iluminação etc.) _____
D) Conservação (manutenção, higiene, limpeza etc.) _____
E) Acesso (localização, estacionamento, distância etc.) _____
F) Segurança (vigilância, equipamentos, policiamento etc.) _____
G) Pagamento (preço, desconto, prazo, forma etc.) _____
H) Sonorização (acústica, música, ruído etc.) _____
I) Atendimento (cordialidade, tempo, atenção, apresentação etc.) _____

25. Que facilidades ou serviços complementares são oferecidos pelo restaurante?

A)	Reserva de área / mesa	(0) Não	(1) Sim
B)	Entrega em domicílio	(0) Não	(1) Sim
C)	Manobrista	(0) Não	(1) Sim
D)	Ambiente de espera	(0) Não	(1) Sim
E)	Área para fumantes	(0) Não	(1) Sim
F)	Espaço infantil / Playground	(0) Não	(1) Sim
G)	Mesa de frios	(0) Não	(1) Sim
H)	Programa fidelidade	(0) Não	(1) Sim
I)	Adega de vinhos	(0) Não	(1) Sim
J)	Vídeos	(0) Não	(1) Sim
K)	Apresentação musical	(0) Não	(1) Sim
L)	Cortesia / Brinde	(0) Não	(1) Sim
M)	Promoção	(0) Não	(1) Sim
N)	Acesso para deficientes físicos	(0) Não	(1) Sim
O)	Espaço para dança	(0) Não	(1) Sim
P)	Internet sem fio	(0) Não	(1) Sim
Q)	Estacionamento	(0) Não	(1) Sim

26. Com que frequência cada uma das seguintes formas de pagamento é utilizada pelos clientes do restaurante?

(0) Não utilizado (1) Muito Baixa (2) Baixa (3) Média (4) Alta (5) Muito Alta

A) Cartão de débito _____
B) Cartão de crédito _____
C) Dinheiro em espécie _____
D) Cartão/Tíquete refeição _____
E) Cheque _____

27. Quais meios são utilizados na divulgação do restaurante?

A)	Revista	(0) Não	(1) Sim
B)	Jornal	(0) Não	(1) Sim
C)	Internet	(0) Não	(1) Sim
D)	Familiares e amigos	(0) Não	(1) Sim
E)	Guia gastronômico	(0) Não	(1) Sim
F)	Outdoor	(0) Não	(1) Sim
G)	Rádio	(0) Não	(1) Sim
H)	Televisão	(0) Não	(1) Sim

28. Indique cinco outros restaurantes que seus clientes costumam freqüentar mais

A) _____ B) _____ C) _____ D)_____ E) _____

(Consultar código)

29. Indique que outros restaurantes a maioria de seus clientes

A) recomendaria a familiares, amigos ou conhecidos _____
B) acha ser o melhor _____
C) visitou pela última vez _____

(Consultar código)

30. O que um restaurante precisa ter para que possa ser considerado como da categoria de gastronomia?

A)	Carta de Vinhos	(0) Não	(1) Sim
B)	Pratos assinados por chefs	(0) Não	(1) Sim
C)	Chefs	(0) Não	(1) Sim
D)	Maître	(0) Não	(1) Sim
E)	Sommelier	(0) Não	(1) Sim
F)	Club do Whisky	(0) Não	(1) Sim
G)	Cozinha Internacional	(0) Não	(1) Sim
H)	Toalhas de mesa e guardanapos de tecido	(0) Não	(1) Sim
I)	Copos e taças apropriados às diversas bebidas	(0) Não	(1) Sim
J)	Talheres apropriados aos pratos	(0) Não	(1) Sim
K)	Decanter	(0) Não	(1) Sim

31. No contexto gastronômico, você acha que a maioria dos clientes do restaurante saberia o significado dos seguintes termos?

A)	Sommelier	(0) Não	(1) Sim
B)	Bistrot	(0) Não	(1) Sim
C)	Gourmet	(0) Não	(1) Sim
D)	Cabernet Sauvignon	(0) Não	(1) Sim
E)	Bouquet	(0) Não	(1) Sim
F)	Couvert	(0) Não	(1) Sim
G)	Sauté	(0) Não	(1) Sim
H)	Á la coq	(0) Não	(1) Sim
I)	Escargot	(0) Não	(1) Sim
J)	Merlot	(0) Não	(1) Sim
K)	Hord'oeuvres	(0) Não	(1) Sim
L)	Gratinado	(0) Não	(1) Sim
M)	Guarnição	(0) Não	(1) Sim
N)	Crème brullée	(0) Não	(1) Sim
O)	Crêpe	(0) Não	(1) Sim
P)	Flambado	(0) Não	(1) Sim
Q)	Cassoulet	(0) Não	(1) Sim
R)	Fondue	(0) Não	(1) Sim
S)	Patê de foie gras	(0) Não	(1) Sim
T)	Papaya	(0) Não	(1) Sim
U)	Linguini	(0) Não	(1) Sim
V)	Pesto	(0) Não	(1) Sim
W)	Patê	(0) Não	(1) Sim
X)	À grega	(0) Não	(1) Sim
Y)	Entrada	(0) Não	(1) Sim
Z)	Doré	(0) Não	(1) Sim

32. Como você classifica as seguintes políticas de atendimento de clientes?

(0) Péssimo (1) Ruim (2) Sofrível (3) Razoável (4) Boa (5) Ótima

A)	Primeiro que chega é o primeiro a ser atendido, e assim por diante	_____
B)	Priorizar em função do número de clientes no grupo	_____
C)	Priorizar as pessoas mais importantes (para o restaurante)	_____
D)	Priorizar a reserva de mesas para grandes grupos	_____
E)	Priorizar o cliente que telefona com antecedência no mesmo dia	_____

33. Em quais centros de treinamento é realizada a capacitação do pessoal que trabalha no restaurante?

A)	Próprio da rede	(0) Não	(1) Sim
B)	Sistema S (Sebrae, Senac, etc.)	(0) Não	(1) Sim
C)	Empresas privadas parceiras	(0) Não	(1) Sim
D)	Universidades, faculdades, etc.	(0) Não	(1) Sim
E)	Outro	(0) Não	(1) Sim

LISTA DE RESTAURANTES EM RECIFE, OLINDA E JABOATÃO DOS GUARARAPES

407	Acqua
001	Adega
002	Adoratto
294	Afonso e Anísio Cozinha Criativa
003	Al Paço
004	Almoxarifado
005	Alphaiate
006	Amadeu
007	Amarello Manga
295	Anjo Solto
296	Antiquário
008	Apipucos
009	Applebee's
010	Arcada Bistrô
011	Armazem Guimarães
012	Arriégua
409	Arsenal do Camarão
013	Asa Branca
014	Assucar
213	Atlântico
402	Azú Comedoria
297	Babette
298	Baby Beef Express
015	Baguete
016	Balanceado
410	Banquete
017	Bar 10
299	Bar do Geraldo
411	Bar Restaurante do Luna
018	Barazzone
019	Barbarico Bongiovanni
020	Bargaço
021	Barlavento
022	Barraco
023	Basílico
412	Beca´s Arrumadinho
300	Beijupirá
301	Benedictus
413	Beto´s
024	Biruta
025	Bistrô Provence
026	Bistrot Du Vin
302	Bistrot La Comedie
027	Blu'nelle
028	Bode do Nô
029	Bode Dourado
303	Bode e Cia
304	Bode Sertanejo
030	Bodega e Pizza
031	Boi Preto Grill
032	Bom Grillê
305	Bom Paladar
033	Bom Sabor
034	Bonaparte
414	Bonsai
306	Boratcho
415	Brasiliano
035	Brasserie
307	Brennand Café
416	Bubu Brasil
308	Buca Trattoria
036	Buongustaio Famiglia Giuliano
037	Burgogui
309	Ça Va
038	Café Gaudí
039	Café Porteño
040	Cais e Restaurante
041	Camarão & Cia
310	Camarão do Léo
042	Camarão do Zito
043	Candellabro
312	Canting Restaurante
044	Cantinho da Paz
045	Canto da Barra
313	Capitania
046	Capitão Lima
314	Caprino's
047	Carcará
048	Carne de Sol do Cunha
315	Carne de Sol do João
049	Casa d´Itália
050	Casa da Feijoada
316	Casa da Moeda
317	Casa da Picanha
403	Casa de Banhos
051	Casa de Noca
052	Casa do Naturista
053	Casa dos Frios
318	Castelo do Camarão
319	Central
054	Céu e Terra
055	Chalet
056	Charque do Alemão
057	Château Brilliant
320	Chez Brigitte
058	Chez Georges
321	Chez Wiet Patisserie
059	Chica Pitanga
417	China Dragão
060	China In Box
061	Chinatown
322	Chiwake
323	Churrascaria Pajuçara
062	Cintura Fina
063	Cipó Nativo
064	Coffee Show
065	Comanche Grill
066	Comedoria Praça do Gomes
324	Comer Bem
325	Companhia
326	Confraria da Pizza
327	Conselheiro
067	Constantine
068	Costa Brava
328	Costeiro
069	Costelaria Boi no Bafo
070	Couvert
071	Cucina De'Carli
329	Cumbuca de Barro
418	Da Noi
330	Da Vinci
331	Dali Cocina
072	Dão João

073	Deu Bode
332	Dinny
074	Divino
075	Divino Portugal
076	Dobradinha do Gordo
077	Dojo
333	Dom Ferreira
078	Dom Pedro
334	Dom Rafael
079	Dom Supremo
335	Domingos
336	Don Francesco
080	Don Francisco
081	Don Quixote
082	Dona Flor
083	Dona Salsa
084	Donatário
419	Dopo Le Sei
085	Dragão Chinês
337	Du Maranhão
338	Due
086	É
087	Edmilson da Carne-de-Sol
088	Eki Sushi Mi
089	Entre Amigos - O Bode
090	Espaço Galeria
341	Estação Café
091	Estrela do Mar
342	Expresso Sushi
420	Expresso 86
343	Famiglia Lucco
092	Famintos
093	Faro
094	Fazendinha
095	Feijoada do Vavá
096	Feijoada do Vovô
097	Fellini Ristorante & Vineria
098	Ferreiro Café
099	Flor de Cheiro
100	Flor do Coco
101	Flor do Jucá
102	Fogo na Brasa
103	Fornaretto Osteria
104	Frangettus
105	Futaba
106	Galetasso

107	Galeto Amélia
344	Galetus
108	Gameleira Regional
421	Gardens
109	Georgina
423	Giardino
110	Gio Pizzaria D.O.C.& Grill
345	Giraffas
346	Gota Serena
111	Govinda
112	Goya
113	Grill & Cia
347	Guaiamum Gigante
348	Guetária
114	Habib´s
424	Haikai
115	Hakata
116	Iang Chao
349	Ile de Crepe
117	Ilha da Kosta I
118	Ilha da Kosta II
350	Ilha do Guaiamum
351	Ilha dos Navegantes
119	Ilha Sushi
120	Império dos Camarões
405	It
121	Itiban
353	Jalan Jalan
122	João da Carne de Sol
123	Jucazinho 24h
124	Julietto
425	Just Madá
125	Kampai
126	Kin Sei
426	Kitai
127	Kojima
128	Komida Kazeira
354	Kung Food
129	Kwetu
355	Kyoto
130	La Capannina
131	La Comedie
132	La Cuisine Bistrô
133	La Douane Bistrot
134	La Fondue
135	La Maison

136	La Maza
137	Lá Nú Ari
138	La Pasta Gialia
356	La Pizza
357	La Plage
358	La Tratoria
139	Le Bistrô
140	Leite
427	Leme
141	Les Cuisinères Bistrô
142	L'etoile
359	Libório
143	Macunaíma
144	Maison do Bomfim
145	Mamthara
146	Mamulengo
147	Mané Matuto
148	Manga Rosa
149	Manghará
150	Manguitos Café Bar
360	Mania Caseira
151	Manjericão
152	Mao Tai
153	Maré Cheia
361	Maria Maria
362	Marias de Mila
154	Maricota
155	Marim dos Caetés
363	Marisqueira
156	Marruá
157	Matita Perê
158	Maxixe Bar e Restaurante
364	Mc Donalds
159	Meijin
365	Mercado 153
160	Michelli
161	Mingus
162	Mini Calzone
163	Mirage
164	Mister Grill
165	Mister Pizza
166	Moderatto Cozinha Light
167	Monalisa
168	Montana Grill
169	Montmartre Crêperie
170	Moranga

171	Mourisco
172	Mulher Rendeira
173	Naturalle
428	Navilla
404	Nez Vinhos e Gastronomia
401	Nikko
366	Nippon
429	Nirai
174	Nouvelle Vague Bistrot
175	Novo Varanda
408	O Amarelinho
176	O Buraquinho
177	O Cangaceiro
368	O Castelinho
422	O Gauchão
178	O Laçador
179	O Lenhador
180	Ô Mineiro
181	O Pátio Café & Cozinha
430	O Pátio Café e Cozinha
182	O Poeta
369	O Rei da Picanha
183	O Vegetariano
184	Oásis
185	Oficina do Crepe
186	Oficina do Sabor
370	Orla
187	Osaka
188	Othello
189	Paesano
190	Pagoda
191	Paid'égua
192	Panquecas e Saladas
193	Pantagruel
194	Papa Angu
195	Papa Capim
196	Papaya Verde
197	Paranoia do Mar
198	Paris Bohème
371	Parque da Pizza
199	Parraxaxá
200	Patuá - Delícias do Mar
201	Pé de Mandacaru
202	Pé de Serra
203	Peixe na Telha
204	Peng

431	Petit Bistrô
205	Phernando
372	Picanha do Futuro
373	Picanha do Gordo
374	Picanha do Tio Dadá
432	Picanha na Chapa
206	Pier 2290
207	Pimenta com Mel Bistrot
208	Pimenta de Cheiro
209	Pirão de Parida
433	Pizza di Bari
210	Pizza Hut
375	Pizza Mia
211	Pizza Pronta Express
212	Pizza Quanti
214	Pizzaria Siciliana
216	Planetário
376	Plates
217	Plim Restaurante
377	Plin
218	Pomodoro Café
219	Ponte Nova
220	Ponteio Grill
434	Portal da Carne de Sol
378	Porto do Mar
221	Portoferreiro
222	Poseidon
223	Pra Vocês
379	Prediletto
380	Primo
435	Promenade
224	Puerto Madero
225	Puxinanã
226	Qin Xian
227	Quanto Prima
381	Quebra Mar
382	Quintal da hora
228	Quinto Pecado
229	Quitanda
230	Raspa Tacho
231	Raval Bistrot
232	Recanto do Picuí
233	Recanto dos Amigos
234	Recanto Gaúcho
235	Recanto Lusitano
236	Recanto Paraibano

383	Recanto Sertanejo
237	Recife Antigo
238	Restaurante da Mira
239	Restaurante e Bar 75
240	Restaurante-Escola Senac
241	Roof Garden
242	Rosário Ponte Nova
243	Royal
244	Sabor Antigo
245	Sabor da Ilha
384	Sabor da Paixão
246	Sabor Tropical
385	Sal e Brasa
247	Salada Café
436	Saladeria
248	Salamaleque
249	Samburá
250	Samurai
386	Senac
387	Sertaneja
388	Sertanejo Guaiamum
251	Sinhá Joana
252	Siriguela
389	Sítio das Artes
253	Skillus Steak House
254	Soho Restaurante
255	Spedini
256	Spettus
257	Spoleto
258	Steffano Grill
259	Stillus
260	Sucata
390	Sumô
261	Sushi da Hora
262	Sushi Mi
437	Sushi Niuá
263	Sushi Wine
264	Sushi Yoshi
265	Sushilogia
266	Ta San Yuen (Chinês 48)
267	Taberna Inspiração Nordestina
268	Taberna Japonesa Quina do Futuro
269	Taberna Portuguesa
270	Tábua de Carne
271	Taipei

272	Talude
406	Tapioca
273	Tasca
438	Tay San
274	Tempero da Fazenda
391	Tepan
439	Thaal Cuisine
440	Tia Dulce
275	Tio Armênio
276	Tio Pepe
277	Tokyo
278	Tomaselli
441	Tout Bistrot
392	Tout Vin
393	Varekai
394	Vavá Grill
442	Verde Gaio
395	Veremundo
279	Via Appia
280	Via Paladar
396	Viciu´s
281	Victoria Grill
282	Vida Longa
397	Vila do Mar
283	Villa Cozinha de Bistrô
284	Villa Vecchia
398	Vintage
285	Vivenda do Camarão
286	Wadamon
287	Wiella Bistrô
288	Xangai
289	Yan Ping
290	Yang Ling
399	Yantai
291	Yellow Submarine
292	Yoki Galeto´s
400	Yume Temakeria
293	Zen
998	Não Sei
999	Outro