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Pizza jako fenomén rychlého občerstvení

Studie českého trhu s pizzou zahrnující odhad modelu konzumace pizzy a segmentaci trhu založeného na rozdílech v preferencích zákazníků jednotlivých pod-trhů

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Prohlášení

Prohlašuji, že jsem diplomovou práci na téma Pizza jako fenomén rychlého občerstvení vypracovala samostatně na základě vlastních zjištění a materiálů, které uvádím v seznamu použité literatury.

V Táboře 23.4.2007   Dagmar Vořechovská

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1. Introduction to the problem and background situation

1.1. Introduction to a convenience foods market

Food has always been an inevitable component of the existence of humanity. With different societies and time period different food has been preferred. In all societies, food has been defined by cultural traditions and taboos. With the shift of the societies consumption patterns changed, affected by social and economic forces within a society. The production, processing, packaging, distribution, preparation, form and style of food continually respond to changing technologies and consumer preferences. With the gradual evolution, changes in family roles as well as other changes in lifestyle, technology etc. have occurred and transformed the way in which food is prepared, cooked and consumed into more convenient oriented (Naisbitt, 1982)." The reasons causing such transformation started gradually with the shift from the traditional family roles to the modern ones. Other trends came later. The shift of the family roles, likely to be pointed out, is the Feminist movement. During the 18th century this movement started changing the traditional values and roles of family members. Women became active members of the society, contributing by working in offices and factories instead of only running their household and bringing up children. This movement was further reinforced by the two World Wars and by continuous changes in the values of the society.

As a consequence of women labour force, which was an important part of the Feminist Movement, the main social changes were reflected in food, eating, and nutrition patterns (Sobal, 2000). This reflection caused a further need for convenience in food preparation rather than the traditional home-prepared fresh food (Senauer et all., 1993). But besides the Feminist movement, other trends that supported the transition from the home-prepared fresh food into a more convenience food oriented society include globalization, migration, commoditization, modernization and individualism (Sobal, 2000).

Definition: A trend indicates a general movement or direction of change in attitudes or behavior that has the strength and endurance to change the course of overall consumption patterns (Senauer et all., 1993). The suffix "-ization" is often used to describe systems of social processes that occur as societies change.

Globalization is a structural change that occurs in the linkage and the integration of previously local, national, and regional phenomena into organizational arrangements on a worldwide

scale (McMichael 1996; Sobal 1999). Activities that were previously local become spatially unrestricted as they are integrated into global networks. Globalization expands food activities beyond smaller, local scales into worldwide food complexes.

Another occurring trend that has resulted in changes in food and eating was the migration. This term is used to define the structural change where people move from original locations to new settlements, either on a local or on international scale. It enabled new cultural contacts as well as mixing of food and other cultural habits.

As people were seeking for more convenience, they started turning more to the manufactured than the homemade food. This process is called the commoditization. With the penetration of a more individualistic lifestyle in the '80s, consumers were allowed to make statements about who they are and what they believe also through their choices of food and other products. Increasingly, individuals in a household have been choosing the food they want to eat, independent of the homemaker. The microwave oven, like other appliances, is the embodiment of the '80s individualistic style, turning each family member into a private chef (Freedman, 1989b). All these changes in society and technology had caused that convenience food became a common part of every household.

Convenience food

Definitions of what actually is determined as the convenience food differ. According to Capps, Tedford and Havlicek, 1985, convenience foods are defined as those that "transfer the time and activities of preparation from the household manager to the food processor" and have been classified into three categories: basic, complex and manufactured convenience, according to the level of convenience they include. In the *basic* convenience food, only time and energy is invested, whereas in the *complex* convenience food also culinary expertise is invested, making the preparation even easier (M.J. Candel, 1998). The third category of manufactured convenience food covers the type of food where the level of culinary skills is 100% included without any other skills needed, except placing the food in the microwave oven to warm it up.

Studies show that by 1965, 27 to 30 percent of US households had significantly incorporated convenience foods into their diets. By the 1990s, convenience foods in the US and UK comprised a large portion of the average diet. In the US, several studies indicate that many families' diets consist entirely of convenience foods and fast food. By the 21st century, nearly every US household uses convenience foods in one form or another. (Peiss, 1998)

Nowadays, depending on a family structure such as a number of family members, their age groups, job, level of education etc., the use of convenience foods and a preference for this type of food differs.

Factors influencing the demand for convenience

According to [Buckley et al., 2005](#), the demand for convenience is driven by the following factors: **ageing population** (IGD, Business Publications, 1998), **changing household structure** (Khan, 2000), **female participation in the labour force** (Traill, 1997), **longer working hours** (Traill, 1997), **consumer prosperity** (Bonke, 1992), **move towards healthy food** (Mintel, 2000), **desire for new experiences** (Mintel, 2000), and **individualism** (IGD,1998). Furthermore, **declining cooking skills** (Furey, McIlveen, Strugnell and Armstrong, 2000), **breakdown of traditional mealtimes** (IGD, 1998), and **the desire to expend less time and effort on food-related activities**, e.g., shopping (Swoboda and Morschett, 2001) and meal preparation and clearing up (IGD, 1998) also impact on the desire for convenience foods.

All factors summarized can to a large extent explain the rapid growth of the popularity of the convenience foods market. A strong base of the convenience foods market was built on the change of eating preferences of the society. The market has developed according to these preferences and today, it comprises of a wide range of products to meet consumer's requirements in taste, smell, appearance, health and price. Convenience is no longer a special benefit, instead it is becoming the minimum consumers expect from a product.

1.2. Pizza origin

Pizza has rolled on the list of convenience foods in most of the European countries during the second half of the 20th century. Before, it was a dominating feature in the food of Mediterranean countries such as Italy and Greece.

Pizza originated three thousand years ago from ancient flat buns or pies cooked on scorching stones. It was the kind of 'pizza' consumed in the form of thin flat bun or pie, which was the first type of non-leavened bread eaten by humans. The name comes from the Latin word "*picea*", a word which the Romans used to describe the blackening of bread in an oven. The

first use of this crust is documented in Greece, and Italy, without any flavour or added topping[1].

Throughout the centuries, flat buns grew very similar to the kind of pizza that we have nowadays. The fatherland of pizza is perceived to be Naples. Originally it served as a food for the poor, later on becoming popular among the Aristocracy. Two major ingredients of the typical pizza are mozzarella cheese and tomato. Mozzarella was produced from buffalo's milk first introduced to Italians by the Longobards (German tribe). The import of tomato from South America (Peru, Mexico) was due to the discovery of the New World (America).

Between the XVIII and the XIX centuries, the habit of eating pizza started not only in homes and in the streets, but also in places where pizza was made, the *pizzerias*. Before pizzerias became very popular, however, street vendors (typically young boys) walked around the city with small tin stoves on their heads. While undoubtedly uncomfortable for these 19th-century delivery boys, this street-vending method made pizza ever-more popular, and paved the way for the opening of the world's first pizzeria[2]. The world's first true pizzeria, "Antica Pizzeria Port'Alba", opened in 1830 and is still in business today at Via Port'Alba 18 in Naples.

And who was recognized as the father of pizza, making it worldwide known? In 1889, Rafaele Esposito of the Pizzeria di Pietro e Basta Cosi (now called Pizzeria Brandi) baked pizza especially for the occasion of visit of King Umberto I and Queen Margherita. To make the pizza a little more patriotic-looking, Esposito used red tomato sauce, white mozzarella cheese and green basil leaves as toppings. Queen Margherita loved the pizza, and what eventually became Pizza Margherita has since become an international standard[3].

1.2.1. The introduction of pizza in Czech Republic

As there has not been done much research on pizza and not much is known about the way in which pizza came to the Czech market, we can only make assumptions about the time horizon, main reasons and channels through which pizza got to be known by the Czech consumers.

According to the US and UK Journals, the first significant spread of pizza in these countries had occurred in 50's and 60's. The arrival of this product was caused by both, the gradual

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[1] http://www.geocities.com/Heartland/Flats/5353/pizza/history.html
[2] http://www.food-info.net/uk/qa/qa-fp55.htm
[3] http://www.food-info.net/uk/qa/qa-fp55.htm

process of globalization of markets through news and popular magazines and more importantly, due to immigrants bringing their food and eating habits with them as part of their culture (Tinklin, 1972).

On basis of this knowledge I presume a similar process in Czech Republic as well. In the time of 50's, one of the big sources of food inspiration were cookery books and magazines circulating from one housewife to another one or regular broadcasts informing the housewives of the latest trends in cooking.

The pizza got known most probably from these sources and was spread by the word-of-mouth communication when housewives were exchanging their experience with new recipes. But before pizza gained on its current popularity, it was kept only as a homemade meal.

It was after 1989 (the year of the Velvet revolution), when the big boom of pizza occurred. This boom has gradually developed on three different outlets; the retail outlet, the slow food outlet and the convenience-driven fast food outlet.

The retail outlet with frozen pizza has been developing since 1990. In 1997, Czech Republic held the second place in the pizza consumption, in comparison with other post-communistic countries such as Bulgaria, Hungary, Romania and Slovakia. The first place was taken by Poland (Bureau for the prevention of economic competition, 1999). The trend was still rising in the following years, with five main competitors on the frozen pizza market in 1999.

The gastronomy market was following this trend, starting by opening of the first pizzeria in Prague, in 1991. Currently, there are over 220 pizzerias only in the capital city.

The question is what makes pizza popular among Czech consumers. What are the attributes of pizza that are perceived positive and preferable? Most of the reasons behind this progress can be only estimated as there has not been done much research on this topic among Czech consumers.

2. The Problem Statement

2.1. Limited research on this topic

Studies dealing with convenience in meal preparation have been almost entirely devoted to the analysis of its demographic and economic determinants, such as employment status, household size, education level and income (Bonke, 1996, Yale and Venkatesh, 1986). A view of convenience based on economic rationality—choice that offers the greatest perceived time and effort savings—has also framed the few studies devoted to its psycho-social determinants like convenience-orientation, role-overload or perceived time-pressure (Candel, 2001, Reilly, 1982). But there has not been conducted any complex study that would put all these factors together.

In relation to the Czech market, there are no studies on this subject yet published. What are the main drives to make Czech consumers buy convenience food in a particular outlet is a big unknown.

CZECH PIZZA MARKET

The main focus of the thesis is to provide a detailed mapping of the Czech pizza market considering consumers' preferences and reasons behind their decision making on the first place, and to estimate a model of pizza consumption on the three outlets. I combine the demographic, psychographic and behavioral aspects to uncover the complex reasoning of consumers on this market.

As the Czech pizza market was developed within a short period of time, there was not much space for real innovations and learning about consumers´ preferences. Most of the products were copied from the foreign markets and only later on, with gaining more experience, several companies came up with the Czech pizza version. This pizza differs from the Italian pizza in a number of topping ingredients taking taste preferences into account.

ZEELANDIA COMPANY

The only company mentioned in the thesis is Zeelandia, an ingredients company I cooperate with on this topic. As this company is interested in gaining closer knowledge about the pizza

market, their product portfolio is included within the part where the model of pizza consumption is discussed. The purpose is to link the products Zeelandia is currently producing with the pizza market in the sense of highlighting the products that could fit into the pizza market and therefore could provide means for penetration into the pizza market or to a particular outlet.

The company focuses on development, production, sale and distribution of baking ingredients for bread and confectionery trade. Its Czech subsidiary has existed on the Czech market for over 15 years and has built a strong market position during this time. Its activity concentrates on development and production of ingredients and primary commodities for three different market segments – bakers and confectioners, gastronomy and food production. Part of the future goals contain of strengthening its current market position, looking for new markets and spreading its activities over the Central Europe. The assortment is made up from convenience products including powder mix products, sauces and others. This brings possibilities of establishing a new trade outlet with its current product portfolio.

2.2. Research objectives

The objectives of the thesis are:

1. To map the Czech pizza market in order to gain knowledge about the estimated pizza consumption
2. To gain knowledge about consumers' preferences across different outlets.

Therefore, the aim of the thesis is twofold.

The part related to Zeelandia is composed of the model to estimate pizza consumption on the three different outlets. On the basis of the data collected a link is made between the ingredients needed for pizza and Zeelandia's current product portfolio. The outcome of this process should result in a list of products that are currently produced by Zeelandia and could grant a successful entrance to the existing markets in the pizza industry.

The second one, focused more directly on the consumers, will constitute of a survey among Czech consumers. The aim is to gain knowledge about their preferences and reasons for the choice of one of the three market outlets.

2.3. Research questions

There exist three groups of research questions related to a certain factor observed. The first question is linked to the model of pizza consumption. The consumption model can be estimated by using only secondary data collected about the Czech pizza market. The question is answered by means of a linear regression model. The extent to which this question can be answered is limited by the amount of information available.

a) What is the estimated model of pizza consumption on the Czech pizza market?

The second question is linked to the reasons behind the choice of pizza across the different pizza outlets. This question is linked to the point 3.2.1. about the main factors influencing consumers' decision making and therefore the buying behavior in general.

b) What are the main consumer's drives in choosing a concrete outlet on the pizza market?

For the following group of questions, the background of market segmentation, its purpose and different techniques used are necessary. As it is clarified from the theory, existence of market segments automatically indicates differences among them. The needs and wishes vary across the segments and according to the amount of information about the consumers of each of the segments, several ways of differentiating is possible to be used. The research questions, besides the relation to market segmentation, also refer to the problems associated with the conclusions for each part of the thesis; the one related to Zeelandia and the one focusing on the consumers of the three outlets and their preferences and drives for their choice.

c) Are there different market segments present? And if yes, what are the characteristics of the segments existing on the Czech market?

d) What products from Zeelandia's portfolio could grant a successful entrance to the new markets?

2.4. Research hypotheses

There are three groups of hypotheses; related to each of the outlets. The hypotheses are based on the general characteristics and assumptions of them.

The purpose of the frozen pizza outlet is to provide a consumer with a quick and convenient solution. The consequence of this purpose is reflected in lower quality of the pizza in comparison to the pizza made in pizzerias or fast food restaurants. Therefore, in relation to **the frozen pizza outlet** the following hypotheses are tested:

H1: *Consumers of the frozen pizza market prefer convenience. Convenience in this case consists of two pizza attributes; Ease of consumption and Ease of pizza division for two persons.*

H2: *Consumers of the frozen pizza market are not looking for the Italian quality and tradition on this outlet.*

H3: *The preferred situation for frozen pizza consumption is when consumer does not have enough of time.*

The purpose of the fast food outlet is somewhere between the frozen pizza and the pizzeria outlet. This outlet is characterized by its convenience orientation to provide a consumer with a quick service. That is related to another characteristic that is the appearance of the restaurant; the restaurant is arranged to provide quick service and enough of space for consumers rather than focusing on an attractive appearance. The situation of the pizza consumption is as well as in the frozen pizza outlet related to lack of time. Therefore, in relation to **the fast food outlet** the following hypotheses are tested:

H4: *Consumers of the fast food outlet are time oriented. The time orientation is indicated by the pizza attribute of quickness of service as well as by the preferred occasion for its consumption.*

H5: *Consumers do not expect an attractive but rather a convenient place that provides them with a good service.*

Finally, pizzeria outlet is the only outlet oriented not on convenience but on a proper service, cozy atmosphere and on providing with a high quality Italian pizza. In relation to **the pizzeria outlet** the following hypotheses are tested:

H6: *Consumers of the pizzeria outlet are looking for the Italian quality and tradition.*
H7: *Consumers of the pizzeria outlet are not time oriented therefore Quickness of service is not an important factor for them.*

In the sense of the statistical terms, the hypotheses are related to the correlation between the numbers of pizzas consumed in an average month in each outlet as the dependent variable and the explanatory variables mentioned in the hypotheses. Each of the hypotheses can be then expressed in another way using the type of correlation that is being expected:

H1: There exists a positive correlation between the dependent variable and the pizza attributes of Ease of consumption and Ease of pizza division for two persons.
H2: There is a negative correlation between the dependent variable and the Italian quality and tradition on the frozen pizza outlet.
H3: There is a positive correlation between the dependent variable and the occasion of lack of time.
H4: In the fast food outlet, there exists a positive correlation between the dependent variable and Quickness of service as well as the occasion of lack of time.
H5: There is a negative correlation between the dependent variable and Attractive appearance.
H6: In the pizzeria outlet, there exists a positive correlation between the dependent variable and Italian quality and tradition.
H7: There is a negative correlation between the dependent variable and the Quickness of service.

To prove the hypotheses the standard level of significance of either 0.01 or 0.05 is applied. Moreover, for the purpose of my exploratory research, I consider also values up to 0.065 as sufficient and therefore if a variable is proved significant on 0.05-0.065 level the influence of it will be discussed. All hypotheses are tested on two levels. First, within a separate models of only one group of explanatory variables included. Second, within a merged model of all explanatory variables that are proved significant in the separate models.

3. Theoretical Background

3.1. Marketing

There are many definitions of what marketing is, emphasizing either the process of marketing, the functional activities that constitute marketing, or the orientation (philosophy) of marketing. McDonald defines it as follows <u>(Wilson, Gilligan, 1997)</u>:

"Marketing is the management process whereby the resources of the whole organization are utilised to satisfy the needs of selected customer groups in order to achieve the objectives of both parties. Marketing, then, is first and foremost an attitude of mind rather than a series of functional activities (McDonald, 1989, p.8)."

As marketing is a complex process including activities within the whole company, it consists of many techniques focusing on different parts of the whole process. As pointed out in Wilson (1988, p.259), the essential requirements of marketing are:

- The identification of consumers' needs (covering what goods and services are bought; how they are bought; by whom and why they are bought)
- The definition of target market segments (by which customers are grouped according to common characteristics – whether demographic, psychographic, geographic, etc.)
- The creation of a differential advantage within target segments by which a distinct competitive position relative to other companies can be established, and from which profit flows <u>(Wilson, Gilligan, 1997)</u>.

The way in which a differential advantage might be achieved – and sustained – is via the manipulation of the elements of the marketing mix. This mix has traditionally been seen to consist of the 'four Ps' of marketing: *Product, Price, Promotion and Place*. Increasingly, however, but particularly in the service sector, it is being recognized that these four Ps are rather too limited in terms of providing a framework both for thinking about marketing, and for planning marketing strategy. It is because of this that a far greater emphasis is now being given to the idea of an expanded mix which has three additional elements:

- ❖ *People*
- ❖ *Physical evidence*
- ❖ *Process management*.

Marketing has been more and more involved within companies that are aware of the importance of their customers and their wishes and needs. As this importance has been recognized and emphasized, organizations' strategies are consequently turning into being more market oriented.

3.1.1. Market orientation strategy

According to Deshpandé, 1999, market orientation maybe defined as the organization wide generation of market intelligence, or information on customers' current and future needs, dissemination of that information across departments, and organization wide responsiveness to it. In essence, market orientation refers to the way that an organization implements the marketing concept.

This three component view of market orientation (generation of, dissemination of, and responsiveness to market intelligence) makes it possible to diagnose an organization's level of market orientation, pinpoint specific deficiencies and design interventions tailored to the particular needs of an organization. Market orientation involves taking concrete actions in response to market intelligence. These actions relate to targeting selected market segments and designing new products and programs or modifying existing ones to meet customer needs.

3.1.1.1. The responsive market orientation strategy

Generally, there are two approaches toward introduction of a new product or a new market. The two strategies differ on basis of its prime orientation.

The concept of market orientation implies both *responsive* (reactive) market orientation and the *proactive* one. A *responsive* market orientation is a business's attempt to understand and to satisfy customers' expressed needs, whereas a *proactive* market orientation is the attempt to understand and to satisfy customers' latent needs. Expressed needs may have either expressed or latent solutions.

In the numerous market orientation–performance studies, the measure of market orientation has consisted virtually entirely of behaviors related to satisfying customers' expressed needs rather than satisfying their latent needs. Even if most of the study findings claim the importance of the proactive market orientation, many companies are still using the responsive

market orientation more often. The reason behind this resistance is the fact that the cost of this process is far less expensive.

3.2. Consumer behavior

Consumer behavior includes the processes with which individuals and groups choose, purchase, use and dispose of products, services and experiences in order to satisfy their needs and wants (Solomon, 2006). The stages of choice and purchase are focused on by a more detailed consumer´s decision making process.

3.2.1. Consumer's decision making process

The whole decision making process is constructed out of several stages which the consumer follows to come up to the final action - purchase. The stages included in the decision making process are shown in the diagram:

Figure 1: **Five-Stage Model of the Consumer Buying Process**
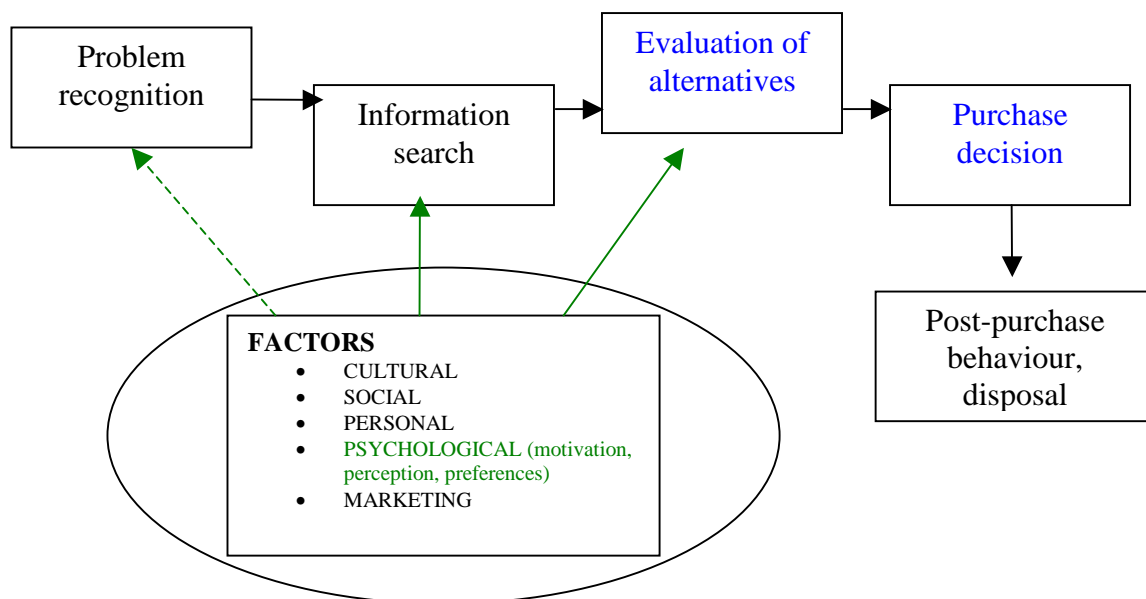
Source: (Kotler, 1988)

Another often used model to explain buying behavior is the **Multi-stage choice process**. Meanwhile the Kotler's model is focused on the description of the whole process of the buying process taking a general approach; Multi-stage choice process is focused on the choice made in relation to the income allocation of consumers across products. Both processes are influenced by the same factors as shown in Figure 1; cultural, social, personal, psychological

and marketing factors. The Multi-stage choice process has been devised by Strotz (1957), Pratt (1965) and Gredal (1966). Strotz, working in the context of the economic theory of consumer behavior, assumed that the choice process for households consists of two steps. The first is the optimal allocation of income to a number of broad product groups (Tilburg, 1984). In my thesis that would represent the choice of the pizza market based on the eating preferences of consumers. In the second, the optimal allocation is made of the budget for the product class to various products within that class (Tilburg, 1984). That would mean the choice of a concrete pizza outlet based on the preferences for certain pizza attributes and eating habits. Pratt and Gredal further developed this process focusing on different aspects of the buying behavior. For the purpose of the exploratory research the approach of Strotz is applied.

What is common for both models is the search for the way in which a consumer goes through the process to make the final decision. How do consumers buy particular products? Do they search for information and make detailed comparison, or do they rely largely upon the advice of their family and friends or a store assistant? Are they influenced significantly by price or by advertising? Questions such as these have lead to a considerable amount of research of the buying process and subsequently to segmentation of consumers accordingly.

The decision making process begins with the consumer's recognition of a problem, or perhaps more commonly, a want. This may emerge as the result of an internal stimulus (hunger, thirst) or an external stimulus in the form of an advertisement or a colleague's comment. This leads to the search for information, which might be at the level simply of a heightened awareness or attention to advertising, or at the deeper level of extensive information searching. In either case, the search process is likely to involve one or more of four distinct sources:

- ✓ Personal sources such as family, friends, colleagues and neighbours;
- ✓ Public sources such as the mass media and consumer organizations;
- ✓ Commercial sources such as advertising, sales staff and brochures;
- ✓ Experimental sources such as handling or trying the product.

The relative importance of each of these varies greatly from person to person and product to product. The relativity is caused by elements that play an essential role in every consumer's decision making process. These elements are distinguished to be the consumer's motivation, involvement and personality that are forming the perception ability. All together with

perception and preferences they represent the psychological factors. Perception is an omnipresent factor in buying and consumption behavior. It is defined as the process by which an individual selects, organizes, and interprets stimuli into a meaningful and coherent picture of the world. It can be described as "how we see the world around us". Two individuals may be exposed to the same stimuli under the same apparent conditions, but how each person recognizes, selects, organizes and interprets these stimuli is a highly individual process based on each person's own needs, values, attitudes (preferences) and expectations (Schiffman, Kanuk,2004)**.**

 Besides the psychological factors that are unique to each consumer, there are as well several other factors influencing the final decision. These factors, cultural, social, personal and marketing, are affecting a group of consumers rather than a single consumer. They are shaping the way in which a consumer search for information, evaluates each possible variant and decide upon the final step. If a company uncovers what factors are standing behind the final decision of its consumers it enables to the company to segment the consumers accordingly. With the application of such knowledge the company can improve its marketing strategy.

3.2.2. The market segmentation

Market segmentation is an effort to increase a company's precision marketing. The starting point of any segmentation discussion is *mass marketing*. In mass marketing, the seller engages in the mass production, mass distribution, and mass promotion of one product for all buyers. Henry Ford epitomized this marketing strategy when he offered the Model T-Ford "in any colour, as long as it is black." The argument for mass marketing is that it creates the largest potential market, which leads to the lowest costs, which in turn can lead to lower prices or higher margins. However, many critics point to the increasing splintering of the market, which makes mass marketing more difficult. The proliferation of advertising media and distribution channels is making it difficult to practice "one size fits all" marketing (Kotler, 1988). Since the markets are not anymore that homogeneous in the terms of consumers' wishes and needs, companies have been learning more on how to focus on niche markets within which consumers are sharing similar characteristics in decision making and other actors important for any product positioning. Homogeneity is therefore achieved by market segmentation.

Five (six) steps of market segmentation:

- ❖ Analyze consumer/product relationships
- ❖ Investigate segmentation bases
- ❖ Develop product positioning
- ❖ Select segmentation strategy
- ❖ Design marketing mix strategy
- ❖ Evaluate and monitor (Wedel and Kamakura, 1998)

The first article dedicated to the topic of need of market segmentation was published in 1956 in Journal of Markets 21 (1): 3-8 1956; Wendell R. Smith, Product differentiation and market segmentation as alternative marketing strategies. In this article, Smith (1956) defined market segmentation as "a process that involves viewing a heterogeneous market as a number of smaller homogeneous markets, in response to differing preferences, attributable to the desires of consumers for more precise satisfaction of their varying wants." Since that time, market segmentation as a strategy has been developed and defined in a variety of ways. In essence it is the process of dividing a varied and differing group of buyers or potential buyers into smaller groups within which broadly similar patterns of buyers' needs exist. By doing so, the marketing planner is attempting to break the market into more strategically manageable parts which can then be targeted and satisfied far more precisely by making a series of perhaps small changes to the marketing mix. The rationale is straightforward and can be expressed most readily in terms of the fact that only rarely does a single product or marketing approach appeal to the needs and wants of all buyers (Wilson, Gilligan, 1997).

A priori and post hoc market segmentation

According to the strategy of a company, there are two ways how to proceed market segmentation. It mostly depends on the amount of financial resources and the level of particularity of products or services. The first one is "a priori" market segmentation that indicates the segments to be specified in advance independent of structure of data, for example on basis of gender, age group, occupation etc. The "post hoc" market segmentation means that the segments are specified after analysis of data to find out groups of consumers that are homogeneous with respect to usage behavior, preferences or decision making process (Solomon, 2006).

Several authors developed several models of market segmentation giving an importance to different data and knowledge about consumers. One model that can be applied generally is the Kotler's market segmentation process. This model is defining three basic steps that should be followed to come up with a successful market segments:

➢ Survey stage

The researcher conducts informal interviews and focus groups with consumers to gain insight into their motivations, attitudes and behavior. Based on these findings, the researcher prepares a formal questionnaire that is administered to a sample of consumers to collect the data on attributes and their importance ratings; brand awareness and brand ratings; product-usage patterns; attitudes toward the product category; and demographics, geographics, psychographics of the respondents. The sample should be large in order to gather enough data to profile each segment accurately.

➢ Analysis stage

The researcher applies factor analysis to the data to remove highly correlated variables. Then the researcher applies cluster analysis on the variables to create a specified number of maximally different segments. Each cluster is internally homogenous and externally very different from every other cluster.

➢ Profiling stage

Each cluster is now profiled in terms of its distinguishing attitudes, behavior, demographics, psychographics, and media consumption habits. Each segment can be given a name based on a dominant distinguishing characteristic (Wilson, Gilligan, 1997).

Bases for market segmentation

The bases that are used for market segmentation are related to the groups of influencing factors mentioned in the point 3.2.1.. The factors consist of several aspects and therefore are not kept together under one basis but rather spread across. Such an example can be the cultural factors. This group consists of the aspect of culture related to the place a consumer was grown up as well as the aspect of culture interpreted as a social class of a consumer. The first aspect is then kept within the Geographical basis meanwhile the second one is included in the Demographic basis.

Each basis is created to serve a different purpose. In 1978, Wind (1978, p.317) commented that 'over the years almost all variables have been used as bases for market segmentation'. There are several possible explanations for that. The most significant is the difficulty that is

typically encountered in putting the normative theory of segmentation into practice. Although a wide variety of variables have been used to segment markets, the majority of these can be grouped into four categories:

- ➢ Geographic and geo-demographic
- ➢ Demographic
- ➢ Behavioral
- ➢ Psychographic

(Wilson, Gilligan, 1997)

Geographic and geo-demographic

Geographic segmentation – one of the earliest and still most commonly used methods of segmentation both within the consumer and the industrial sectors – involves dividing markets into different geographical units such as countries, regions, and cities. The strategist then chooses to operate either in just a few or in all of these. Typically, if a company pursues this second approach; minor modifications are often made on the marketing mix used for different geographical areas in order to take account of different regional tastes and preferences.

Largely because of the limitations of geography, a considerable amount of work has been done in Britain over the past few years in an attempt to improve on the traditional methods of geographic segmentation. One outcome of this has been the development of a variety of geo-demographic systems such as ACORN (A Classification of Residential Neighborhoods) which classify people by where they live. Based on the idea that 'birds of a feather flock together', it gives recognition to the fact that people with broadly similar economic, social and lifestyle characteristics tend to congregate in particular neighborhoods and exhibit similar patterns of purchasing behavior and outlook (Wilson, Gilligan, 1997).

Demographic segmentation

The second major method of segmentation, and probably the one most frequently used, rests on the assumption that markets can be subdivided into groups on the basis of one or more demographic variables such as age, sex, income, social class, education, occupation, religion, race, nationality, family size and stage reached in the family life cycle. An undoubted attraction of demographic segmentation is the wide availability and easy interpretation of the data, and it is this, together with the fact that not only can most consumer markets generally

be divided relatively easily along these lines but also that purchase behavior often correlates highly with demographic segmentation, that have combined to make it such a convenient, easily understood and frequently used approach. In recent years, considerable attention has been paid to the ways in which specific demographic variables can be used more effectively, with the result that variables such as age and life cycle, income, and sex have all been greatly refined (Wilson, Gilligan, 1997) and therefore, become even more helpful in creating the most suitable marketing mix.

Behavioral segmentation

The third major approach to segmentation is based on a series of behavioral measures including attitudes, knowledge, benefits sought by the buyer, a willingness to innovate, loyalty status, usage rates, and response to a product. Of these, benefits segmentation is probably the best known and most widely used and is based on the assumption that it is the benefits people are seeking from a product that provide the most appropriate bases for dividing up a market. In applying this approach the marketing planner begins by attempting to measure consumers' values systems and their perceptions of various brands within a given product class. The information generated is then used as the basis for the marketing strategy Wilson, Gilligan, 1997).

Psychological and lifestyle segmentation

The fourth and increasingly popular basis of consumer segmentation stems from work in the early 1950s by Riesman, et al. (1950) which led to the identification of three distinct types of social characterization and behavior:

- ➢ Tradition directed behavior which changes little over time and which as a result is easy to predict and use as a basis for segmentation;
- ➢ Other directedness in which the individual attempts to fit in and adapt to the behavior of the peer groups;
- ➢ Inner directedness where the individual is seemingly indifferent to the behavior of others.

Although this relatively simplistic approach to categorization has subsequently been subjected to a degree of criticism, it has provided the basis for a considerable amount of further work,

all of which has been designed to provide the strategist with a far more detailed understanding of personality and lifestyle.

The attempts to use personality to segment markets began in earnest in the United States in the late 1950s when both Ford and Chevrolet gave emphasis to the brand personalities of their products in order to appeal to distinct consumer personalities. But largely because of the difficulties encountered in using personality as an easy, consistent and reliable basis for segmentation, attention in recent years has switched to <u>lifestyle</u> and to the ways in which it influences patterns of consumer demand.

The bases for segmentation markets are resulting from the main factors known which are influencing the consumer decision making process. These factors are closely related to each of the attitudes. For example, geo – demographic technique is combining cultural and personal factors, meanwhile the psychographic technique is more focusing on the personal and psychological factors. Only rarely, can just one of these dimensions be used to segment a market effectively <u>(Wilson, Gilligan, 1997)</u>.

3.3. Research findings about consumers in relation to the convenience food

There have been published several studies focusing on the topic of convenience food, taking a closer look at either the whole convenience foods market or only a part of this market such as the frozen foods market etc. Other studies were done on the topic of European slow food market. The results revealed some important differences across the European states related to the lifestyle of each country. According to the study of <u>D.R. Soriano, 2000</u>, the countries with the highest expenditure per capita on the "out of home" meals are those that see eating out as being a part of their lifestyle. The most notable examples are France, Italy or Spain.

On the other hand, a survey done by <u>Costa et al., (2005)</u> showed that as many as 70% of the Dutch population prepares its hot meals from scratch everyday. Majority of subjects viewed eating out as a meal solution only suitable for the weekend as restaurants are perceived as too demanding in terms of time and money to be consumed on a normal weekday. On the other hand, another type of convenience food, frozen pizza, was a choice most likely to be consumed at dinnertime on both weekdays and weekends.

Another study on consumer preferences, using the Lancaster model of the product attributes and focusing only the slow food market, was the study of <u>(Costa et al., 2005)</u>. This survey

studied the connection between specific attributes and the repeated purchase in a small, independently owned up-scale restaurant (slow food market). Customers were asked to rate the relative importance of each of the following attributes: food tastiness, consistent food, menu variety, waiting-time, attentive server, helpful server, atmosphere. Food quality was rated far above all other attributes in terms of importance. Food tastiness, consistent food and menu variety altogether accounted for 55 percent of the final decision to repeat a purchase in the pleasure situation and 50 percent in the business situation. Atmosphere accounted for 13.1 percent in the pleasure occasions and 15.2 percent in the business occasions.

3.4. Research model and research design

The first part of the thesis focused on the estimation of the model of pizza consumption is worked out with the use of point 3.1. The outcome of the analysis should provide me with an estimated linear model based on explaining variables that are most closely linked with the pizza consumption in the different outlets.

Within the part of consumer survey about their preferences and perceptions about pizza, most of the Consumer behavior theory part is applied in generating the questionnaire and the ways of measuring chosen constructs. As explained in the point 3.2.1., there are several factors that have influence on consumers' final decision making throughout the process starting from the problem recognition to the moment of purchase. The main focus within the process is put on the third and fourth stage of the evaluation of alternatives and the purchase decision. The factors shown in the Figure 1 are implemented in the informal starting interviews and in the questionnaire parts. After gathering the information from the informal starting interviews we select the attributes based on their occurrence frequency. The most often occurring attributes are on the basis of this selection included in the questionnaire.

The factors are closely related to the techniques used as bases for market segmentation. One of the techniques that is included in the questionnaire is the geographic technique focusing mainly on such information as the place, region or country of living that are part of the cultural factor. The second technique (base) is the demographic one. Out of this base we construct questions measuring personal variables such as sex, age, occupation, education etc. Out of behavioral base we focus on the variables able to measure the attitudes toward convenience food and more closely toward pizza, values and benefits sought in the food

products. Psychographic base is quite complex and with a lot of obstacles to overcome. I focus on the lifestyle part and try to incorporate variables related to life style.

As mentioned in point 3.2.2., Kotler's model of market segmentation is generally applicable and therefore is partly implied throughout my thesis. The first stage of the model starting with informal interviews is followed to gain insight into the most appreciated and considered attributes of pizza and using the knowledge in a questionnaire. The second stage consists of data analysis using the Multi-stage choice model approach. A two stage model is assumed, consisting of the choice of the preferred pizza attributes and in accordance to that the choice of preferred outlet. The first stage consists of a list of attributes which is the same for all three outlets. By indicating the attributes that plays an important role for each respondent, the choice of the outlet is made. The choice of the outlet is therefore dependent on the choice of the product attributes. Besides the two stages there are also other choices that the consumer decides upon and are influencing the final decision. The choices include the situation on which the consumer chooses for pizza and consumer's lifestyle, opinion and habits. As explained in the point 3.2.1. every consumer is an individual but there are similarities that can help to group consumers into segments that are then homogeneous, sharing similar opinions and habits etc. According to these factors one group of consumers tend to behave differently than another group. Another factor that makes consumers differ is the demographic factor. This factor characterizes consumers by means of gender, age, occupation, income, family size etc.

Figure3: **The multi-stage choice model of consumer buying process**
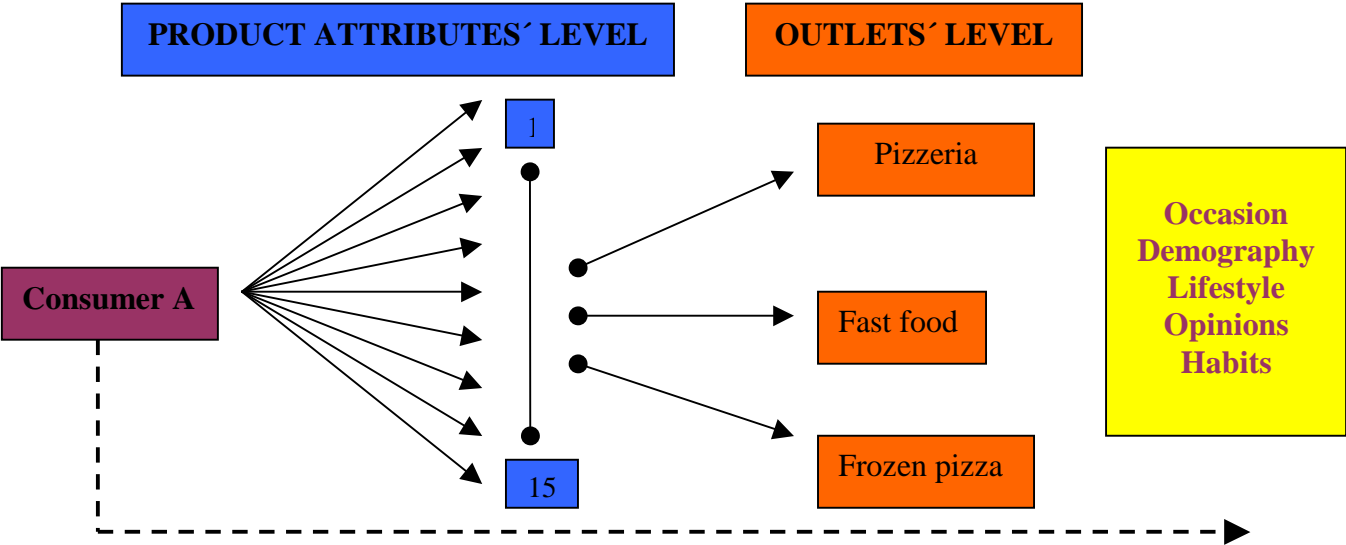
4. Methodology

4.1. Secondary data

To be able to answer the stated research questions, both, primary and secondary data are necessary to be collected. The information provided by Zeelandia about its product portfolio and additional data for better understanding of its potential are collected and applied.

Generally, the secondary data are applied in working out the first study considering the model of pizza consumption, Zeelandia Company and its potential new trade outlet. This data are collected through a personal or email communication with Zeelandia and the main pizza producers and traders on the Czech market. The data necessary for creating of the prediction model of pizza consumption are collected in a small scale survey among pizzerias. The purpose of the survey is to collect information on five factors that could have any potential influence of the pizza consumption. These factors are following:

- The location of the outlet
- The number of fixed seats through out the year
- The number of extra seats for the main season
- The number of pizzas sold per day outside the main season
- The number of pizzas sold per day in the main season

On the basis of the data a model of prediction of pizza consumption si created separately for the main season and for outside the main season.

4.2. Primary data

For the consumers' preferences survey, primary data are necessary. The data collection is done according to the Kotler´s market segmentation process, using informal starting interviews and spreading questionnaires afterwards. The informal starting interviews are used to gain the general insights into what pizza attributes are considered and appreciated by consumers. The main aim of the interviews is to generate a list of the most common attributes.

➢ INFORMAL STARTING INTERVIEWS (DATA COLLECTION AND OUTCOMES)

50 randomly selected consumers were interviewed. The data collection was made on three different places; Tábor, České Budějovice and Prague. The outcome of the informal interviews provided us with a list of 27 attributes mentioned by the respondents. Out of the 27 attributes, some were mentioned only once and others frequently. Moreover, some attributes were related to the same construct. Such an example is that some respondents were mentioning a preference for cheese topping, others for vegetable topping etc. As the aim of the thesis is not to find out which particular pizza is the most popular, we can group these two attributes within one that is called Type of topping. The same procedure was done with attributes grouped under a name of Type of dough (thin dough, thick dough), Ease of consumption (convenience, no need for plates, and no need for dish washing) etc. After grouping related attributes and omitting the ones that were mentioned only once I came up with a list of 15 attributes that are used in the questionnaire then.

The final list of attributes after the grouping stage and omitting the least mentioned ones

a) Rich topping	b) Type of topping
c) Crunchiness of dough	d) Used spice
e) Hot taste	f) Italian quality and tradition
g) Type of the dough	h) Large diversity in toppings
i) Ease of consumption	j) Possibility to save the rest of your pizza for later
k) Pizza size	l) Quickness of service
m) Aroma	n) Attractive appearance
o) Easy division for two persons	

➢ QUESTIONNAIRE

There are several ways of collecting the data in order to ensure a representative sample. Each of them needs different time horizon or money input and therefore these methods were not suitable for the research as i was constrained by my position as a student and also by limited time available. The ideal way of collecting the data would be using some of the public lists such as the telephone book, lists provided by the Statistical Office of Czech Republic or the Companies Register. Selecting the respondents by, for example, a systematic selection would ensure that my sample would be highly representative. On the other hand, the time necessary for this method is too demanding and therefore out of my possibilities. Another way of

collecting data, that was intended to use, was to put the questionnaires in pizzerias so that customers can fill them in while waiting for their meal or having after-dinner time. I contacted ten pizzerias in the capital city and in other cities and towns but encountered unwillingness of the owners to cooperate. The reason for their negative answers was the fear that the questionnaire would bother their customers and would make the situation of the staff complicated with less space on the table and extra work. For the reasons mentioned, I omitted the previous methods and distributed the questionnaire via email. I did so in three different ways; first I used my network such as my friends and other contacts and sent the questionnaire asking for filling it in; second I made use of public institutions such as universities spreading the questionnaire among the teachers and administrative stuff; third I searched for companies' contact lists reaching their employees. In all three ways the method of a snowball was used so that the questionnaire would be spread further among colleges and friends of the first stage respondents. In total 143 questionnaires were collected.

This way of collecting data consequently caused some major problems in my research. Within the first group of respondents, most of them are young people in the first or second age category either studying university or working after receiving their university diploma recently. These facts were sources of two potential biases; high number of respondents in the first two age categories and secondly high number of people being university-educated. Considering the distribution of the education among the respondents, the same effect was caused by the second target group which was the university teachers and administrative stuff.

The questionnaire is divided into three main parts. The first one is focused on respondent's preferences in buying behavior for each outlet such as the slow food market, fast food market and the frozen pizza market.

The list of pizza attributes was then used in this part indicating the importance of each attribute over the three outlets by evaluating it on Likert´s seven degree scale. By using the same scale of attributes (15) for all three outlets the answer to the following research question was expected:

> **What are the main consumer's drives in choosing a concrete outlet on the pizza market?**

The second part of the questionnaire contains statements related to respondent's lifestyle, habits and opinions. This part, together with the third one which includes some basic geographic and demographic information about the respondent, allows me to carry out post hoc segmentation. By using the statistical program SPSS I create segments that share similar preferences and geographic and demographic data. This analysis should give the answer for the research question:

> ➢ **Are there different market segments? And if yes, what are the characteristics of the segments existing on the Czech market?**

The questions within the second part of the questionnaire are generated using Bearden et al., (1993, 1999) and Bruner, Gordon et al., (2001) to come up with a suitable way of measuring each of the constructs. Meanwhile open questions are used in the starting interviews to ensure no constraints in a form of leading or verbalization limitations; closed questions are used in the questionnaires for better interpretation and analysis of the data.

On basis of Bearden et al., (1993, 1999), Bruner, Gordon et al., (2001) and knowledge about Czech market and consumers, I picked up the following eight constructs; Exploratory tendencies in consumer behavior scales, Brand parity: Perceived brand parity, Comparison shopping (Check prices), Cultural openness, Preference of convenience in daily life, Impulsiveness: Impulse buying tendency, Advertisement susceptibility, Interpersonal influence: Consumer susceptibility to interpersonal influence. Most of the original constructs are too large for the purpose of my thesis. Therefore a reduction was done by removing items that were considered as not related to the purpose of the study. Each of the constructs is measured by means of statements of two types; positive and negative ones. The number of statements differs from four up to eight per estimator. This is based on the perceived importance of each construct in relation to consumer behavior with a special concern on food market. For example brand consciousness is measured by four statements as well as the cultural openness of consumers while exploratory tendency in consumer behavior is measured by six statements etc. The division between the positive and negative ones is always kept equal (50% and 50%).

To ensure the internal consistency of the constructs Reliability analysis is run to find out the value of Cronbach's Alpha. According to different sources the value of Cronbach´s Alpha reaches different values to be "reliable". Reliability is a measure of the internal consistency of

the construct indicators, depicting the degree to which they "indicate" the common latent (unobserved) construct. More reliable measures provide the researcher with greater confidence that the individual indicators are all consistent in their measurements. A commonly used threshold value for acceptable reliability is 0.70, although this is not an absolute standard, and values below 0.70 have been deemed acceptable if the research is exploratory in nature (Hair et al., 1992).

Most of the values of the Cronbach's Alpha are close or meeting the criteria for significance. Others are slightly lower than the recommended value with the lowest Cronbach´s Alpha reaching only 0,480 value. This difference is caused by the fact that I do not have enough experience in creating constructs and therefore the reliability is lower. Another aspect causing the difference is the size of the sample that is not as big as usually when testing a new construct. But as a student I was limited by my time schedule and knowledge.

a) **Lifestyle measures**

Exploratory tendencies in consumer behavior scales (Raju 1980)

Exploratory tendency behavior is viewed as behavior aimed at modifying stimulation from the environment. In a consumer behavior context, these behaviors include *repetitive behavior proneness, innovativeness, risk taking, exploration through shopping, brand switching, information seeking and interpersonal communication* (Raju 1980). Out of these seven exploratory tendencies the innovativeness, exploration through shopping and brand switching were taken as I perceive these as representing the exploratory tendencies most clearly. Therefore out of the original scale of 39 statements I took six; three positive and three negative ones.

When I see a new or different brand on the shelf, I often pick it up just to see what it is like.
When I go to a restaurant, I often try something I never had before even if there is a risk I won't enjoy it. .
I like to experiment with new ways of doing things.
*I would rather stick with a brand I usually buy than try something I am not very sure of. **
*If I like a brand, I rarely switch from it just to try something different. **
*I like to wait until something has been proven before I buy it.**

The reliability of the scale measuring exploratory tendencies in consumer behavior reached the value of Cronbach´s Alpha 0.552. From the Inter-Item correlation matrix we can see that statements No. 23 and 38 are negatively correlated and therefore I removed one of them to see if the value of Cronbach´s Alpha would increase or not (see Appendix 3). After removing the statement No. 23 the Cronbach´s Alpha increased from 0.552 to 0.579. This value is still not as high as it should be according to the recommendations. However, it can be considered as sufficiently high for the purpose of my exploratory research (see Appendix 3).

Preference of convenience in daily life

This scale is based on the Family Meal Importance scale created by Putrevu and Ratchford (1997). The original scale consisted of five seven-point items that measure the degree to which a consumer believes that having home-cooked meals for the family is important. I used four of the five items in my scale to indicate the negative relation toward convenience foods products and I created another four that would indicate the positive attitude toward convenience foods products as a contradictory items. The outcome was a scale of eight seven-point items.

I prefer eating out to homes-cooked meals for the experience and change.
I use convenience products quite often to prepare a meal.
My job is time consuming and therefore I don't have much time for cooking myself.
I eat convenience food products during weekends so that I have more time for my hobbies and family.
I don't perceive convenience products such as frozen pizza or ready- eat meals as healthy and proper.*
Eating the proper home made meal at home is very important to me. *
We do not go to eat out regularly but only on special occasions. *
I prefer the home made meals though it is time consuming.*

The value of this scale is meeting the criteria of the required 0.70 Cronbach´s Alpha (see Appendix 3). The reliability of this scale can be considered as good.

Impulsiveness: Impulse buying tendency (Weun, Jones, and Beatty 1997)

Impulsive buying tendency is defined as the "degree to which an individual is likely to make unintended, immediate, and unreflective purchases (i.e., impulse purchases)" (Weun, Jones, and Beatty 1997, p. 306). I use the complete scale of six items, three positive and three negative ones.

When I go shopping, I buy things I had not intended to purchase.

It is fun to buy spontaneously.

When I see something that really interests me, I buy it without considering the consequences.

Even when I see something I really like, I do not buy it unless it is a planned purchase.*

I prepare a shopping list before going grocery shopping.*

I know what products I am going to buy before going to the supermarket.*

The value of Cronbach´s Alpha is not as high as in the previous cases but according to the Inter-Item correlation matrix table the reliability of the scale cannot be improved by leaving one of the statements out. All the statements are positively correlated and therefore there is no possibility of reducing the scale with an increase of the Cronbach´s Alpha. Still the value of 0.591 can be considered as sufficiently high for the purpose of the exploratory research (see Appendix 3).

b) **Opinion measure**

Brand parity: Perceived brand parity (Muncy 1996)

Brand parity is defined as the „overall perception held by the consumer that the differences between the major brand alternatives in a product category are small"(Muncy 1996, p.411). The brand parity scale is composed of five Likert-type items, out of which I had chosen four, two positive and two negative ones to keep the balance. I called this scale The brand consciousness scale.

Differences among the brands of pizza available on the Czech market are clear to me.

It is very important to me what type and brand of pizza I choose.

In selecting from many types and brands of pizza available in the market, I do not care at all as to which one I buy.*

I think that the various types and brands of pizza available in the market are all very alike.*

The value of Cronbach´s Alpha is 0.629 and this value can be considered as high enough for the purpose of the exploratory study. Based on the Inter-Item correlation matrix, by no reduction the scale could be improved (see Appendix 3).

Combination of:

<u>Comparison shopping (Check prices) (Putrevu, Ratchford 1997)</u>

<u>Comparison shopping (Initial) (Urbany, Dickson, and Kalapurakal 1996)</u>

Price perception reflects to what extend a consumer takes price of a product into consideration when shopping. In a negative role, price represents the amount of money that must be given up to engage in a given purchase transaction. In a positive role, the price cue has been used as a signal to indicate quality, thus positively affecting purchase Lichtenstein et al., (1993). I combined both scales mentioned to include constructs such as price and value consciousness and price-quality schema. Therefore I used a scale of six statements, three of (Putrevu, Ratchford 1997) and three of (Urbany, Dickson, and Kalapurakal 1996) and I called this scale The price susceptibility.

I read the price tags of the grocery products that I buy.
Before buying a product, I check the price.
I shopped back and forth between several different stores before choosing where I now do most of my grocery shopping.
I don't base my buying decision on price but rather on different things.*
When I want a product, I buy it without taking price into consideration.*
I visit only one supermarket to complete my weekly grocery purchases.*

The original value of Cronbach´s Alpha is quite low, only 0.484. But from the Inter-Item correlation matrix I can see that statement No. 3 is negatively correlated with the other statements and therefore can be removed from the scale which should lead to better reliability and higher Cronbach´s Alpha in the same time (see Appendix 3).

After reducing the scale by removing the statement No.3 the Cronbach´s Alpha increased from 0.484 to 0.630. The new value can be considered as high enough for the purpose of the exploratory study (see Appendix 3).

Cultural openness (Sharma, Shimp and Shin 1995)

Cultural openness is defined as the degree to which a person is interested in the values and artifacts of other countries as well as desiring to interact with people from those nations. The scale was originally consisting of seven seven-point Likert-type items, out of which I have taken four that were related to some extent to food and fitted them to Czech conditions.

I am very interested in trying food from different countries.
We should have a respect for traditions, cultures, and ways of life of other nations.
I usually don't like kitchen of other countries more than the Czech one.*
I think that Czech people should eat the Czech food and don't change the tradition.*

This scale measuring the factor of cultural openness does not proved to be much reliable as the Cronbach´s Alpha is only 0.480. But from the Inter-Item correlation matrix I can see that there is no way of improving this value by reducing the scale (see Appendix 3).

c) Habit measure

Advertisement susceptibility

This measure was created by combining three Ad Avoidance scales; Ad Avoidance (Newspapers) and (Television) both of which appeared to be original to Speck and Elliot (1997) and Attitude toward Advertising (Donthu and Gilliland 1996). I chose the items to ensure covering newspaper as well as television form of advertisement and an overall attitude toward advertisement in general. The following items were taken to measure this construct called the advertisement influence.

I take care during commercials as often they are source of good ideas.
The more often I see a certain ad, the more acceptable the product becomes to me.
I often try new products after seeing an ad for it.
I skip over newspaper pages that are mainly advertising. *
I switch TV channel stations during commercials. *
I don't believe in what they say in advertisements. *

The scale measuring the advertisement influence reaches the value of Cronbach´s Alpha of 0.684 and therefore reflects the internal consistency of the scale (see Appendix 3).

Interpersonal influence: Consumer susceptibility to interpersonal influence (Bearden, Netemeyer, and Teel 1989)

Consumer susceptibility to interpersonal influence is assumed to be a general trait that varies across individuals and is related to other individual traits and characteristics. The construct is defined as the need to identify with or enhance one's image in the opinion of significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and /or the tendency to learn about products and services by observing others or seeking information from others (Bearden et al. 1989, p.474).

The original scale consists of 12 items each operationalized as a bipolar, 7-place rating scale ranging from strongly agrees to strongly disagree. I had chosen six of them related to purchasing products rather the ones indicating life style in general.

It is important that others like the products and brands I buy.
If other people can see me using a product, I often purchase the brand they expect me to buy.
I often consult other people to help choose the best alternative available from a product class.
The most important for me is to feel well with products I use over what my friends prefer.*
I always buy the product I like without taking others' opinion into account.*
I rarely buy the same brands as my friends or family.*

The value of Cronbach´s Alpha is 0.661 which proves satisfactory internal consistency of the data and therefore the scale can be perceived as a reliable one. The Inter-Item correlation matrix table shows the correlation among the statements that are included in the scale. All the correlation coefficients are positive ensuring the value of Cronbach´s Alpha (see Appendix 3).

4.3. Methods used for data analysis

According to the different stages of the research and different method of data collection I used several data analyses.

- **Frequency tables**
  - To show to what extent my sample is representative

To show to what extent my sample is representative comparisons of the average values present in my sample and the average values present in the universe are made. Two

comparisons are included; first the whole sample is compared with the values for Czech Republic and second, the whole sample is divided into sub-groups in accordance to the geographic information about each respondent.

- o To show the outcomes of the questionnaire

Another use of Frequency tables is done to show the outcomes of the questionnaire such as the most preferred occasion for pizza consumption, most frequently used outlet etc.

- **Bi-variate correlation analysis -** check if any of the variables are correlated between each other

This procedure is used twice; first within the part of the estimation of the model of pizza consumption and second within the questionnaire data to show the correlations between the demographic variables.

- **Cronbach´s Alpha -** check the reliability of my constructs used within the questionnaire

By creating reduced constructs instead of using already existing and tested ones a risk of low reliability of the constructs occurred. To prove that they are reliable the ***Cronbach α*** that measures the internal consistency in the data is calculated.

- **Linear regression analysis**

I use linear regression model to show relations between each of the outlets and the rest of the predicative variables. I start with the basic explanatory variables such as the situation of pizza consumption in each of the outlets and gradually we run the procedure for other explanatory variables to find out what are the characteristics that could explain the reasons behind the decision of a concrete outlet. Gradually I merge the selected variables together to run the linear regression again to come up with the final model for each of the outlets. As mentioned in the point 3.4. I used the principle of the Multi-stage choice model to find out the reasons behind the consumer's decision. On the basis of the data collected through the questionnaire I made a two stage choice model. By running the regression analysis for both stages I was looking for the main characteristics that are typical for each of the outlets. The explanatory variables chosen were the situation of pizza consumption, the pizza attributes that are preferred, the statements indicating the lifestyle, habits and opinions of each respondent and finally the demographic variables such as the gender, age, family size etc. The first stage is

including four separate regressions for each outlet consisting of the explanatory variables. In the second stage, the variables that were proved significant in the separate models are merged and analyzed again together.

<u>Figure 6:</u> **Step by step approach of consumer behavior on the Czech pizza market**
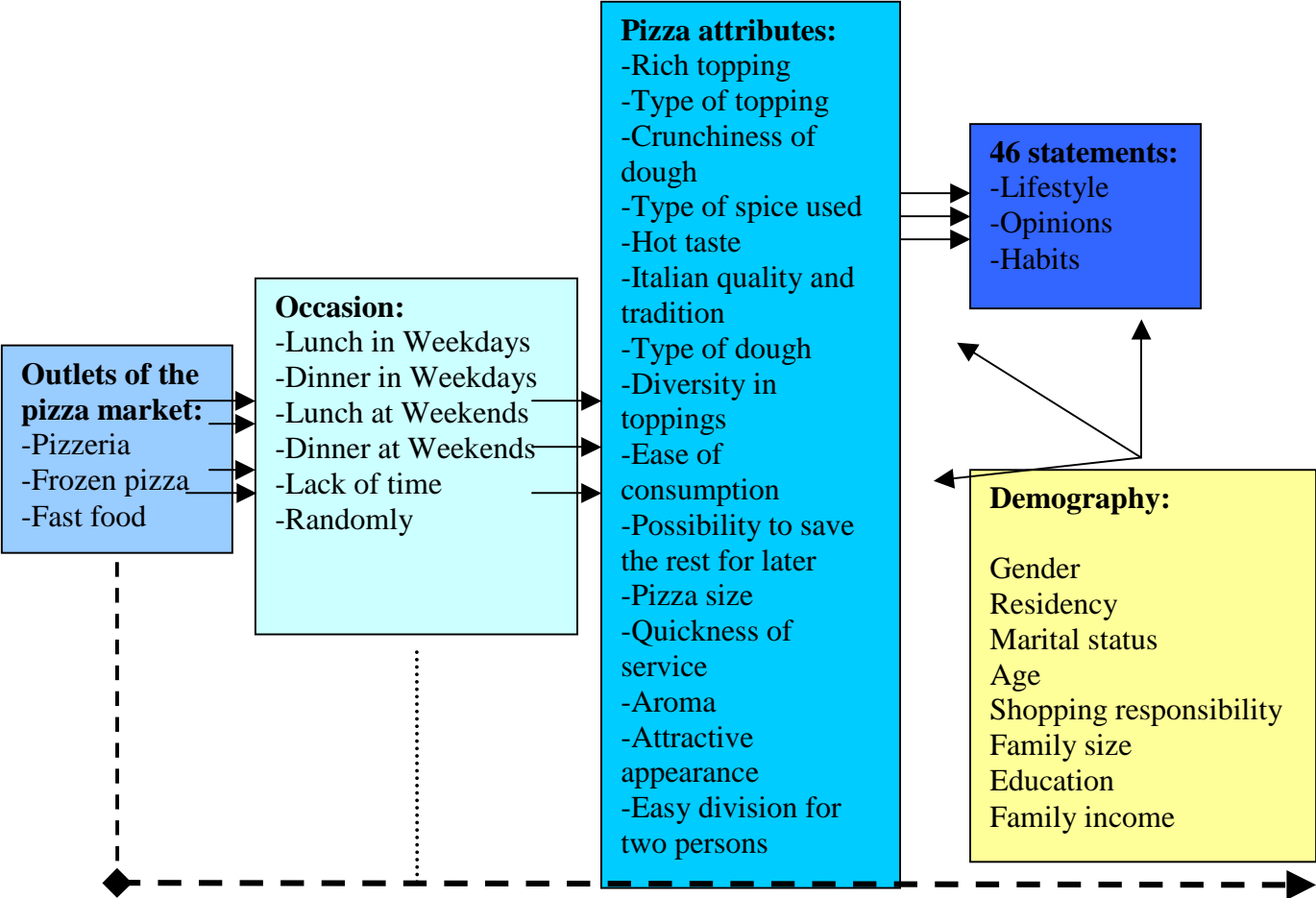
5. Data analysis

5.1. Pizza position on the Czech market

As no single product is positioned in a vacuum but is always competing with other similar or substitution products; pizza as well is having several main competitors on the food market. Generally, there can be used two different points of view according to the market that pizza is part of.

Pizza as a dinner-time-meal

The first point of view is perceiving pizza as any other food being consumed for dinner, without taking into account the attribute of convenience. In that case the main competitors on the market are rice, pasta, potatoes and pulses; food that is often perceived as substitutes for dinner preparation. The following graphs are showing the progress of each of the product on the Czech market within the horizon of eight years.

Graphs 1-5: **Consumption patterns in Czech Republic**

Potato consumption (kg)

Pulses consumption (kg)
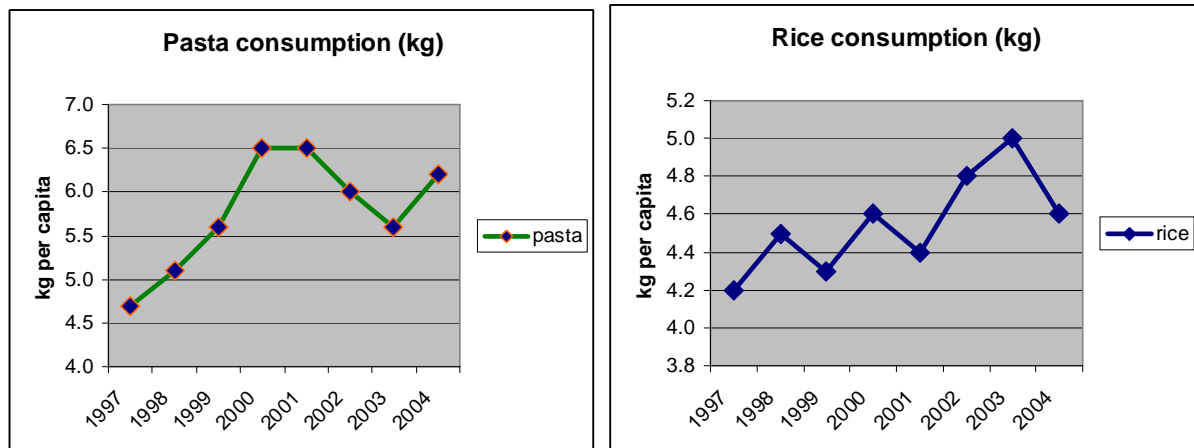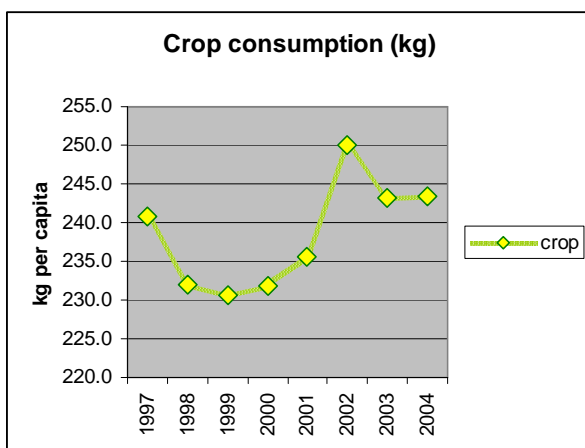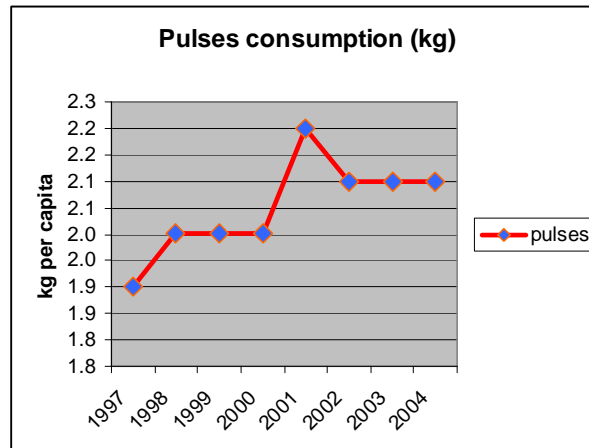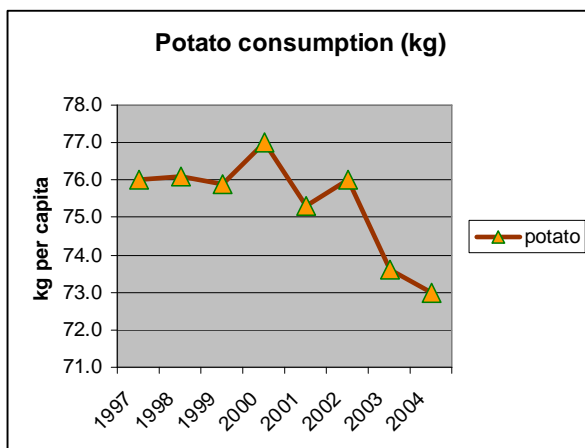
Source: Czech Statistical Office

Crop consumption (kg)

From the graphs it is clear that the consumption of potato has been decreasing in the last years, meanwhile rice and pasta have been rising up. In the graphs showing the consumption of pasta, rice, potato and crop, the fluctuation of the consumption is quite high to be explained only by changes among the commodities. I assume also other reasons for the fluctuation such as price changes or other economic factors. Therefore I can explain the fluctuation only partly, using different sources and the graphs themselves.

On basis of Společnost pro výživu (The Organization for Nutrition), the decrease in the commodity of potatoes can be explained by two factors: first, the rise of the price and second, the rise of number of other substitution products made of potatoes that have been introduced after 1989 with the entry to foreign markets. Another decrease occurred in crops (2.9%) mainly due to fall of the bread consumption.

On the other hand, pasta has started to increase dramatically since 1997; there occurred an extreme increase in the pasta consumption (76.5%) causing a decrease in pastries. Since then the trend of pasta consumption has not changed. As pizza is taken into account as part of pasta, the rise of pasta can partly serve as the explanation for the increase of pizza consumption.

The consumption of pulses has been increasing as well, but the rise is only within a small range (from 1.9-2.1 kg per capita).

Consumption patterns in other European countries

Most of the European countries are presumed to be similar in the consumption patterns, especially in the recent years, due to the globalization and other trends mentioned in the previous parts. But still, there are differences in the consumption trends in relation to the climatic conditions and national eating habits.

In the following graph, I will present several of the European countries comparing their consumption trends of three products in calories per capita per day.

Figure 4: **Dietary energy consumption in selected European countries in years 2000-2002**

Dietary Energy Consumption (2000-2002) (cal/person/day)			
Country	Rice	Wheat	Potatoes
Czech Republic	44	707	144
France	52	732	120
Germany	43	602	136
Greece	70	946	125
Italy	58	1068	70
The Netherlands	58	491	168
Portugal	183	745	232
Spain	79	636	144
UK	29	744	206

Source:[4]

From the table it is obvious that a couple countries differ considerably in the consumption patterns. There are countries such as Czech Republic, France, Germany or Spain that are quite similar in their calories intake in all three products. On the other hand, Italy and Greece are the top countries consuming high amount of wheat. Such a high number is caused by the fact that these countries feature by the Mediterranean diet that consists mainly of pasta and pizza as well as pastries, made above all of wheat flour. Another visible characteristic of this diet in Italy is the low potato consumption. Contrary to Italy, Portugal features by the highest rice consumption and moreover, together with United Kingdom, these two countries are

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[4] http://www.fao.org/es/ess/yearbook/vol_1_1/xls/d09.xls

characterized by high consumption of potatoes. The difference between Italy and Portugal can be explained by the fact that Portugal together with Spain is influenced by Arabic and other diets much more than the Mediterranean one.

Pizza as a convenience food product

The Second point of view perceives pizza as being part of the convenience food and therefore competing with other convenience products. In this area the previous products such as potato, rice or pulses in its natural form are not anymore the serious competitors. If those products should be taken into account also into this convenience foods market, they have to include a certain level of convenience to fulfil the definition of this class of products. Such examples could be convenience meat, frozen fish, of pastry products such as lasagne or spaghetti sauce mix as well as frozen vegetable in case it stands for the main dish completed by another food. Based on the data from QUICK FROZEN FOODS INTERNATIONAL, the situation on the Czech convenience food market is presented in the following graph.

Graph 6: **Frozen food consumption in Czech Republic (2004)**
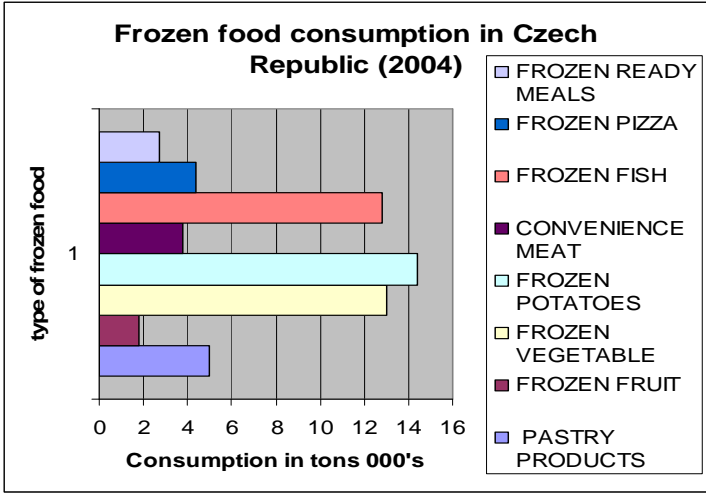
Source: QUICK FROZEN FOODS INTERNATIONAL

Though the consumption of pizza has been increasing steadily the position on the convenience food market is still not one of the leading ones. As it can be seen from the graph, the most frequently used products are the frozen fish, frozen potatoes such as French Fries, Croquettes and other types and a big percentage has been taken as well by the frozen vegetable. The last item could be questionable in the way if it is or is not considered as a competing product for frozen pizza.

5.2. Model of pizza consumption

5.2.1. Data collection and obstacles

For the model of pizza consumption we needed three types of input information representing each of the outlets on the Czech pizza market. The first one was the estimated consumption on the retail market, the second one was representing the estimated consumption in the fast food market and the third one should provide an estimated model of pizza consumption on the slow food market.

There occurred two major obstacles within this part of my research. First, the data about the slow food and the fast food market have not been collected by any of the governmental or commercial organizations. Due to this lack of information no statistical evidence is provided about these two markets. To collect the data I did a small scale survey among pizzerias asking for the number of seats provided, the number of pizzas sold during one day outside and in the main season and also the location of each pizzeria was written down. I used a list provided on www.seznam.cz in the category of companies. Based on this list I was able to find addresses and often contacts of the pizzerias. The data collected were divided into three groups on the basis of the location type; the capital city, big city (60-400 000 inhabitants) and middle-sized town (10-60 000 inhabitants).

In case of the fast food restaurants the second obstacle occurred. The list provided by this webpage contained all fast food restaurants without giving a specific focus of the type of fast food restaurant. As there is no official list that would provide this type of information I was not able to track the fast food restaurants that are specialized in pizza. Most of the fast food restaurants specialized in pizza are run in a small scale. The only chain present on the Czech market is Pizza Hut, the largest restaurant chain in the world specializing in pizza. On the Czech market, Pizza Hut has the form of a franchise. In the previous years the restaurants were run by AmRest Group that owns KFC and Pizza Hut restaurants on the Czech and Polish market. In terms of sales value (over PLN 463 mln in 2004) and number of restaurants (157), the Company is a leading operator of quick service and casual dining restaurants in Central and Eastern Europe. However, there are no Pizza Hut restaurants run by this company from

the year 2004 onward. Two other Pizza Hut restaurants are registered in Prague but the owners rejected to provide me the information about the pizza consumption. For these reasons I was not able to work out the model of pizza consumption and therefore this part is omitted from my thesis.

5.2.2. Model of pizza consumption in the slow food market

I inserted all the data from the survey in the statistical program SPSS and ran a two step analysis. In the first step, I ran the Bi-variate correlation to show if there was any correlation between any two variables. As I was expecting a positive correlation between each two variables I was using the one-tailed test (see Appendix 4). I ran the nonparametric correlation using either the Kendall's tau_b test or the Spearman's test. All of the provided tables show that there is a significant correlation between the two variables compared. The level of significance is either lower than 0.05 or even lower than 0.01. Therefore I was able to reject the null hypothesis tested by the two tests and I proved the existence of the correlation.

Bi-variate correlations

In the case of the variables such as the Place of the outlet and the Number of pizzas per day outside the season, the correlation coefficient is 0.332. The level of significance is lower than 0.05 and therefore it proves a significant positive correlation between these two variables. The test is one- tailed as I was expecting positive correlation meaning that with the size of the place of outlet also the number of pizzas consumed will increase (see Appendix 4). And as both variables are ordinal I used the two tests to prove the significance instead of using Pearson´s test.

The correlation coefficient between the number of pizzas consumed outside the main season and inside the main season reached the value of 0.853 in case of Kendall´s tau_b test with a significance below 0.01 level. That means that the correlation is strong and according to this I can make an assumption of a very good predicative ability of the number of pizzas consumed in the main season based on the number of pizzas consumed outside the main season, proved by such a high correlation.

For the other variables the results were similar, proving a positive correlation between the two of them on the 0.01 level of significance.

The second step was to run the Regression analysis to create a model of consumption based on some of the variables. I made a model for both consumptions; outside the season and in the main season. First I ran the linear regression and removed the variables based on the P-value of the coefficients. To ensure the relevance of the results I reran the backward regression analysis asking for the probability of F between 0,01-0,05 level of significance. The results were the same.

The model of pizza consumption in the MAIN season as the dependent variable

As the predictors I used the Number of pizzas consumed outside the season and the extra seats for the main season. For the statistical results see Appendix 5.

Therefore the formula of the linear model is following:

$$Y = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \beta_3 * x_3 + \beta_4 * x_4 + \varepsilon$$

Where

Y stands for the dependent variable which is the number of pizzas consumed in the main season

x_1 stands for the number of pizzas consumed outside the season

x_2 stands for the number of seats in total (based on the number of fixed seats and the number of extra seats for the main season)

x_3 and x_4 are dummy variables representing the place of outlet based on the size of the town or city the outlet is situated

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4 \neq 0$

and with $E(\varepsilon) = 0$

Results from SPSS OUTPUTS:
The R square is very high and that means that with help of the chosen predictors I am able to explain 96.8% of the variance caused. The level of F test is significant on the 0.01 level.

The model according to this output should look as follows:

$$Y = 9{,}350 + 1{,}044 * x_1 + 0{,}288 * x_2 + 2{,}673 * x_3 - 4{,}780 * x_4$$

P-values of the coefficients and R square of the model:

β_0	B_1	B_2	B_3	B_4	R square
0.193	0.000	0.053	0.676	0.569	0.968

The R square indicates that by this model I can explain 96.8 percent of the variance present. Other indicators to look at are the p-values of the βs. The p-value says whether the coefficients of the predictors are significant and therefore part of the model or not and can be removed from the model. On the basis of the levels of significance (P-values), the β_{2-4} could be omitted from the model. But there are differences among the levels of significance and for that reason I decided that I will reduce the model removing β_3 and β_4 but keeping β_2 as the level of significance is only slightly overreaching the 0,05 level. I repeat the same procedure this time without the two predictors related to β_3 and β_4.

The reduced model will therefore include two predictors instead of four:

$$Y = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \varepsilon$$

Where

Y stands for the dependent variable which is the number of pizzas consumed in the main season

x_1 stands for the number of pizzas consumed outside the season

x_2 stands for the number of seats in total

$\beta_0, \beta_1, \beta_2 \neq 0$

and with $E(\varepsilon) = 0$

According to the F change and the level of significance for the F- test I can conclude that by the reduction the explanatory ability of the model did not change significantly and therefore the model can be considered as being still significant (see Appendix 5).

The Coefficients table shows the new betas and their significance levels. By looking at the significance level of β_2 I can confirm my expectation; the level of significance lowered and therefore became significant enough to be included in the final model.

The final model looks as follows:

$Y = 9.288 + 1.064 * x_2 + 0.284 * x_2$

P-values of the coefficients and R square of the model:

β_0	B_1	B_2	R square
0.160	0.000	0.047	0.966

The R square lowered from 0.968 to 0.966 meaning that by this reduced model I can explain 96.6 percent of the variance present.

On basis of this model I can predict the pizza consumption in the main season only using two out of four originally intended predictors – the number of pizzas consumed outside the main season and the number of seats in total.

The model of pizza consumption OUTSIDE the main season as a dependent variable

To predict the pizza consumption outside the main season there are two basic predictors to be included in the model; the number of fixed places and the place of the outlet. As for the previous model I created dummy variables for the place of outlet I used the same dummies for this model.

The formula of the linear model is following

$Y = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \beta_3 * x_3 + \varepsilon$

Where

Y stands for the dependent variable which is the number of pizzas consumed outside the main season

x_1 stands for the number of fixed sitting places

x_2 and x_3 are the dummy variables representing the place of outlet based on the size of the town or city the outlet is situated

$\beta_0, \beta_1, \beta_2, \beta_3 \neq 0$

and with $E(\varepsilon) = 0$

Results from SPSS OUTPUTS:

The original model contains three variables mentioned above. Based on the results shown by SPSS, not all of them were significant for the predicative ability of the model. I reduced the model by removing the dummies representing the place of the outlet as the level of significance was larger than 0.05 level and reran the same procedure (for the statistical tables see Appendix 6).

The Model summary table shows the degree to which I can explain the variance present using chosen predictors. Within the original model using three predictors, R square was reaching 0.768, indicating that 76.8% of variance can be explained with help of the three predictors. After the model reduction, the R square decreased slightly to a value of 0.760. But a more important indicator within this table is the F change; it changed but not significantly. That confirms the reduced model as being still of a good prediction ability and therefore I can use rather the simplified reduced model with only one predictor instead of the original one.

The correlation table shown the betas values and their levels of significance that changed after reducing the model, indicated by 2 in the table (see Appendix 6).

The original model including all three predictors looked as follows:

$$Y = -5.163 + 1.019 * x_1 + 2.828 * x_2 - 10.833 * x_3$$

P-values of the coefficients and R square of the model:

β_0	B_1	B_2	B_3	R square
0.639	0.000	0.823	0.512	0.768

The explained variance of this model is 76.8 percent. As the levels of significance (P-values) were not lower than 0.05 levels for x_2 and x_3 I removed them from the second (reduced) model. The reduced model then looks as following:

$$Y = \beta_0 + \beta_1 * x_1 + \varepsilon$$

Where

Y stands for the dependent variable which is the number of pizzas consumed outside the main season

x_1 stands for the number of fixed sitting places

$\beta_0, \beta_1 \neq 0$

and with $E(\varepsilon) = 0$

The reduced model including one explanatory variable:

Y = -6.647+ 1.041* x_1

P-values of the coefficients and R square of the model:

β_0	B_1	R square
0.469	0.000	0.760

The R square decreased to 0.76. It means that this model is predicting the pizza consumption outside the main season based only on the number of fixed sitting places in the outlet, accounting for 76% of the variance present.

5.2.3. Implications of the Zeelandia's product portfolio

Zeelandia is an ingredients company and is therefore mostly the supplier of its products for further processing stages. In case of the frozen pizza market Zeelandia would have to be the final producer to enter this market and the intentions of the company are not in correspondence with this condition. Therefore the frozen pizza market is not a possibility for Zeelandia to concentrate on. But the two other outlets, such as the slow food and the fast food market, could serve as new potential outlets. The potential of these two outlets differ as well as the obstacles related to each of the markets. According to the knowledge that I gained through my thesis, I can say that the slow food market is much more developed and settled. Comparison of the number of respondents that consume pizza in pizzerias and those who consume pizza in fast food restaurants proves that the fast food outlet is not as popular for the reason that it is not as well established and developed as the slow food market. The fast food restaurants are run by individuals or small companies that usually own only one restaurant. This makes it difficult to make larger investments into promotion or expanding. During the informal starting interviews stage one of the questions asked was also asking for any absence on the pizza market with respect to pizza products. 8 of the respondents mentioned the fact

that there is lack of fast food restaurants in general. These respondents were comparing the Czech situation with the situation abroad such as United Kingdom and other countries. They pointed out that in these countries the fast food market is represented by high number of outlets in cities meanwhile in Czech Republic the number is limited and not that visible.

Products from Zeelandia's portfolio that could provide the company a successful entrance to these markets are divided into two groups;

- Vegetable fillings and purees
- Floury products and spices.

Within the first group, the main products are consisting of <u>the Ketchup soft</u> which is a smooth tomato puree, <u>Pizza ketchup</u> which is spicy tomato puree specially developed for pizza and fast food products, <u>tomato puree</u> suitable for gastronomic products in general and types of filling such as <u>Bolognese or Spinach fillings</u>. These products are generally suitable for both markets. The second group of products consists of <u>mixtures for pizza dough</u> and various kinds of <u>spices, spice mixtures and spice marinades</u>. These products are more suitable for the fast food market. The reason behind this is that fast food market is more open to convenience products to make the process of serving customers quick and easy. Therefore the mixture for pizza dough together with the vegetable fillings could serve as the starting point to provide the level of convenience that the fast food market is looking for. The problem with this market, already mentioned before, is that the restaurants are rather run on the family basis, in small scales and the company would then have to invest lot of time in the first faze of searching for the restaurants. Another limitation of this market is that it still has not been well developed and spread and therefore the market is not big enough to make high profits. But it could serve as a base to build on later on.

Reaching the slow food market is from my point of view harder. I encountered more problems related to this market in the sense of unwillingness to provide any information. There is a general diffidence and rather shy attitude to protect the secrets of each pizzeria. For this reason the product of the mixture for pizza dough would not be accepted by the owners of pizzerias. The reputation of each pizzeria is to a large extent built on the quality of the dough and related claims. Accepting the mixture for pizza dough would mean that the pizzeria is facing a risk of detection that they are not preparing the dough in the traditional way but rather in a convenient way. That could cost them a loss of good reputation and consequently

their customers. Another thing related to this is that often pizzerias are not only making their own dough basis but also their own tomato sauce. That leaves a space for only the spices to be applied on the slow food market. Zeelandia should think about the best strategy before approaching this market. The first contact could make the difference in either being refused or not. For that purpose Zeelandia could highlight the advantages of its products comparing to its competitors in terms of quality, price, convenience of use, delivery conditions etc.

5.3. Analysis of the questionnaire data

There are two possible ways of showing to what extent my sample is representative. First I used the whole sample of 143 respondents and calculated the frequencies for each of the demographic variable and compared the values with the average values for Czech Republic. Second I made additional division into five regions based on the geographic information about the respondents; Plzeňský region, Středočeský region, Jihočeský region, region Vysočina and region of the capital Prague. However, this division was tackling with a problem of unequal sample size. Therefore I grouped the regions Plzeňský, Středočeský and Vysočina to create a three-region area with similar sample size as the other two regions.

Map 1: **Map of the regions in Czech Republic**
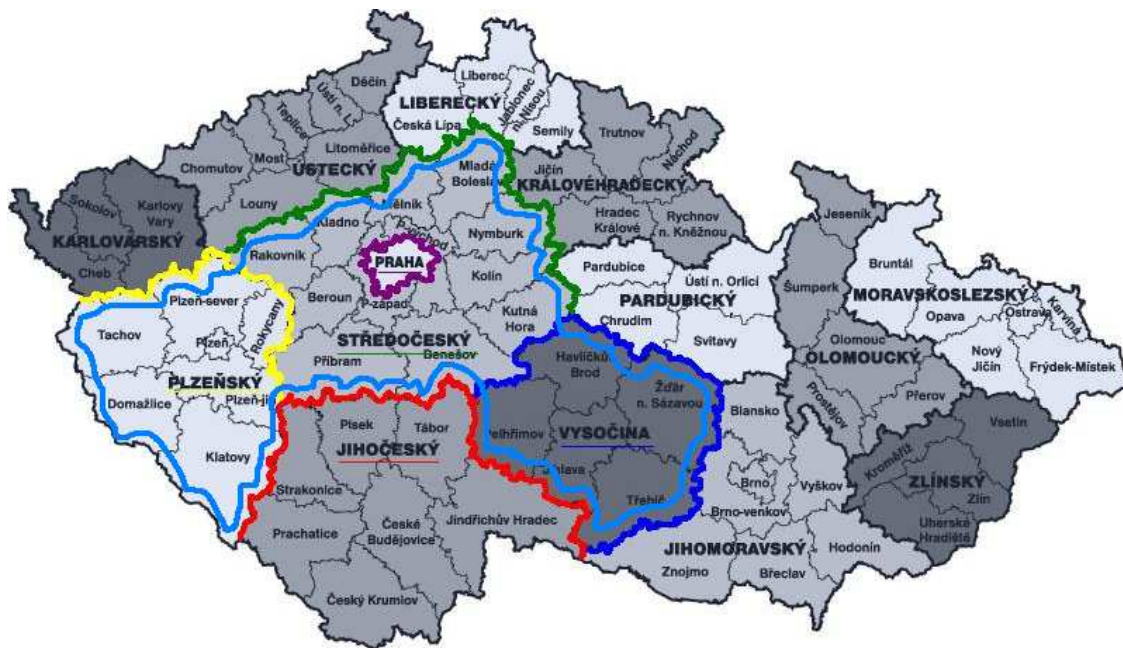
An additional sub-division of the data can be done based on the size of the town or the city respondents come from. I classified four groups starting from villages and small towns up to 10 000 inhabitants, middle-sized towns up to 60 000 inhabitants, big cities with the population up to 400 000 inhabitants and the capital city as a separate group.

5.3.1. To show to what extent my sample is representative

According to the data collected and data published by The Statistical Office of Czech Republic, I generated frequency tables in SPSS to measure to what extent my sample is representative using four factors: average age, gender distribution, the highest level of education reached and family size.

<u>The characteristics of the whole sample</u>

The sample is slightly in favor of women as 60% of all respondents are female. These values could be still considered as representative as in Czech Republic the gender distribution is 51.3% for female and 48.7% for male. Talking about the age distribution, the majority of my sample are respondents in between 25-34 years (40.7%). The average age of my sample is therefore pushed down to a value slightly higher than 37. In comparison to the average age in the universe (39.5) the value can be considered as representative. Household size is on the other hand slightly higher than the average value in the universe (2.9 comparing to 2.6 in the universe). But this value can be also considered as representative. The only variable that

cannot be considered as representative is therefore the education distribution. Due to the constrained in data collection stage, as explained in the Methodology, the sample consists of over 50% respondents with university degree (for the statistical tables and graphs see Appendix 7).

The characteristics of the three region areas

Statistics of Jihočeský region
(see Appendix 8 for the statistical tables)

The average age in Jihočeský region is **39.4**. The average age from my sample belongs to the second age category (35-44) and therefore is also reaching the value of 40. I can say that the sample **is representative** in the matter of average age. The gender distribution is not exactly corresponding with the percentage in the universe, but still **can be taken as representative** one. Considering the education levels achieved the sample is biased and **not corresponding with the percentage in the universe**. The two most significant differences are in the percentage of skilled workers (4.3% in my sample and 25.70% in the universe) and the percentage of people having university diploma (55.70% in my sample and 9.28% in the universe).

I have to raise the question of *what the differences mean for the results of my research.* I can assume that the pizza consumption is more usual within the group of people having higher education rather than among skilled workers. In that case the differences would not present such a bias. Moreover, my total sample includes 74 respondents with university education comparing to only 6 skilled workers. Therefore my assumption can be partly proved by this fact.

Considering the family size the sample is **not corresponding** with the universe average values as the family size is higher than in the universe.

Statistics of three-region area
(see Appendix 8 for the statistical tables)

The average age calculated as the average value from the three regions is 39.7. On basis of this fact I **cannot prove that my sample is representative** in this matter because the average age of my sample is in between 25-34. **Neither the gender distribution is representative** for the three region area. The same bias occurred as in the previous region within the education

level. In this case the percentage of people having specialized high school education is much higher than the average value as well as the percentage of people with university education. Therefore there could be an influence of this fact. Considering the people with university diploma the problem is not that big, but possible influence of the heavy distribution of people with specialized high school education cannot be estimated that easily. Considering the family size, the sample **is representative**, the average value is 2.78 and that could be considered as a representative value comparing with the average family size in the universe.

Statistics of Prague region (the capital)
(see Appendix 8 for the statistical tables)

The average age in Prague region is 41.7. Comparing it to the average age from my sample I can still say that the sample **is representative**. The gender distribution in my sample does not correspond with the average values present in the universe. Therefore the sample **cannot be considered as being representative** in this manner.

The education levels presented differ a lot in the percentage distribution from the distribution in the universe. For this reason I cannot take the sample as representative one. The bias is again in the percentage of the university-educated respondents as well as of respondents with general high school education. In this case the percentage in my sample is too low comparing it to the universe.

5.3.2. Frequency tables of the pizza consumption and the situation of pizza consumption

According to the SPSS graphs and tables Czech consumers of pizza are most often consuming pizza once to three times a week. When looking at the separate outlets, the most frequently used outlet is the slow food market with pizzerias. Also the market share of pizzeria is the largest one overreaching 50 percent of the whole pizza market.

Figure 5: **Market Share of each outlet**

Outlet	Frozen pizza	Fast food	Pizzeria	Total market
Frequency	92	59	186	337
Market share (%)	27.30	17.51	55.19	100.00

In addition, comparing the fast food and the frozen pizza market where the number of pizzas consumed in an average month is fluctuating mostly between 0-1 and sometimes reaching the value of two, in pizzeria outlet the number of pizzas consumed in an average month is fluctuating mostly in between 1-2. While the frequencies on the fast food and the frozen pizza market are reaching the maximum value of four per month, in pizzeria outlet the maximum number is six per month.

The most preferred situations when Czech consumers choose pizza are related to the time constraint. The most frequent answer was random consumption rather than on a regular one. The second most frequent answer was the situation when they have lack of time and the third one was dinner in weekdays. I believe that all the three situations have the time constraint in common. However there are differences in the preference of pizza consumption across the different outlets (see point 5.3.4.).

5.3.3. Bi-variate correlation tables of selected demographic variables

By means of calculating the Bi-variate correlations between selected pairs of variables I wanted to test to what extent there was correlation. Therefore the null hypothesis was testing that there is no correlation meaning that the two variables are not influencing each other. I was testing the correlation between Residency and Household income, Residency and Education, Age and Marital Status, Age and Education, Age and Household income, Age and Household size, Marital status and Gender, Household size and Residency and Household size and Household income. As I expected positive correlations, I use the one-tailed Spearman´s or Kendal's test for calculating the correlation coefficients in case of two ordinal variables, Chi- square test in case of two nominal variables and Kruskal Wallis test in case of mixed variables. Below only the results of the tests that proved significant correlation are presented. For the SPSS outputs of all of them see Appendix 10.

<u>Age and Marital status</u>

To show the correlation between Age and Marital status I used the Kruskal Wallis test and the outcome of the test proved a significant correlation as seen from the table (0,000). The

correlation shows that with an increase in Age also the Marital status changes. Typical example is that most young respondents are single meanwhile older respondents are either married or divorced or widowed.

Marital status and gender

The correlation between Marital status and Gender is significant as shown in the table of test statistics calculating Chi-square. I used a coding of 1 indicating male respondents and 2 standing for female respondents. By proving the alternative hypothesis I proved that female are more likely to be married, divorced or widowed than the male respondents. But there could be another side effect caused by the fact, that my sample was including more female than male respondents and that could have influence on such a strong significance level.

Household size and Household income

On the basis of the results shown by SPSS output table of Bi-variate correlation, the correlation coefficient between Household size and Household income is 0.249. This correlation coefficient is significant on the 0.01 level, as the significance level shown by the test is lower than 0.05 and equal to 0.01. Therefore it was proved that there is a positive correlation between these two variables meaning that with the increase of household size also the household income increases.

Gender and Shopping responsibility

There is a positive correlation between the two demographic variables. The correlation is significant on the 0.01 level (0.000) with a correlation coefficient reaching the value of 0.446. That proves the alternative hypothesis meaning that female are more likely to be responsible for the family shopping.

5.3.4. Multi-nominal regression analysis

According to the Figure 6 I apply the step-by-step approach of separate regression models for each group of explanatory variables. First I run the linear regression analysis with the number

of pizzas consumed in an average month as the dependent variable and six situations of pizza consumption as explanatory variables. This procedure is repeated for each of the outlets. Second, the pizza attributes are taken in the model as explanatory variables with the dependent variables being kept the same, again for each of the outlets. In the second step I use the backward regression method to eliminate the variables that were not proved significant. I asked for the probability of F between 0.01-0.065. Third, an exploratory backward regression with all 46 statements as the explanatory variables for each outlet is run. The outcome of this analysis provided me with 9 statements with significant coefficients for one or more of the outlets. These statements are used in the further step. Last model consist of demographics as explanatory variables to see which are proved significant in each outlet. For this purpose again the backward regression method is applied. Gradually I built up the models to come up with the final model for each outlet. In this final step, all explanatory variables with significant coefficients from the previous steps are included. On each of the steps the hypotheses were tested but the final step is the most important to see if the variables remained significant after the merge or not. In each of the steps I ask for the probability of F between 0.01-0.065.

Different situations of pizza consumption across the three outlets

I used the number of pizzas consumed on each of the three outlets in an average month as the dependent variable and created dummy variables **for each situation of pizza consumption.**

The linear regression model looked then as follows:

$$Y = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \beta_3 * x_3 + \beta_4 * x_4 + \beta_5 * x_5 + \beta_6 * x_6 + \varepsilon$$

Where

Y stands for the dependent variable which is the number of pizzas consumed in each outlet in an average month

x_1 represents lunch in weekdays, $x_1=1$ in case that the respondent is eating pizza for lunch in weekdays, $x_1=0$ otherwise

x_2 represents dinner in weekdays, $x_2=1$ in case that the respondent is eating pizza for dinner in weekdays, $x_2=0$ otherwise

x_3 represents lunch at weekends, $x_3=1$ in case that the respondent is eating pizza for lunch in weekends, $x_3=0$ otherwise

x_4 represents dinner at weekends, $x_4=1$ in case that the respondent is eating pizza for dinner in weekends, $x_4=0$ otherwise

x_5 represents lack of time, $x_5=1$ in case that the respondent is eating pizza in situation with lack of time, $x_5=0$ otherwise

x_6 represents random consumption, $x_6=1$ in case that the respondent is eating pizza randomly, $x_6=0$ otherwise

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 \neq 0$

and with $E\,(\varepsilon) = 0$

Table 1: **Overview of the coefficients and P-values of the situations in the three outlets**

Situation/ R square/n	Pizzeria		Frozen pizza		Fast food	
	Coeff.	**Sign.**	**Coeff.**	**Sign.**	**Coeff.**	**Sign.**
Constant	*0.000*	*1.000*	*0.000*	*1.000*	*0.000*	*1.000*
Lunch in weekdays	1.800	**0.000**	0.500	0.188	0.800	**0.013**
Dinner at weekdays	1.444	**0.001**	1.000	**0.003**	0.481	0.080
Lunch at weekends	1.200	**0.037**	0.400	0.375	0.000	1.000
Dinner at weekends	1.400	**0.004**	0.400	0.292	0.100	0.753
Lack of time	1.071	**0.018**	0.929	**0.010**	0.143	0.633
Randomly	1.343	**0.001**	0.586	**0.056**	0.500	**0.052**
Adjusted R square	0.071		0.059		0.059	
n	143		143		143	

According to the results shown in Table 1 there are differences in the situations of pizza consumption across the outlets. In the regression models of fast food and frozen pizza outlet only two or three predictors were significant but in the model of the pizzeria outlet all of the coefficients of all predictors were proved to be significant.

In case of the Fast food outlet, consumers who eat pizza as Lunch in weekdays consume 0.8 pizzas more than the others. If consumers eat pizza randomly they consume half a pizza more than the others in an average month. In the frozen pizza outlet, the consumption of pizza increase by one if a consumer eats pizza for Dinner in weekdays. Another situation that leads to an increase of pizza consumption is the situation with lack of time. In that case, pizza consumption in the frozen pizza outlet increases by 0.929. Last situation with significant coefficient was random consumption causing an increase of half a pizza. The occurrence of the situation with lack of time is most probably also the reason for the occurrence of the situation of Dinner in weekdays as most of the consumers are working and therefore do not have much time for preparing their evening meals. The same reasoning can be applied also in

the case of the fast food pizza in relation to Lunch time in weekdays. That is also a situation when a consumer tends to search for a quick and convenient way of eating due to the limited time for a lunch break. In the case of both outlets, the results confirm my hypotheses; H3 for the frozen pizza outlet and H4 for the fast food outlet (for the hypotheses see point 2.4.).

R squares of the models reached 6 percent of explained variance meaning that there is some influence by the situation of pizza consumption to. Although for the final conclusion the hypotheses were tested again on the merged level.

Interesting is that in case of pizzeria all the situations had significant coefficients. The situation with the highest value of B is Lunch in weekdays. If a consumer eats pizza as Lunch in weekdays he tends to consume 1.8 pizzas more than other consumers. If a consumer eats pizza as lunch and dinner in weekdays and at weekends, the pizza consumption overreaches the consumption of the others by nearly six pizzas. By this model I can explain 7.1 percent of the variance present. Additional tested is proceeded to see if the situations remain in the final model or not.

Different pizza attributes' preferences across the three outlets

Second, the predictors taken into the model were **the pizza attributes**. The pizza attributes have a form of scale with a scope from 1 to seven measuring the importance of each of them in each of the three outlets. I entered all 15 of them and run the backward regression method to see which of them have significant influence on the pizza consumption in each outlet.

The linear regression model had a form of 15 predictors with the dependent variable being the number of pizzas consumed in an average month in each outlet. The same conditions as in the previous model were assumed.

Fast food outlet

Table 2: **Overview of the coefficients and P-values of the pizza attributes in the Fast food outlet**

Pizza Attribute/R square/n	Coefficient	Significance level
Rich topping	-0.095	0.088
Type of topping	0.048	0.210
Crunchiness of dough	-0.073	0.216
Used spice	-0.029	0.485
Hot taste	**0.094**	**0.000**
Italian quality and tradition	**-0.066**	**0.008**
Type of the dough	0.060	0.245
Large diversity in toppings	**0.164**	**0.000**

Ease of consumption	-0.059	0.062
Possibility to save the rest of your pizza for later	**-0.089**	**0.000**
Size of the pizza	-0.060	0.163
Quickness of service	**0.266**	**0.000**
Aroma	0.112	0.075
Attractive appearance	**-0.114**	**0.001**
Ease of pizza division for two persons	**-0.076**	**0.003**
Adjusted R square	**0.822**	
n	**143**	

The consumers of the fast food outlet are characterized by the preferences of the following pizza attributes: Hot taste, Diversity in toppings and Quickness of service that are positively correlated to the choice of this outlet. That means that the consumers choosing the fast food outlet want to be served quickly but still have the possibility of a choice from a range of toppings and are able to get a pizza with hot taste. The positive and significant correlation of Quickness of service confirms the hypothesis H4 that the consumers of the fast food outlet are time oriented (see the hypothesis H4 in the point 2.4.). The B value of this attribute is indicating the increase of the pizza consumption in this outlet. If the value of importance equals to 7, meaning that Quickness of service is very important for the consumer, he or she tends to eat 1.9 (7*0.27) pizzas more in an average month than other consumers.

On the other hand, Italian quality and tradition, Possibility to save the rest for later, Attractive appearance and Easy division for two persons have got negative coefficients. That defines the consumers who are not likely to choose this outlet. If a consumer prefers Italian quality and tradition or an attractive place, this consumer is than not the one who would choose the fast food outlet. Consumers are aware that the fast food outlet is serving rather convenience products than a high quality Italian pizza. In addition, the pizza in this outlet is cut into smaller convenient pieces. That explains the negative coefficient of Easy division for two persons as well as the possibility to save the rest for later. Fast food outlets are practical rather than attractive and therefore the negative coefficient of Attractive appearance is a confirmation of that. With an increase of the importance of Attractive appearance by one the consumption of pizza of consumers in this outlet decreases by 0.114. That gives a confirmation of the hypothesis H5 on a 0.001 level of significance (for the hypothesis H5 see the point 2.4.).

Frozen pizza outlet (supermarkets)

Table 3: **Overview of the coefficients and P-values of the pizza attributes in the frozen pizza outlet (supermarkets)**

Pizza Attribute/R square/n	Coefficient	Significance level
Rich topping	**0.126**	**0.000**
Type of topping	0.017	0.693
Crunchiness of dough	**-0.075**	**0.032**
Used spice	-0.037	0.465
Hot taste	0.013	0.728
Italian quality and tradition	**0.078**	**0.013**
Type of the dough	0.001	0.978
Large diversity in toppings	0.036	0.399
Ease of consumption	**0.140**	**0.000**
Possibility to save the rest of your pizza for later	-0.027	0.516
Size of the pizza	-0.023	0.542
Quickness of service	0.015	0.663
Aroma	**0.094**	**0.002**
Attractive appearance	0.050	0.295
Ease of pizza division for two persons	**-0.085**	**0.007**
Adjusted R square	**0.707**	
n	**143**	

The pizza attributes that are appreciated by consumers of the frozen pizza outlet are Rich topping, Italian quality and tradition, Ease of consumption and Aroma. These pizza attributes were positively and significantly correlated to the dependent variable. The positive correlation of Ease of consumption is supporting one part of the hypothesis H1 (for the hypothesis H1 see the point 2.4.). The B value of this pizza attribute means that with an increase of the importance of Ease of consumption an increase of 0.14 pizzas occurs. The positive correlation of Italian quality and tradition is surprising for me. One possible explanation for that could be that the consumers know the market and the brands that are offered. Consequently they choose the brands that they perceive as high quality brands. The positive correlation does not support the hypothesis H2 as the hypothesis assumed opposite correlation. Therefore the hypothesis H2 was not proved on this level of the analysis (for the hypothesis H2 see the point 2.4.).

The positive correlation of Aroma in relation to the frozen pizza market can be explained by the assumption that respondents were thinking of the aroma as the attribute that would lead to further purchase rather than the attribute perceived at the point of the purchase.

On the other hand, negative correlation appeared in relation to Crunchiness of dough and Ease of pizza division for two persons. The negative correlation of Ease of pizza division for two persons is a surprising finding. The negative correlation can be explained by the possibility

that consumers eat most often the whole pizza and therefore this pizza attributes is not important for them. Positive correlation of this pizza attribute was tested by the second part of the hypothesis H1. Therefore this hypothesis was half proved and half rejected on this level of the analysis (for the hypothesis H1 see the point 2.4.).

Pizzeria outlet

Table 4: **Overview of the coeffs and P-values of the pizza attributes in the Pizzeria outlet**

Pizza Attribute/R square/n	Coefficient	Significance level
Rich topping	0.045	0.627
Type of topping	**0.132**	**0.017**
Crunchiness of dough	0.098	0.277
Used spice	0.025	0.752
Hot taste	**0.111**	**0.010**
Italian quality and tradition	**0.108**	**0.014**
Type of the dough	0.012	0.875
Large diversity in toppings	0.016	0.838
Ease of consumption	-0.017	0.762
Possibility to save the rest of your pizza for later	-0.016	0.734
Pizza size	**0.103**	**0.053**
Quickness of service	**-0.128**	**0.055**
Aroma	**-0.162**	**0.051**
Attractive appearance	**0.158**	**0.045**
Ease of pizza division for two persons	-0.036	0.482
Adjusted R square	**0.303**	
n	**143**	

The pizza attributes positively and significantly correlated to this outlet are Type of topping, Hot taste, Italian quality and tradition, Pizza size and Attractive appearance. I can conclude that if consumer decides to go to pizzeria, the reasons behind this choice are these pizza attributes; the consumer is looking for a place with a nice atmosphere, high quality of pizza with a range of toppings and different sizes. The positive correlation of Italian quality and tradition supports the hypothesis H6 and this hypothesis is then proved on a 0.05 level of significance (for the hypothesis H6 see the point 2.4.). The pizza attribute with the highest B value is Attractive appearance. With an increase of the importance of 1 the pizza consumption increases by 0.158.

On the other hand Quickness of service and Aroma are an unimportant attributes. If a consumer has a preference for these pizza attributes than he or she would choose one of the other outlets. The negative correlation of Quickness of service proves the hypothesis H7 (for

the hypothesis H7 see the point 2.4.). Though the significance of the coefficient is not significant to the standard 0.05 level I consider the P-value of 0.055 to be sufficient for the purpose of my exploratory research. The negative correlation of Aroma is a surprising finding. It can be explained by the assumption that the respondents make their choice before the pizza is served and so before they can smell the aroma of it. Another possible explanation of the negative correlation could also be that Aroma is actually measuring something else than I though or that the respondents understood the question in a different sense than it was meant to.

Table 5: **Overview of the pizza attributes across the three outlets**

Pizza Attribute/R square/n	Pizzeria	Frozen pizza	Fast food
	Coeff.	Coeff.	Coeff.
Rich topping	n.s.	+	n.s.
Type of topping	+	n.s.	n.s.
Crunchiness of dough	n.s.	-	n.s.
Used spice	n.s.	n.s.	n.s.
Hot taste	+	n.s.	+
Italian quality and tradition	+	+	-
Type of the dough	n.s.	n.s.	n.s.
Large diversity in toppings	n.s.	n.s.	+
Ease of consumption	n.s.	+	n.s.
Possibility to save the rest of your pizza for later	n.s.	n.s.	-
Size of the pizza	+	n.s.	n.s.
Quickness of service	-	n.s.	+
Aroma	-	+	n.s.
Attractive appearance	+	n.s.	-
Ease of pizza division for two persons	n.s.	-	-

n.s. stands for non significant

Meanwhile some pizza attributes are common for more than one outlet; others were not proved significant in any such as Used spice and Type of dough. Italian quality and tradition was proved to be significant in all three outlets; in the frozen pizza and the pizzeria outlet the correlation was positive meaning that with the increase of the importance of this pizza attribute the consumption of pizza changes in the same direction, meanwhile in the fast food outlet the correlation was negative meaning that the more the consumer perceives Italian quality and tradition as important the less he consumes pizza in this outlet. Ease of pizza division for two persons was proved significant for the frozen pizza and the fast food outlet. In relation to the fast food outlet it was a logic outcome; the pizzas in fast food restaurants are already sliced and therefore the importance of this attribute does not increase the pizza

consumption. In case of the frozen pizza an opposite correlation was expected but the negative correlation can mean that consumers eat the whole pizza and therefore this pizza attribute is also not of relevance for increasing their consumption in the frozen pizza outlet. One pizza attribute showing surprising correlations is Aroma. This attribute was proved significant in the pizzeria and the frozen pizza outlet but with opposite correlations than expected. The results can be explained by different perception of the respondents than it was meant to. In case of the frozen pizza market consumers probably thought about Aroma as an attribute that would lead to further purchase meanwhile in the pizzeria outlet they thought about Aroma as not important because the decision about going to pizzeria is made before the Aroma appears. That would mean that the consumer of pizzeria makes the decision before entering pizzeria meanwhile the consumer of frozen pizza is more likely to decide on the spot being stimulated by the last aroma experience.

Different statements indicating lifestyle, habits and opinions across the three outlets

The regression of the statements consists of two steps; first the exploratory analysis was run to show what statements were proved significant in a separate model for each outlet. In this step I included all 46 statements although according to the outcomes of Reliability analysis I could use the constructs. I decided to keep all of them to tackle multicolinearity. A high degree of multicolinearity produces unacceptable uncertainty in regression coefficients. I assume that by including all statements and running the backward regression method this problem will be tackled in the F change test. Second, all the significant proved statements were used in the later step of merging for all three outlets. In both cases the backward regression method was applied asking for the probability of F test between 0.01-0.07 and controlled by the P-value of F change. The statements, with a significance higher than 0.05 but lower than 0.065, are discussed as part of the model. All statements are in a form of scales using a scope from 1 to 7 according to the extent of agreement with each of them.

The linear regression model had a form of 46 predictors with the dependent variable being the number of pizzas consumed in an average month in each outlet. The same conditions as in the previous model were assumed.

Fast food outlet

Table 6: **Overview of the coefficients and P-values of the statements in the Fast food outlet**

Statement No.	The statement / R square	Coefficient	Significance level
5	In selecting from many types and brands of pizza available in the market, I do not care at all as to which one I buy.	**-0.074**	**0.017**
34	I don't perceive convenience products such as frozen pizza or ready-eat meals as healthy and proper.	**0.081**	**0.015**
37	It is very important to me what type and brand of pizza I choose.	**0.080**	**0.011**
39	My job is time consuming and therefore I don't have much time for cooking myself and go often to eat either in restaurants or fast foods.	**0.100**	**0.006**
Adjusted R square		**0.127**	
n		**143**	

Statement 39 confirms the general reason why most consumers are often buying pizza in fast food or going into restaurants. The more importance the time element plays the more the pizza consumption in this outlet increases. Another proof of the time importance is the situation of pizza consumption that is linked also to lack of time. Statements 5 and 37 are both explaining the importance of the perceived quality of brand. The interpretation of the two statements says that the consumers of the fast food outlet consider a good brand of the restaurant they visit. If consumers do not care about the brand of the fast food restaurant they do tend to consumer less in this outlet. According to the statement 34 the consumers do not perceive frozen pizzas and ready-eat meals as healthy and proper. The same statement occurred to be positively correlated to the number of pizzas consumed in the frozen pizza outlet (see tables 6 and 7). In the case of the fast food outlet an emphasis is put on the fact that fast food pizza does not belong to any of the groups but is freshly made. On the other hand, in case of the frozen pizza outlet the meaning of the positive correlation shows that the consumers buy frozen pizza for different reasons. According to (Steptoe et al., 1995) there are several reasons for food choice besides healthiness. In case of frozen pizza it is the ease of consumption and quickness of preparation as supported by the pizza attributes that have significant coefficients.

Frozen pizza outlet

Table 7: **Overview of the coefficients and P-values of the statements in the Frozen pizza outlet**

Statement	The statement / R square	Coefficient	Significance

No.			level
1	I use convenience products quite often to prepare a meal.	0.089	0.029
9	I am very interested in trying food from different countries.	-0.087	0.018
34	I don't perceive convenience products such as frozen pizza or ready-eat meals as healthy and proper.	0.128	0.001
41	I switch TV channel stations during commercials.	0.113	0.002
45	I take care during commercials because sometimes they are good source of inspiration.	-0.118	0.009
Adjusted R square		0.159	
n		143	

Frozen pizza is on the list of convenience food products. Statement 1 is related to this fact. It says that the more they agree with the statement the more they tend to consume pizza in the frozen pizza market than other consumers. Statement 9 says that the consumers of this outlet tend to try less food from different countries than other consumers. That could mean that frozen pizza is perceived by the consumers more as a convenience food product than as a foreign food product.

One interesting characteristics of the consumers of frozen pizza outlet is that they do not pay attention to commercials. The statement 41 is positively correlated and in the same time the statement 45 has a negative correlation coefficient confirming low interest in commercials. The consumers do not perceive advertisements and commercials as a good source of inspiration but rather base their decision on other influences.

Pizzeria outlet

Table 7: **Overview of the coefficients and P-values of the statements in the Pizzeria outlet**

Statement No.	The statement / R square	Coefficient	Significance level
4	Before buying a product, I check the price.	0.172	0.000
39	My job is time consuming and therefore I don't have much time for cooking myself and go often to eat either in restaurants or fast foods.	0.110	0.044
Adjusted R square		0.116	
n		143	

There are two characteristics of the consumers of pizzeria outlet. The first one states that the consumers are price aware. With an increase of the agreement with statement 4 an increase of pizza consumption occurs by 0.172. This can be supported by the fact that customers in pizzerias have enough time to choose from menu and therefore they can check the prices of each meal. Though I cannot say to what extent they base their decision on the price. The statement 39 is related to lack of time for cooking and therefore a preference for this outlet.

Table 8: **Overview of the statements across the three outlets**

Statement No.	The statement	Pizzeria	Frozen pizza	Fast food
		Coef.	Coef.	Coef.
1	I use convenience products quite often to prepare a meal.	n.s.	+	n.s.
4	Before buying a product, I check the price.	+	n.s.	n.s.
5	In selecting from many types and brands of pizza available in the market, I do not care at all as to which one I buy.	n.s.	n.s.	-
9	I am very interested in trying food from different countries.	n.s.	-	n.s.
34	I don't perceive convenience products such as frozen pizza or ready-eat meals as healthy and proper.	n.s.	+	+
37	It is very important to me what type and brand of pizza I choose.	n.s.	n.s.	+
39	My job is time consuming and therefore I don't have much time for cooking myself and go often to eat either in restaurants or fast foods.	+	n.s.	+
41	I switch TV channel stations during commercials.	n.s.	+	n.s.
45	I take care during commercials because sometimes they are good source of inspiration.	n.s.	-	n.s.

n.s. stands for non significant

Most statements that were proved significant are specific only for one of the outlets. Only statements 34 and 39 are shared in two outlets. In both cases the correlation is positive. Statement 34 is related to the perception of frozen pizzas and ready-eat meals as unhealthy and not proper meals. It occurs on the outlets that are to a certain extent convenience oriented. Statement 39 is related to gastronomy; the pizzeria and the fast food market. As it is stated, it assumes that consumers tend to eat more pizza in these outlets more the more they agree with this statement.

Different demographics across the three outlets

There are eight demographic variables; Gender that has a form of dummy(0=man, 1=woman); Age for which dummies were created representing separate categories of 15-24, 25-34, 35-44, 45-54, 55-64 and 65+; Place of residency expressed by the population density. For this variable dummies were created as well representing respondents from the capital city of Prague, big cities (60-400 000 inhabitants), middle-sized towns (10-60 000 inhabitants) and small towns (less than 10 000 inhabitants). Other demographic variables were Marital status as well expressed by means of creating dummies (single, married, divorced, widowed), Household size having a form of a scale with a scope from 1-6, Shopping responsibility as a dummy variable, Household income in a form of scale with a scope from 1-10 and Education expressed by dummies for Basic school, Skilled worker, General high school, Specialized high school, College and University. To see the form of the demographics see Appendix 2.

The regression of the demographics consists of the same procedure as in case of the statement of lifestyle, opinions and habits. First the exploratory analysis was run to show what demographics were proved significant in a separate model for each outlet. Second, all the significant proved demographics were used in the later step of merging for all three outlets. In both cases the backward regression method was applied asking for the probability of F test between 0.01-0.065 and controlled by the P-value of F change. The demographics, with a significance higher than 0.05 but lower than 0.065, are discussed as part of the model.

The linear regression model had a form of 25 predictors with the dependent variable being the number of pizzas consumed in an average month in each outlet. The same conditions as in the previous model were assumed.

Fast food outlet

Table 9: **Overview of the coefficients and P-values of the demographics in the Fast food outlet**

Demographic variable/ R square	Coefficient	Significance level
Constant	*0.309*	*0.011*
Gender	-0.486	0.000
Shopping responsibility	0.279	0.024
The capital city of Prague	0.246	0.035
Single consumer	0.234	0.046
Age category of 45-54	0.386	0.013

Adjusted R square	0.137
n	143

According to the coefficients with significant levels I can say which consumers tend to consume more or less pizza in an average month. The negative correlation of Gender of -0.486 indicates that women are consuming half a pizza less in the fast food outlet than men do. On the other hand, persons responsible for family shopping are more likely to consume more pizzas. In the Bi-variate correlation there was proved to be positive correlation between Gender and Shopping responsibility meaning that women are more likely to be responsible for family shopping than men are. In relation to the correlations in this case it means that women who are responsible for family shopping consume more pizzas than women who are not. Although the consumption of female consumers in general is lower than of male consumers.

The pizza consumption also increases in case that the consumers are from the capital city as well as in case the consumers are single. Last demographic characteristic of the consumers who tend to consume more pizzas are the ones who belong to age category of 45-54. Interesting is that if a consumer is responsible for family shopping which can be related to Marital status of being single and moreover is from the capital city, he or she consumes 0.76 pizzas more than others.

The adjusted R square of the model explains only 13.7 percent of the variance but there is certain influence of these demographic variables. For the final conclusion further test was done to see what demographics remained in the merged model.

Frozen pizza outlet

Table 10: **Overview of the coefficients and P-values of the demographics in the Frozen pizza outlet**

Demographic variable/ R square	Coefficient	Significance level
Constant	*0.465*	*0.000*
Middle-sized town inhabitant	0.377	0.004
Skilled worker	0.680	0.034
Adjusted R square	0.075	
n	143	

Frozen pizza consumers are consuming more pizzas in case they are from Middle-sized town with a population of 10-60 000 inhabitants. One demographic variable with a high coefficient reaching 0.68 is Education category of Skilled worker. Consumers belonging to this education category consume 0.68 pizzas more than consumers with other education. No other demographics were proved significant. The adjusted R square of the model is the lowest of the three outlets, explaining only 7.5 percent of the variance present.

Pizzeria outlet

Table 11: **Overview of the coefficients and P-values of the demographics in the Pizzeria outlet**

Demographic variable/ R square	Coefficient	Significance level
Constant	*1.316*	*0.000*
Household size	-0.174	0.022
Middle-sized town inhabitant	-0.334	0.046
Single consumer	0.454	0.014
Age category of 25-34	0.546	0.011
Age category of 35-44	0.539	0.025
Age category of 45-54	0.536	0.052
Skilled worker	1.018	0.013
Adjusted R square	**0.140**	
n	**143**	

Pizzeria consumers are characterized by a wide range of Age. But more importantly, the same level of education as in case of the frozen pizza outlet occurred significant. Consumers of pizzerias who are skilled workers consume in an average month one pizza more than consumers with other education. Again, single consumers tend to consume more than others also in this outlet. On the other hand, two negative correlations are significant; Household size and Middle-sized town inhabitant. It means that consumers from larger households tend to consume slightly less than other consumers. Also consumers from Middle-sized towns consume fewer pizzas in pizzerias than consumers from other places of residency. The adjusted R square explains 14 percent of the variance. This value is the highest one of the three outlets.

Table 12: Overview of the demographics across the three outlets

Demographic variable/ R square	Pizzeria	Frozen pizza	Fast food
	Coef.	Coef.	Coef.
Gender	n.s.	n.s.	-
Household size	-	n.s.	n.s.
Shopping responsibility	n.s.	n.s.	+
Single consumer	+	n.s.	+
Age category of 25-34	+	n.s.	n.s.
Age category of 35-44	+	n.s.	n.s.
Age category of 45-54	+	n.s.	+
Skilled worker	+	+	n.s.
Middle-sized town inhabitant	-	+	n.s.
The capital city of Prague	n.s.	n.s.	+
Adjusted R square	**0.140**	**0.075**	**0.137**
n	**143**	**143**	**143**

There are some demographics specific for only one outlet such as Gender, Shopping responsibility and The capital city consumer for the fast food outlet, Household size and Age categories of 25-34 and 35-44 for the pizzeria outlet. Other demographics are common across two outlets. That is the case of Skilled worker and Single consumer that are both positively correlated to two outlets. Middle-sized town inhabitant increases pizza consumption in the frozen pizza outlet and decreases pizza consumption in the pizzeria outlet.

Merge of the separate regression models into the final one for each outlet

The final step is to merge all the selected models together with adding the demographics and see which variables are the most explanatory for each of the outlets.

The variables that remained in the model after the final merge are the ones that can explain most of the variance. Therefore these can serve to characterize consumers of the outlets with pointing out the similarities and specificities of each outlet's consumers. Within this part all the hypotheses were tested again and either proved or rejected.

Fast food outlet

Final overview of the explanatory variables of the consumers of the fast food outlet

Variables remained	Coefficient	Significance level
Constant	*-0.145*	*0.016*
PIZZA ATTRIBUTES:		
Hot taste	0.099	0.000
Italian quality and tradition	-0.071	0.004
Large diversity in toppings	0.140	0.000
Possibility to save the rest of your pizza for later	-0.080	0.000
Quickness of service	0.261	0.000
Attractive appearance	-0.095	0.004
Easy division for two persons	-0.074	0.002
DEMOGRAPHICS:		
Shopping responsibility	0.105	0.027
SITUATION OF CONSUMPTION:		
Lunch in Weekdays	0.181	0.050
It is very important to me what type and brand of pizza I choose.	*.023*	*.056*
Adjusted R square		**0.835**
n		**143**

After merging the models I reached Adjusted R square of 0.835. Most of the variance is explained by the pizza attributes preferred by its consumers. All pizza attributes from the selected model remained in the model. Another variable with a significant coefficient is the situation of pizza consumption. For the fast food outlet the pizza consumption is increased by consumers eating pizza during lunch time in weekdays. This time of a day is also considered as the situation with lack of time, as the lunch break is time limited. Then the occurrence of this situation being positively correlated to the dependent variable together with a positively correlated Quickness of service proves the hypothesis H4. The consumers of the fast food outlet are time oriented (for the hypothesis H4 see the point 2.4.).

Last explanatory variable that remained significant is shopping responsibility. This variable had the form of dummies for being or not being the member of family responsible for shopping. The positive correlation then means that the consumers responsible for the family shopping are eating more pizzas than other consumers in the fast food outlet.

One variable that could be taken into account with a 0.056 level of significance is statement 37. This statement is positively correlated meaning that the consumers of this outlet are

choosing the fast food restaurants that they perceive as of a good quality. That is an interesting finding with respect to the fact that Italian quality and tradition was in the same time negatively correlated. It could mean that the consumers do not perceive the fast food restaurants as representatives of Italian quality and tradition. But they are seeking quality of the restaurant probably based on their experience and taste.

Frozen pizza outlet

Table 10: **Final overview of the explanatory variables of the consumers of the frozen pizza outlet**

Variables remained	Coefficient	Significance level
Constant	*0.096*	*0.090*
PIZZA ATTRIBUTES:		
Rich topping	0.110	0.000
Crunchiness of dough	-0.072	0.036
Italian quality and tradition	0.085	0.007
Ease of consumption	0.143	0.000
Aroma	0.093	0.002
Easy division for two persons	-0.079	0.011
DEMOGRAPHICS:		
The capital city	-0.154	0.057
Adjusted R square		**0.714**
n		**143**

The final model of frozen pizza consumer reached the value of R square of 0.708, lower than in the case of fast food outlet. This value can be caused by the fact that the only explanatory variables that remained in the model were the pizza attributes and one demographic variable. No statements, certain situation of pizza consumption or other demographic variables remained. That makes frozen pizza outlet specific in the sense that a consumer can be of any age category, any income, education, lifestyle etc. The only thing the consumers have in common is the preference for the same pizza attributes which are Rich topping, Italian quality and tradition, Ease of consumption and Aroma. On the other hand, the consumers are less likely to put importance on Crunchiness of dough and Easy division for two persons. The only demographic variable that remained says that consumer from the capital city tend to consume fewer pizzas than consumers from other places of residency.

Pizzeria outlet

Table 11: **Final overview of the explanatory variables of the consumers of the pizzeria outlet**

Variables remained	Coefficient	Significance level
Constant	*-0.457*	*0.156*
PIZZA ATTRIBUTES:		
Type of topping	0.158	0.001
Hot taste	0.100	0.008
Italian quality and service	0.076	0.048
Quickness of service	-0.103	0.045
DEMOGRAPHICS:		
Household size	-0.113	0.060
Single consumer	0.471	0.001
Skilled worker	1.019	0.002
STATEMENTS:		
Before buying a product, I check the price.	0.184	0.000
I am very interested in trying food from different countries.	0.100	0.011
Adjusted R square		**0.452**
n		**143**

The model of pizzeria outlet has the lowest value of R square, reaching 0.452. That can be caused by the fact that most of the respondents were either consumers only in the pizzeria outlet or in more than one outlet. That could distort the results of the regression analysis.

On the other hand, it is the only model that gives a closer description of the consumers in the terms of not only the preference for the pizza attributes but also in terms of the demographic variables and statements of lifestyle, opinion and habits. The consumers who tend to consume more pizzas in pizzeria are single consumers. According to the value of the coefficient they tend to consumer half a pizza more than consumers of other marital status. The coefficient of Household has negative value. It means that consumers with larger households consume fewer pizzas than consumers from smaller households. Another characteristic of the consumers is the level of education, in the case of pizzeria there was proved a positive correlation between the dependent variable and the skilled workers. It indicates that consumers who have this education tend to consume one pizza more in an average month than consumers with other education. From the pizza attributes, the consumers perceive a range or Toppings and Hot taste and Italian quality and tradition as important. On the other side, Quality of service is less important. If a consumer perceives this pizza attribute as important, his pizza consumption decreases of 0.103 with an increase of the importance.

Furthermore the consumers of pizzerias like to check the price before choosing their pizza. But from that I cannot conclude to what extent they base their decision on the price. The last explanatory variable is new in the model as in the previous step this statement was not proved significant. Statement 9 says that the consumers of pizzerias who are interested in trying food from different countries consume more pizzas than consumers without such interest.

6. Conclusions and Discussion

In this part I give the conclusions and answers to the research questions as well as the overview of the hypotheses. A discussion on the findings will be held afterwards.

The following research questions are linked together:

   a. *What is the estimated model of pizza consumption on the Czech pizza market?*

b. *What are the main consumer's drives in choosing a concrete outlet on the pizza market?*

c. *Are there different market segments present? And if yes, what are the characteristics of the segments existing on the Czech market?*

Throughout my research I collected information about two of the three outlets that served sufficiently for answering the first research question. The answers to the questions can be provided by means of the hypotheses related to the two outlets; the frozen pizza and the pizzeria outlet.

H1: *Consumers of the frozen pizza market prefer convenience.* *Convenience in this case consists of two pizza attributes; ease of consumption and ease of pizza division for two persons.*

Pizza attributes	Coefficient	Significance level
Ease of consumption	0.143	0.000
Ease of division for two persons	-0.079	0.006

H2: *Consumers of the frozen pizza market are not looking for the Italian quality and tradition on this outlet.*

Pizza attributes	Coefficient	Significance level
Italian quality and tradition	0.085	0.007

H3: *The preferred occasion for frozen pizza consumption is in the situation when consumer does not have enough of time.*

Pizza attributes	Coefficient	Significance level
Dinner at weekdays (first step analysis)	1.000	0.003
Dinner at weekdays (second step analysis)	0.083	0.382

H6: *Consumers of the pizzeria outlet are looking for the Italian quality and tradition.*

Pizza attributes	Coefficient	Significance level
Italian quality and tradition	0.076	0.048

H7: *Consumers of the pizzeria outlet prefer eating out because of the experience and change and therefore they do not pay attention to the quickness of service.*

Pizza attributes	Coefficient	Significance level
Quickness of service	-0.103	0.045

Answer to the three research questions in relation to the frozen pizza outlet:

According to the information provided by Dr. Oetker Company that supplies the Czech frozen pizza market the average consumption of pizza on this outlet fluctuates around 13 millions per year. From the questionnaire data I found the factors that influence the number of pizzas consumed in this outlet in an average month. I assume that the factors stay resistant also in a longer period of time. Therefore they can provide an explanation for the yearly consumption. The explanation of the factors can be given by means of the hypotheses that were either proved or rejected. The hypothesis H1 was testing if consumers of the frozen pizza outlet do or do not prefer convenience. The convenience was expressed by ease of consumption and Ease of pizza division for two persons. This hypothesis was partly proved and partly rejected in both steps of the separate model and the merged final model. It is true that the consumers give a high importance to Ease of consumption. In the same time, they do not give a high importance to Ease of pizza division. That could mean that the consumers usually eat the whole pizza and therefore do not perceive this pizza attributes as important. The hypothesis H2 was testing if consumers of the frozen pizza outlet perceive Italian quality and tradition as important pizza attribute for them. A negative significant correlation was expected but not proved. Italian quality and tradition was correlated negatively in both steps of the regression analysis. It means that the consumers of the outlet are quality oriented. The importance of this can be reflected in buying behavior by buying the brands that are perceived as a good quality Italian pizza. Another explanatory factor for the consumption of frozen pizza was tested by the hypothesis H3 - the occasion on which frozen pizza is consumed. The factor that occurred as common for the occasions of frozen pizza consumption was the time limitation. The only situation of pizza consumption that indicated higher pizza consumption than the other situations was the dinner in weekdays. But neither this situation remained in the final model as significant. Therefore this hypothesis was not proved.

Answer to the three research questions in relation to the pizzeria outlet:

The model of pizza consumption for the slow food market represented by pizzeria was estimated on the basis of the data collected in a small scale survey. The model of pizza consumption was divided into the one estimating the consumption outside the main season and in the main season. There is a close relationship between these two dependent variables as

the pizza consumption outside the main season serves as an explanatory variable for the pizza consumption in the main season, besides the total number of seats. The pizza consumption outside the main season is influenced by the fixed numbers of seats. No influence of the place of the outlet or other was found.

Moreover, making the same assumption about the persistance of the explanatory variables from the model of the number of pizza consumed in the pizzeria outlet in an average month I can find more factors influencing the consumption in this outlet. The consumers visit pizzerias because they want a high quality Italian pizza. That is proved by the positive and significant correlation of Italian quality and tradition. Therefore, the hypothesis H6 is proved on the 0.05 level of significance. They are more likely to be single living in a household with fewer members. That means that pizzeria is more often visited by younger consumers. Another explanatory variable was the level of education, in the case of the consumers of pizzeria most of the consumers were skilled workers. Hypothesis H7 was testing if the consumers of the fast food outlet make their choice based on the Quickness of service or not. This hypothesis was proved on the 0.05 level of significance. It is true that consumer so of the pizzeria tend to consume more with lower importance put to this pizza attribute.

Answer to the following research questions in relation to the fast food outlet:
What are the main consumer's drives in choosing a concrete outlet on the pizza market?

Are there different market segments present? And if yes, what are the characteristics of the segments existing on the Czech market?

H4: *Consumers of the fast food outlet are time oriented. The time orientation is indicated by the pizza attribute of quickness of service as well as by the preferred occasion for its consumption.*

Pizza attributes	Coefficient	Significance level
Quickness of service	0.261	0.000
Lunch in weekdays	0.181	0.050

H5: Consumers do not expect an attractive but rather a convenient place that provides them with a good service.

Pizza attributes	Coefficient	Significance level
Attractive appearance	-0.095	0.004

Hypotheses H4 and H5 were testing the factors important for the consumers related to the fast food outlet. The hypothesis H4 was proved to be significant in both parts; the time orientation was indicated by positive significant correlation of both Quickness of service and the occasion- Lunch in weekends. The hypothesis H5 was testing to what extent Attractive appearance is important for the consumers. A negative significant correlation was expected and confirmed on a 0.01 level of significance. Therefore, the consumers do not choose the fast food outlet because of the attractiveness but rather for the quickness of service and other factors. Those consumers for whom Attractive appearance is important are likely to consume less in this outlet.

Answer to the forth research question:

What products from Zeelandia's portfolio could grant a successful entrance to the new markets?

Zeelandia has currently two groups of products that could grant an entrance to the pizzeria and the fast food outlets as described in the point 5.2.3.. Both of the outlets could serve as potential new outlets for Zeelandia. There are many differences between them as well as lot of similarities. There are obstacles that Zeelandia would encounter without a closer knowledge. The obstacles in the pizzeria outlet are related to the protectionism that is omnipresent. In relation to the fast food market the obstacle is the low development and consequently little knowledge about this outlet. Although this study uncovered several aspects of the pizza market, it was focused entirely on consumers. Therefore further study on competitive environment should be done. Gaining knowledge not only about consumers but also about the competitors could help Zeelandia in selecting the most efficient marketing strategy. Cost Benefit Analysis might also strengthen the advantages and importance of Zeelandia's products. Further it will help Zeelandia to build a strong position within the first negotiations.

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8. Appendixes

Appendix 1: Questionnaire for the starting interviews

Wageningen University
University of South Bohemia in České Budějovice

CZECH PIZZA MARKET SURVEY

The aim of this questionnaire is to obtain an insight into consumers´ preferences of pizza attributes that are appreciated and realized by consumers when they decide what to buy. The answers will be used in a marketing survey for my Thesis at Wageningen University and the University of South Bohemia in České Budějovice.

1. **Have you ever eaten pizza in any form? If yes, continue with question No. 2-5, if no, continue with question No. 6-7. Question 8 is general for all respondents.**

Yes   No

2. **What pizza form is most common for you?**

Pizzeria   Fast food   Frozen pizza   Home made

3. **What are the attributes you appreciate on pizza? For example, attributes of apples are juiciness, colour, sweetness, kind etc.. Try to name as much as you can at the moment.**

_____
_____
_____
_____
_____

4. **Can you list the three most important attributes on which you base your buying decision?**
1.
2.
3.

5. **Is there anything you would lack with respect to pizza itself, packaging etc. that could possibly enlarge your preference toward this product if it was included?**

_____
_____
_____

6. **What is the reason that you have never tried to taste pizza?**

_____
_____
_____

7. **What would you like to change on pizza products so that they may become more popular for you?**

_____
_____
_____
_____

8. **gender**

Female   Male

Appendix 2: Questionnaire for the research stage of market segmentation

The buying behavior and preferences of consumers on the Czech pizza market

This questionnaire was made for the purpose of my thesis at Wageningen University and The University of South Bohemia in České Budějovice to carry out a market survey about pizza market in Czech Republic. All information will be confidential; no further use outside the survey.

If you have couple minutes, please fill in the questionnaire and share your preferences and opinions on the topic of pizza. You will contribute to a successful outcome of my survey that focuses on the Czech pizza market and mainly on you, its customers.

The questionnaire is divided into three parts:

  ➢ The first one is focused on respondent's preferences in buying behavior
  ➢ The second one contains statements related to respondent's lifestyle, habits and opinions

> ➤ The last part includes some basic geographic and demographic information about you as a respondent

<u>Please mark your answer with a **X** in the corresponding part of the table.</u>

<u>Buying behavior and preferences of customers on the Czech pizza market</u>

1. **Do you, from time to time, consume pizza?** If **no**, fill in the next question and the questions No.14-25. If **yes**, carry on with question No. 3.

	Yes
	No

2. **If No, what is the reason for that?**

3. **If YES, how often in an average month do you consume pizza?**

	1x		4x
	2x		5x
	3x		More often

4. **On what opportunity do you consume pizza most often?**

	Instead of lunch during weekdays		Instead of dinner during weekdays
	Instead of lunch during weekends		Instead of dinner during weekends
	When I dont have time		haphazardly

<u>Preferences on each of the sub-markets</u>

Czech pizza market is for the purpose of my thesis divided into three market segments:
- ➤ **Slow food** market including pizzerias and Italian restaurants,
- ➤ **Fast food**

> ➢ **Retail** market with frozen pizza products.

5. How often, in an average month, do you eat frozen pizza?

	0x		4x
	1x		5x
	2x		6x
	3x		More often
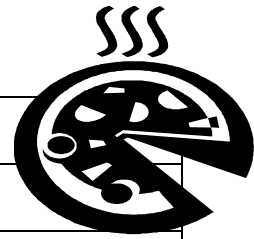
6. How often, in an average month, do you buy pizza in fast food restaurants?

	0x		4x
	1x		5x
	2x		6x
	3x		More often

7. How often do you go to eat pizza in pizzerias (including pizzas taken away)?

	0x		4x
	1x		5x
	2x		6x
	3x		More often

For the following characteristics please choose one of the numbers, from **1 (not important at all)** to **7 (essential)** that would best describe your level of importance of the following characteristics.

8. **If you eat pizza in a pizzeria, how important for you is** *the fact that you are given an appetizer (pizza sticks with herbal butter etc.) to cut down the waiting time.*

Not important at all   Essential

1	2	3	4	5	6	7

9. **If you eat out of home, how important for you is** *a the nice and cozy atmosphere in the place where you eat?*

Not important at all   Essential

1	2	3	4	5	6	7

10. **When you are deciding where to eat pizza, how important for you is** *the reputation of the restaurant (pizzeria, fast food restaurant)?*

Not important at all   Essential

1	2	3	4	5	6	7

For the following questions please indicate the importance of the attributes. Teh questions are related to the answers of the previous part (No. 5-7). Please fill in answers for the markets that you are consumer on (for example if you eat only frozen pizza, skip to the question No.12 and do not fill in questions No. 11 and 13 etc).

11. Please indicate the importance of the following characteristics in case you would decide to go to eat pizza in PIZZERIA:

	1- Not important at all Essential -7						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Rich topping							
Type of topping							
Crunchiness of dough							
Used spice							
Hot taste							
Italian quality and tradition							
Type of the dough							
Large diversity in toppings							
Ease of consumption							
Possibility to save the rest of your pizza for later							
Size of the pizza							
Quickness of service							
Aroma							
Attractive appearance							
Easy division for two persons							

12. Please indicate the importance of the following attributes in case you would decide to buy FROZEN PIZZA:

	1- Not important at all					Essential -7	
	1	**2**	**3**	**4**	**5**	**6**	**7**
Rich topping							
Type of topping							
Crunchiness of dough							
Used spice							
Hot taste							
Italian duality and tradition							
Type of the dough							
Large diversity in toppings							
Ease of consumption							
Possibility to save the rest of your pizza for later							
Pizza size							
Quickness of service							
Aroma							
Attractive appearance							
Easy division for two persons							

13. Please indicate the importance of the following attributes in case you would decide to buy pizza in a FAST FOOD RESTAURANT:

	1- Not important at all					Essential -7	
	1	**2**	**3**	**4**	**5**	**6**	**7**
Rich topping							
Type of topping							
Crunchiness of dough							
Used spice							
Hot taste							
Italian duality and tradition							
Type of the dough							
Large diversity in toppings							
Ease of consumption							
Possibility to save the rest of your pizza for later							
Pizza size							
Quickness of service							
Aroma							
Attractive appearance							
Easy division for two persons							

14. For the following statements I used a scale of seven points from Do not agree at all (1) to Agree completely (7). For each of the statements please indicate the level that best represents your degree of agreement/disagreement with the statement.

	Don't agree at all						Agree completely	
1. I use convenience products quite often to prepare a meal.								
2. I think that Czech people should eat the Czech food and don't change the tradition.								
3. I visit only one supermarket to complete my weekly grocery purchases.								
4. Before buying a product, I check the price.								
5. In selecting from many types and brands of pizza available in the market, I do not care at all as to which one I buy.								
6. When I go to a restaurant, I often try something I never had before even if there is a risk I won't enjoy it.								
7. When I see a new or different brand on the shelf, I often pick it up just to see what it is like.								
8. I don't base my buying decision on price but rather on different things.								
9. I am very interested in trying food from different countries.								
10. I prefer eating out to home-cooked meals for the experience and change.								
11. Even when I see something I really like, I do not buy it unless it is a planned purchase.								
12. I often try new products after I see and advertisement promoting this product.								
13. The more often I see a certain ad, the more acceptable the product becomes to me.								
14. When I see something that really interests me, I buy it without considering the consequences.								
15. I eat convenience food products during weekends so that I have more time for my hobbies and family.								
16. When I want a product, I buy it without taking price into consideration.								
17. I usually don't like kitchen of other countries more than the Czech one.								
18. I read the price tags of the grocery products I buy.								

19. I think that the various types and brands of pizza available in the market are all very alike.							
20. I like to wait until something has been proven before I buy it.							
21. Differences among the brands of pizza available on the Czech market are clear to me.							
22. I always buy the product I like without taking others' opinion into account.							
23. If I like a brand, I rarely switch from it just to try something different.							
24. Eating the proper home made meal at home is very important to me.							
25. When I go shopping, I buy things I had not intended to purchase.							
26. I skip over newspaper pages that are mainly advertising.							
27. It is important that others like the products and brands I buy.							
28. If other people can see me using a product, I often purchase the brand they expect me to buy.							
29. I don't believe in what they say in advertisements.							
30. The most important for me is to feel well with products I use over what my friends prefer.							
31. I prepare a shopping list before going grocery shopping.							
32. I prefer the home made meals though it is time consuming.							
33. We do not go to eat out regularly but only on special occasions.							
34. I don't perceive convenience products such as frozen pizza or ready- eat meals as healthy and proper.							
35. We should have a respect for traditions, cultures, and ways of life of other nations.							
36. I shopped back and forth between several different stores before choosing where I now do most of my grocery shopping.							
37. It is very important to me what type and brand of pizza I choose.							
38. I like to experiment with new ways of doing things.							
39. My job is time consuming and therefore I don't have much time for cooking myself and go often to eat either in restaurants or fast foods.							
40. It is fun to buy spontaneously.							
41. I switch TV channel stations during commercials.							

42. I would rather stick with a brand I usually buy than try something I am not very sure of.							
43. I rarely buy the same brands as my friends or family.						94	
44. I know what products I am going to buy before going to the supermarket.							
45. I take care during commercials because sometimes they are good source of inspiration.							
46. I often consult other people to help choose the best alternative available from a product class.							

Background information:

1. What is your gender?

	male
	female

2. What is the place of your residence? (city, town, village)

3. What is your marital status?

	Single
	married
	divorced

4. Which age group according to the following categories do you belong to?

	15-24
	25-34
	35-44
	45-54
	55-64
	65+

5. Are you the main person in the household who is responsible for family shopping?

	Yes

	No

6. How many members live in your household?

1	2	3	4	5	6 and more

7. What is the highest educational degree you achieved?

	Basic school
	Higher without graduation
	Specialized high school with graduation
	General high school with graduation
	College
	University

8. Which of the following categories does your family income belong to?

	Less than 15 000		35 100-40 000
	15 000-20 000		40 100-45 000
	20 100-25 000		45 100-50 000
	25 100-30 000		50 100-55 000
	30 100-35 000		more

Appendix 3: Reliability Analysis

Table 3.1: **Reliability Analysis of The exploratory tendencies in consumer behavior scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.552	.552	6

Table 3.2: **Inter-Item Correlation Matrix**

	Q.14_6	Q.14_7	Q.14_20	Q.14_23	Q.14_38	Q.14_42
Q.14_6	1.000	.161	.207	.101	.388	.305
Q.14_7	.161	1.000	.020	.094	.164	.220
Q.14_20	.207	.020	1.000	.101	.193	.252
Q.14_23	.101	.094	.101	1.000	-.153	.218
Q.14_38	.388	.164	.193	-.153	1.000	.279
Q.14_42	.305	.220	.252	.218	.279	1.000

Table 3.3: **Reliability Analysis of the reduced model**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.579	.584	5

Table 3.4: **Inter-Item Correlation Matrix**

	Q.14_6	Q.14_7	Q.14_20	Q.14_38	Q.14_42
Q.14_6	1.000	.161	.207	.388	.305
Q.14_7	.161	1.000	.020	.164	.220
Q.14_20	.207	.020	1.000	.193	.252
Q.14_38	.388	.164	.193	1.000	.279
Q.14_42	.305	.220	.252	.279	1.000

Table 3.5: **Reliability Analysis of The preference of convenience in daily life scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.706	.706	8

Table 3.6: **Inter-Item Correlation Matrix**

	Q.14_1	Q.14_10	Q.14_15	Q.14_24	Q.14_32	Q.14_33	Q.14_34	Q.14_39
Q.14_1	1.000	.034	.436	.065	.199	.140	.133	.033
Q.14_10	.034	1.000	.206	.245	.350	.254	.060	.244

Q.14_15	.436	.206	1.000	.185	.340	.201	.216	.138
Q.14_24	.065	.245	.185	1.000	.645	.187	.311	.125
Q.14_32	.199	.350	.340	.645	1.000	.357	.360	.220
Q.14_33	.140	.254	.201	.187	.357	1.000	.228	.366
Q.14_34	.133	.060	.216	.311	.360	.228	1.000	.184
Q.14_39	.033	.244	.138	.125	.220	.366	.184	1.000

Table 3.7: **Reliability Analysis of Impulsive buying tendency scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.591	.595	6

Table 3.8: **Inter-Item Correlation Matrix**

	Q.14_11	Q.14_14	Q.14_25	Q.14_31	Q.14_40	Q.14_44
Q.14_11	1.000	.127	.158	.248	.124	.173
Q.14_14	.127	1.000	.182	.155	.349	.263
Q.14_25	.158	.182	1.000	-.004	.369	.093
Q.14_31	.248	.155	-.004	1.000	.119	.427
Q.14_40	.124	.349	.369	.119	1.000	.169
Q.14_44	.173	.263	.093	.427	.169	1.000

Table 3.9: **Reliability Analysis of the Brand consciousness scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.629	.622	4

Table 3.10: **Inter-Item Correlation Matrix**

	Q.14_5	Q.14_19	Q.14_21	Q.14_37
Q.14_5	1.000	.105	.344	.482
Q.14_19	.105	1.000	.237	.152
Q.14_21	.344	.237	1.000	.428
Q.14_37	.482	.152	.428	1.000

Table 3.11: **Reliability Analysis of The price susceptibility scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.484	.495	6

Table 3.12: **Inter-Item Correlation Matrix**

	Q.14_3	Q.14_4RECODED	Q.14_16_RECODED	Q.14_18_RECODED	Q.14_8	Q.14_36
Q.14_3	**1.000**	-.105	-.079	-.079	.041	-.156
Q.14_4RECODED	**-.105**	1.000	.230	.634	.159	.352
Q.14_16_RECODED	**-.079**	.230	1.000	.091	.347	.289
Q.14_18_RECODED	**-.079**	.634	.091	1.000	.069	.234
Q.14_8	**.041**	.159	.347	.069	1.000	.076
Q.14_36	**-.156**	.352	.289	.234	.076	1.000

Table 3.13: **Reliability Analysis of the reduced model**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.630	.623	5

Table 3.14: **Reliability Analysis of The cultural openness scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.480	.483	4

Table 3.15: **Inter-Item Correlation Matrix**

	Q.14_2	Q.14_9	Q.14_17	Q.14_35
Q.14_2	1.000	.089	.278	.096
Q.14_9	.089	1.000	.237	.208
Q.14_17	.278	.237	1.000	.228
Q.14_35	.096	.208	.228	1.000

Table 3.16: **Reliability Analysis of The advertisement influence scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.684	.696	6

Table 3.17: **Inter-Item Correlation Matrix**

	Q.14_12	Q.14_13	Q.14_26	Q.14_29	Q.14_41	Q.14_45
Q.14_12	1.000	.405	.213	.175	.107	.313
Q.14_13	.405	1.000	.277	.294	.244	.437
Q.14_26	.213	.277	1.000	.244	.294	.368
Q.14_29	.175	.294	.244	1.000	.187	.206
Q.14_41	.107	.244	.294	.187	1.000	.379
Q.14_45	.313	.437	.368	.206	.379	1.000

Table 3.18: **Reliability Analysis of The interpersonal influence scale**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.661	.659	6

Table 3.19: **Inter-Item Correlation Matrix**

	Q.14_22	Q.14_27	Q.14_28	Q.14_43	Q.14_46	Q.14_30_RECODED
Q.14_22	1.000	.247	.196	.177	.200	.287
Q.14_27	.247	1.000	.350	.203	.427	.368
Q.14_28	.196	.350	1.000	.093	.330	.413
Q.14_43	.177	.203	.093	1.000	.015	.132
Q.14_46	.200	.427	.330	.015	1.000	.212
Q.14_30_RECODED	.287	.368	.413	.132	.212	1.000

Appendix 4: Bi-variate correlation for the model of pizza consumption

Table 4.1: **Correlations between Place of the outlet and Number of pizzas per day outside the season**

			Place_of_the_outlet	NO_OF_PIZZAS_OUTSIDE_SEASON
Kendall's tau_b	Place_of_the_outlet	Correlation Coefficient	1.000	**.332(*)**
		Sig. (1-tailed)	.	**.019**
		N	27	27
	NO_OF_PIZZAS_OUTSIDE_SEASON	Correlation Coefficient	.332(*)	1.000
		Sig. (1-tailed)	.019	.
		N	27	27

* Correlation is significant at the 0.05 level (1-tailed).

Table 4.2: **Correlations between Number of pizzas outside the season and Number of pizzas per day in the season**

			NO_OF_PIZZAS_OUTSIDE_SEASON	NO_OF_PIZZAS_IN_SEASON
Spearman's rho	NO_OF_PIZZAS_OUTSIDE_SEASON	Correlation Coefficient	1.000	.943(**)
		Sig. (1-tailed)	.	.000
		N	27	27
	NO_OF_PIZZAS_IN_SEASON	Correlation Coefficient	**.943(**)**	1.000
		Sig. (1-tailed)	**.000**	.
		N	27	27

** Correlation is significant at the 0.01 level (1-tailed).

Table 4.3: **Correlations between the fixed number of sitting places and the Number of pizzas per day outside the season**

			FIXED_NO_OF_SITTING_PLACES	NO_OF_PIZZAS_OUTSIDE_SEASON
Spearman's rho	FIXED_NO_OF_SITTING_PLACES	Correlation Coefficient	1.000	.751(**)
		Sig. (1-tailed)	.	.000
		N	27	27
	NO_OF_PIZZAS_OUTSIDE_SEASON	Correlation Coefficient	**.751(**)**	1.000
		Sig. (1-tailed)	**.000**	.
		N	27	27

** Correlation is significant at the 0.01 level (1-tailed).

Table 4.4: **Correlation between the total number of seats and the number of pizzas consumed per day in the main season**

			SEATS_TOTAL	NO_OF_PIZZAS _IN_SEASON
Spearman's rho	SEATS_TOTAL	Correlation Coefficient	1.000	.834(**)
		Sig. (1-tailed)	.	.000
		N	27	27
	NO_OF_PIZZAS_IN_ SEASON	Correlation Coefficient	**.834(**)**	1.000
		Sig. (1-tailed)	**.000**	.
		N	27	27

** Correlation is significant at the 0.01 level (1-tailed).

Appendix 5: Linear Regression Model of Pizza Consumption in the main season

Table 5.1: **Model Summary**

Model	R	R Square	Change Statistics				
			R Square Change	F Change	df1	df2	Sig. F Change
1	.984(a)	**.968**	.968	164.717	4	22	**.000**

a Predictors: (Constant), Middle_sized_town_outlets, SEATS_TOTAL, Prague_outlets,

NO_OF_PIZZAS_OUTSIDE_SEASON

Table 5.2: **Coefficients (the original model)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	**9.350**	6.964		1.343	**.193**
	NO_OF_PIZZAS_ OUTSIDE_SEASON	**1.044**	.125	.790	8.321	**.000**
	SEATS_TOTAL	**.288**	.141	.194	2.043	**.053**
	Prague_outlets	**2.673**	6.307	.020	.424	**.676**
	Middle_sized_town_ outlets	**-4.780**	8.264	-.025	-.578	**.569**

a Dependent Variable: NO_OF_PIZZAS_IN_SEASON

Table 5.3: **Reduced Model Summary**

Model	R	R Square	Change Statistics				
			R Square Change	**F Change**	df1	df2	**Sig. F Change**
1	.984(a)	.968	**.968**	**164.717**	4	22	**.000**
2	.983(b)	.966	**-.001**	**.461**	2	22	**.636**

a Predictors: (Constant), Middle_sized_town_outlets, SEATS_TOTAL, Prague_outlets,

NO_OF_PIZZAS_OUTSIDE_SEASON

b Predictors: (Constant), SEATS_TOTAL, NO_OF_PIZZAS_OUTSIDE_SEASON

Table 5.4: **Coefficients (original and reduced model)**

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	9.350	6.964		1.343	.193
	NO_OF_PIZZAS_OUT SIDE_SEASON	1.044	.125	.790	8.321	.000
	SEATS_TOTAL	.288	.141	.194	2.043	.053
	Prague_outlets	2.673	6.307	.020	.424	.676
	Middle_sized_town_ou tlets	-4.780	8.264	-.025	-.578	.569
2	(Constant)	**9.288**	6.406		1.450	**.160**
	NO_OF_PIZZAS_OUT SIDE_SEASON	**1.064**	.121	.805	8.806	**.000**
	SEATS_TOTAL	**.284**	.135	.192	2.096	**.047**

a Dependent Variable: NO_OF_PIZZAS_IN_SEASON

Appendix 6: Linear Regression Model of Pizza Consumption outside the main

season

Table 6.1: **Model Summary (original and reduced model)**

Model	R	R Square	Change Statistics				
			R Square Change	**F Change**	df1	df2	**Sig. F Change**
1	.876(a)	.768	**.768**	**25.361**	3	23	**.000**
2	.872(b)	.760	**-.008**	**.405**	2	23	**.672**

a Predictors: (Constant), Middle_sized_town_outlets, FIXED_NO_OF_SITTING_PLACES, Prague_outlets
b Predictors: (Constant), FIXED_NO_OF_SITTING_PLACES

Table 6.2: **Coefficients for both models; the original one and the reduced one**

Model		Unstandardized Coefficients		Standardized Coefficients	t	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	**-5.163**	10.866		-.475	**.639**
	FIXED_NO_OF_ SITTING_PLACES	**1.019**	.131	.853	7.798	**.000**
	Prague_outlets	**2.828**	12.521	.028	.226	**.823**
	Middle_sized_town_outl ets	**-10.833**	16.246	-.076	-.667	**.512**
2	(Constant)	**-6.647**	9.042		-.735	**.469**
	FIXED_NO_OF_ SITTING_PLACES	**1.041**	.117	.872	8.890	**.000**

a Dependent Variable: NO_OF_PIZZAS_OUTSIDE_SEASON

Appendix 7: Frequency tables and graphs of the whole sample

Table 7.1: **Descriptive Statistics for all four demographic variables**

	GENDER	RESIDENCY	MARITAL _STATUS	AGE	HOUSEH. SIZE	SHOPPING RESPON.	EDUCATION	HOUSEHOLD INCOME
Mean	1.60	2.62	1.75	2.97	2.99	1.40	4.71	5.34
Std. Deviation	.491	1.074	.726	1.244	1.078	.491	1.461	2.495

Table 7.2: **Gender distribution**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	man	57	39.9	39.9	39.9
	woman	86	60.1	60.1	100.0
	Total	143	100.0	100.0	

Table 7.3: **Age distribution**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-24	9	6.3	6.3	6.3
	25-34	58	40.6	40.6	46.9
	35-44	30	21.0	21.0	67.8
	45-54	21	14.7	14.7	82.5
	55-64	24	16.8	16.8	99.3
	more than 64	1	.7	.7	100.0
	Total	143	100.0	100.0	

Table 7.4: **Household size**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.4	8.4	8.4
	2	35	24.5	24.5	32.9
	3	49	34.3	34.3	67.1
	4	37	25.9	25.9	93.0
	5	9	6.3	6.3	99.3
	6	1	.7	.7	100.0
	Total	143	100.0	100.0	

Table 7.5: **Education levels distribution**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	basic school	1	.7	.7	.7

	skilled worker	6	4.2	4.2	4.9
	high school with specialization	39	27.3	27.3	32.2
	general high school	15	10.5	10.5	42.7
	college	8	5.6	5.6	48.3
	university	74	51.7	51.7	100.0
	Total	143	100.0	100.0	

Appendix 8: Frequency tables of the three region samples

Table 8.1: **The universe values based on the data provided by The Czech Statistical Office**

Region	total population	men (%)	women (%)	average age	education	family size
PRAHA	1169106	47.42	52.58	41.7	gen. HS, UNI	2.12
Jihočeský kraj	625267	49.1	50.9	39.8	SW,gen. HS	2.43
REGION X	2192372	49.128	50.8720002	39.93333333	gen. HS, basic, SW	2.45

Table 8.2: **Percentage of education level achieved in the universe**

Region	No. of 15+	Basic	Skilled	Spec. HS	Gen. HS	College	University
Prague	1012404	15.03	15.38	14.58	31.72	5.41	17.89
Jihocesky	267703	17.46	25.70	20.98	23.87	2.70	9.28
3-region area	1837068	24.28	22.71	18.91	25.44	3.87	7.24

Table 8.3: **Frequency table of the age category in Jihočeský region**

AGE CATEGORY	Frequency	Valid Percent	Cumulative Percent
25-34	34	48.6	48.6
35-44	14	20.0	**68.6**
45-54	11	15.7	84.3
55-64	11	15.7	100.0
Total	**70**	100.0	

The average age from the sample reaches the value in between 35-44.

Table 8.4: **Frequency table of the gender distribution in Jihočeský region**

Gender	% in the sample	% in the universe
Male	47.1	49.1
Female	52.9	50.9

Table 8.5: **Frequency table of the education in Jihočeský region**

Education	Percentage in the sample	Percentage in the universe
Skilled worker	**4.30**	25.70
Specialized high school	24.30	20.98
General high school	11.40	23.87
College	4.30	2.7
University	**55.70**	9.28

Graph 8.1: **The average family size in Jihočeský region**
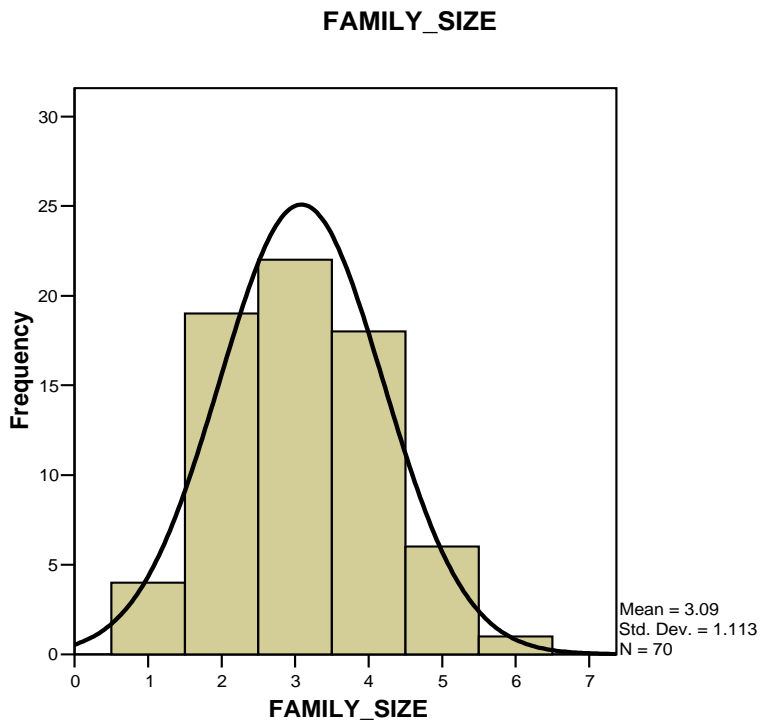
FAMILY_SIZE

Mean = 3.09
Std. Dev. = 1.113
N = 70

Table 8.6: **Frequency table of the age category in the three-region area**

AGE CATEGORY	Frequency	Valid Percent	Cumulative Percent
15-24	8	25.0	25.0
25-34	12	37.5	**62.5**
35-44	4	12.5	75.0
45-54	2	6.3	81.3
55-64	6	18.8	100.0
Total	**32**	100.0	

The average age is part of the second age category.

Table 8.7: **Frequency table of the gender distribution in the three-region area**

Gender	% in the sample	% in the universe
Male	40.6	49.1
Female	59.4	50.9

Table 8.8: **Frequency table of the education in the three-region area**

Education	Percentage in the sample	Percentage in the universe
Specialized high school	**40.60**	18.91
General high school	15.60	25.44
College	3.10	3.87
University	**40.60**	7.24

Graph 8.2: **The average family size in the three-region area**
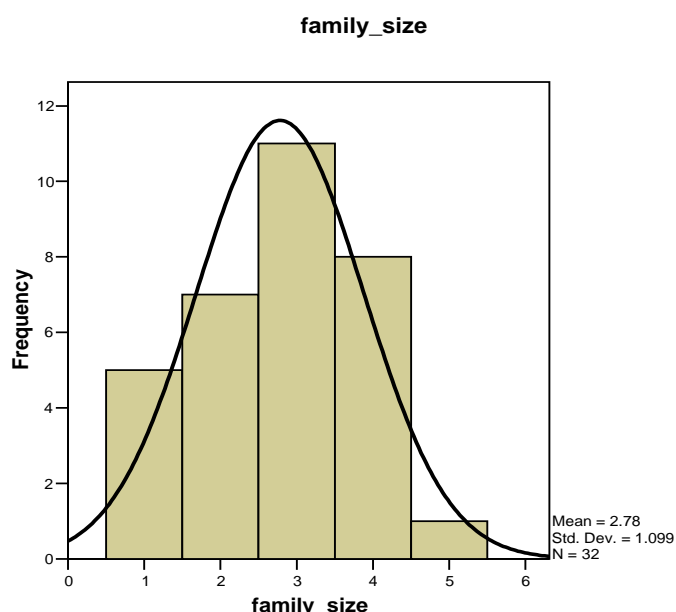
family_size

Mean = 2.78
Std. Dev. = 1.099
N = 32

Table 8.9: **Frequency table of the age category in Prague region**

AGE CATEGORY	Frequency	Valid Percent	Cumulative Percent
15-24	1	2.4	2.4
25-34	12	29.3	31.7
35-44	12	29.3	**61.0**
45-54	8	19.5	80.5
55-64	7	17.1	97.6
OVER 65	1	2.4	100.0
Total	38	100.0	

The average age of the sample is in between 35-44.

Table 8.10: **Frequency table of the gender distribution in Prague region**

Gender	% in the sample	% in the universe
Male	26.8	47.42
Female	73.2	52.58

Table 8.11: **Frequency table of the education in Prague region**

Education	Percentage in the sample	Percentage in the universe
Basic school	2.4	15.03
Skilled worker	7.3	15.38
Specialized high school	22.0	14.58
General high school	4.9	31.72
College	9.8	5.41
University	53.7	17.89

Graph 8.3: **The average family size in the Prague region**

family_size

Mean = 3
Std. Dev. = 1
N = 41
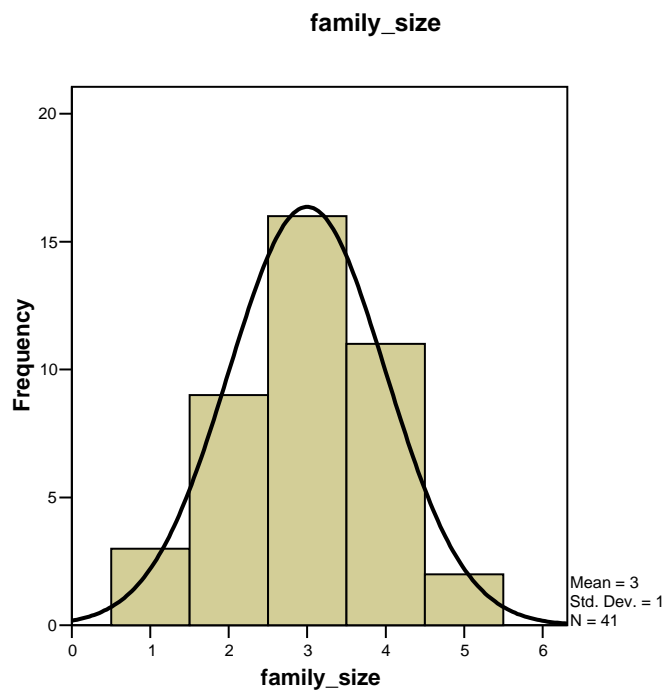
Appendix 9: Basic characteristics of the pizza consumption

Graph 9.1: **Frequency of the total pizza consumption**

No_of_pizzas

Graph 9.2: **Frequency graph of the occasion types in pizza consumption**

OCCASION
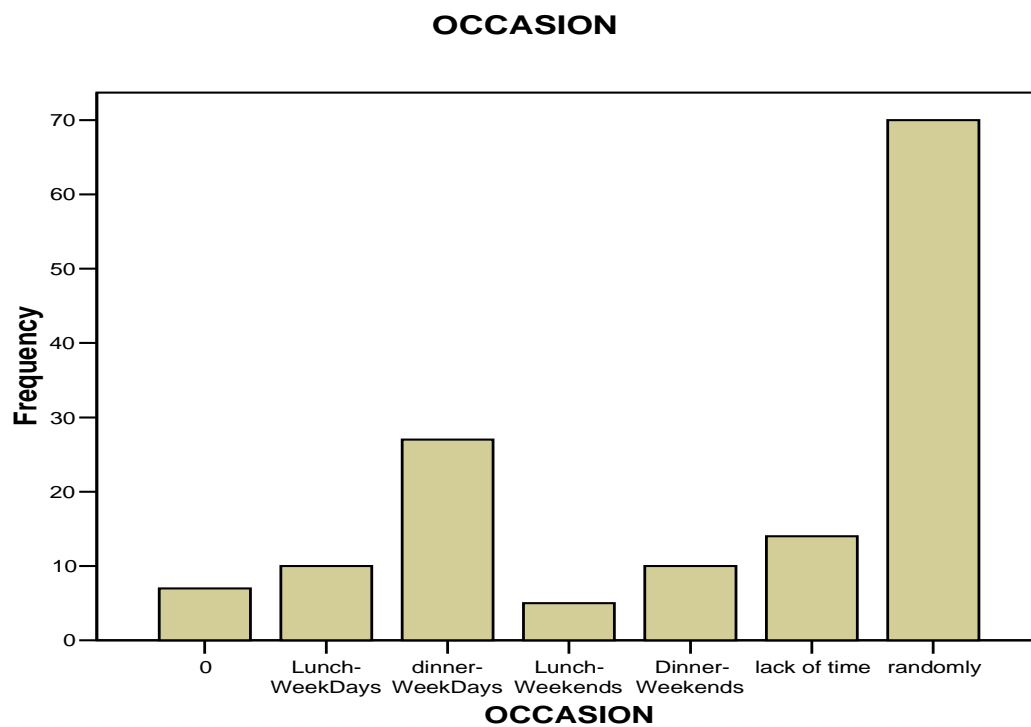
Graph 9.3: **Frequency graph of the number of frozen pizza consumption**

No._of_frozen_pizza

Graph 9.4: **Frequency graph of the number of fast food pizza consumption**

No._of_fast_food_pizza
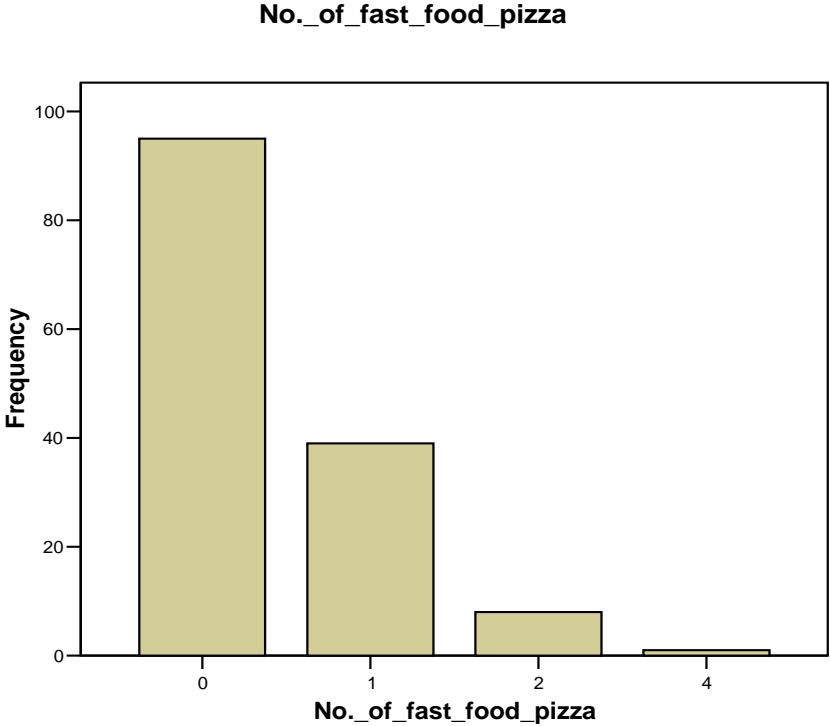
<u>Graph 9.5:</u> **Frequency graph of the number of pizzeria pizza consumption**

No._of_pizzeria_pizza

No._of_pizzeria_pizza
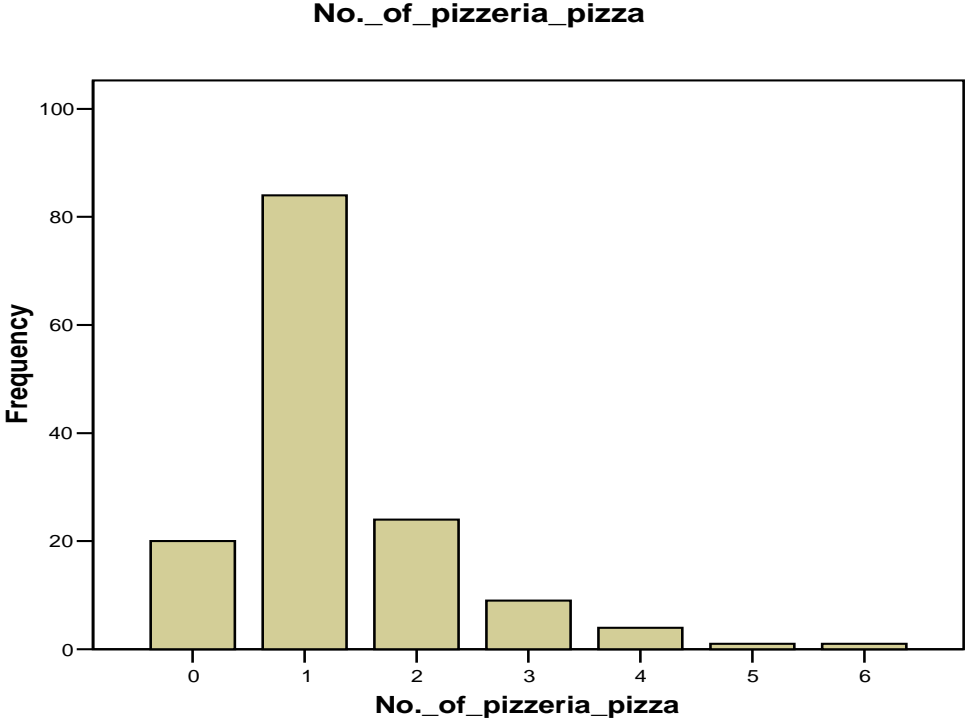
Appendix 10: Bi-variate correlation analysis of selected demographic data

Table 10.1: **Correlation between Residency and Household income**

			HOUSEHOLD _INCOME	RESIDENCY
Spearman's rho	HOUSEHOLD_INCOME	Correlation Coefficient	1.000	.029
		Sig. (1-tailed)	.	.367
		N	143	143
	RESIDENCY	Correlation Coefficient	**.029**	1.000
		Sig. (1-tailed)	**.367**	.
		N	143	143

Table 10.2: **Correlation between Residency and Education**

			RESIDENCY	EDUCATION
Spearman's rho	RESIDENCY	Correlation Coefficient	1.000	**-.006**
		Sig. (1-tailed)	.	**.473**
		N	143	143
	EDUCATION	Correlation Coefficient	-.006	1.000
		Sig. (1-tailed)	.473	.
		N	143	143

Table 10.3: **Correlation between Age and Marital status**

			AGE
Chi-Square			**51.393**
df			**3**
Asymp. Sig.			**.000**
Monte Carlo Sig.	Sig.		**.000(a)**
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.000

a Based on 10000 sampled tables with starting seed 299883525.
b Kruskal Wallis Test
c Grouping Variable: MARITAL_STATUS

Table 10.4: **Correlation between Marital status and Gender**

	MARITAL_ STATUS	GENDER
Chi-Square(a,b)	78.455	5.881
df	3	1
Asymp. Sig.	**.000**	**.015**

a 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 35.8.
b 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 71.5.

Table 10.5: **Correlation between Age and Education**

			AGE	EDUCATION
Kendall's tau_b	AGE	Correlation Coefficient	1.000	**-.045**
		Sig. (1-tailed)	.	**.263**
		N	143	143
	EDUCATION	Correlation Coefficient	-.045	1.000
		Sig. (1-tailed)	.263	.
		N	143	143

Table 10.6: **Correlation between Age and Household income**

			AGE	HOUSEHOLD _INCOME
Kendall's tau_b	AGE	Correlation Coefficient	1.000	**.054**
		Sig. (1-tailed)	.	**.205**
		N	143	143
	HOUSEHOLD_INCOME	Correlation Coefficient	.054	1.000
		Sig. (1-tailed)	.205	.
		N	143	143

Table 10.7: **Correlation between Age and Household size**

			AGE	HOUSEHO LD_SIZE
Kendall's tau_b	AGE	Correlation Coefficient	1.000	**.046**
		Sig. (1-tailed)	.	**.253**
		N	143	143
	HOUSEHOLD_SIZE	Correlation Coefficient	.046	1.000
		Sig. (1-tailed)	.253	.
		N	143	143

Table 10.8: **Correlation between Household size and Residency**

			HOUSEHOLD_ SIZE	RESIDENCY
Kendall's tau_b	HOUSEHOLD_SIZE	Correlation Coefficient	1.000	**-.051**
		Sig. (1-tailed)	.	**.237**
		N	143	143
	RESIDENCY	Correlation Coefficient	-.051	1.000
		Sig. (1-tailed)	.237	.
		N	143	143

Table 10.9: **Correlation between Household size and Household income**

			HOUSEHOLD_ SIZE	HOUSEHOLD _INCOME
Spearman's rho	HOUSEHOLD_SIZE	Correlation Coefficient	1.000	.249(**)
		Sig. (1-tailed)	.	.001
		N	143	143
	HOUSEHOLD_INCOME	Correlation Coefficient	**.249(**)**	1.000
		Sig. (1-tailed)	**.001**	.
		N	143	143

** Correlation is significant at the 0.01 level (1-tailed).

Table 10.10: **Correlation between Gender and Shopping responsibility**

		GENDER	SHOPPING_ RESPONSIB ILITY
GENDER	Pearson Correlation	1	.446(**)
	Sig. (1-tailed)		.000
	N	143	143
SHOPPING_RESPONSI BILITY	Pearson Correlation	.446(**)	1
	Sig. (1-tailed)	.000	
	N	143	143

** Correlation is significant at the 0.01 level (1-tailed).