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NICHE RESTAURANT PERFORMANCE:
THE CASE OF GLUTEN-FREE RESTAURANTS

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ABSTRACT

This study examines the performance of restaurants that joined the gluten-free niche with project “Alimentazione Fuori Casa” (AFC). In particular, it aims to demonstrate the higher economic returns earned by firms in the niche compared to the performance of other businesses in the restaurant industry through two different models in which the condition of being part of the gluten-free niche affects restaurants performance. Two more models are then used to test the returns of gluten-free restaurants on some traits characterizing the AFC network. The findings of this study support the idea that there is a positive association between serving the gluten-free niche and firms’ performance, especially regarding total revenues. Moreover, the results provide useful information for firms in the gluten-free niche related to the premium gained through the AFC network.

Questo lavoro esamina la performance dei ristoranti che sono entrati a far parte della nicchia di mercato del senza glutine tramite il progetto “Alimentazione Fuori Casa” (AFC). In particolare, si vuole dimostrare la miglior performance dei ristoranti in questa nicchia rispetto a più comuni ristoranti attraverso due diversi modelli in cui la condizione di essere un ristorante senza glutine influenza la prestazione economica dell’azienda. Altri due modelli sono invece utilizzati per testare la performance dei ristoranti che preparano cibo senza glutine su alcune caratteristiche del network AFC. I risultati dello studio sostengono la tesi iniziale: esiste una relazione positiva tra il servire la nicchia della ristorazione senza glutine e la performance dei ristoranti, soprattutto per quanto riguarda il fatturato. Inoltre, gli esiti dello studio forniscono alcune informazioni sulla convenienza del far parte del network AFC utili ai ristoranti della nicchia del senza glutine.

INTRODUCTION

Italy is internationally known for its excellent food and its gastronomic heritage and, in general, Italian restaurants enjoy widespread appreciation and good reputation all over the world. The restaurant industry in Italy appears as a very dynamic market where firms are always looking for the best way to satisfy their customers, seeking the latest trends and responding to changes in demand. In recent years, many companies have turned into gluten-free restaurants so that to be able to satisfy the particular need of people suffering from celiac disease, that is eating out gluten-free, yet little attention has been dedicated to it.

Given the lack of research about the influence of being able to consciously supplying people with celiac disease or with some other kind of gluten intolerance on restaurant performance, this study attempts to demonstrate the existence of higher economic returns associated with being a gluten-free restaurant. Specifically, the study compares the difference in performance between ordinary businesses in the restaurant industry and businesses in the gluten-free niche that have joined the project “Alimentazione Fuori Casa” in order to prove the convenience of entering this niche market.

With this purpose, the study firstly introduces the characteristics of Italian restaurant industry and presents the case of celiac disease along with the protection that people suffering from celiac disease benefit from European and Italian legislations. It follows an overview over the Italian Coeliac Association and its projects directed to improve everyday life of individuals with celiac disease, with a particular focus on “Alimentazione Fuori Casa” project that directly involves businesses in the whole hospitality industry.

Next, the second chapter explores some topics of theoretical and empirical literature about themes regarding niche strategies, with some examples in restaurant industry, customer satisfaction and customer loyalty, which are used to motivate and justify a higher restaurant performance. Therefore, supplying gluten-free food is believed to be a profitable way to boost both satisfaction and customers’ loyalty and thus sales and firms’ profitability. Three main hypotheses are then formulated assuming the existence of a positive relation between serving the gluten-free niche, as well as being part of the AFC network, and performance.

The final part of the study is dedicated to the empirical research and it is divided into two main sections. The first section initially deepens the diffusion and the distribution of the gluten-free network of companies in Italy. Then the trends characterizing hospitality and restaurant industry are analyzed and compared with those of the gluten-free niche. It follows a ratio analysis that takes into account the number of businesses in these markets over the recent years and accounts for the development of population and people with celiac disease. The analysis is made at Italian level and at regional level, considering the cases of three Regions, Lombardia, Toscana and Veneto.

The last section reports the regression models used to judge the performance of gluten-free restaurants and to verify the hypotheses. Four different types of analyses are considered: the first one compares the performance of gluten-free firms with the performance of more common restaurants in each year between 2010 and 2014, whereas the second type of analysis runs the same regression considering the observations as panel data. The third and fourth models evaluate only firms in the gluten-free niche. The former tests the influence of the size of the AFC network while the latter regression model measures the effect of the number of years a company is in the “Alimentazione Fuori Casa” project over restaurant performance.

CHAPTER 1

RESTAURANT INDUSTRY AND CELIAC DISEASE

1.1 RESTAURANT INDUSTRY

The restaurant industry, or foodservice industry, is one of the markets that belongs to the big world of services. It is defined as the *combination of businesses responsible for preparing and distributing food and beverage for the immediate consumption* (Imparato, 2011). The activity not only *concerns logistic functions but also comprehends processing of foodstuffs, staff assistance and sometimes entertainment* (Eiglier and Langeard, 1988). Like the hospitality industry, the macro-category that also includes resorts and hotels, the restaurant market is a dynamic environment with a great degree of competitiveness.

In such a competitive environment, businesses have developed plenty of strategies in order to survive and differentiate from rivalry. For example, some restaurants stand out for their type of cuisine, like ethnic or natural food restaurants; there are fast-food as well as table service restaurants; some restaurants specialize in a narrow price range while others adopt a wider price range. Similarly, companies in foodservice industry can offer a narrow array of items in the menu or serve a broader variety or, differently, some businesses specialize the service in one part of the day whereas others operate 24 hours a day. At the same time, restaurants can differentiate for the range of services and can adopt various style of service.

In general, there is a great degree of variability in term of specialism-generalization in the foodservice industry (Freeman and Hannan, 1983). The Italian restaurant sector appears rather heterogeneous and locally distributed, characterized by micro and small size enterprises and lacking in franchise structure. Given this fragmented design, the industry has always been subject to different segmentation proposals that, in particular, examine in depth the peculiar traits of restaurants and try to identify distinct clusters.

A primary and basic classification comes from the Italian national institute of statistics (Istat) and it is developed following European standards of classification of economic activities. Therefore, restaurant industry is classified under category ATECO 56 and it is split

into three main types¹: restaurants, catering services and canteens, and bars. According to the last report of Fipe (Federazione Italiana Pubblici Esercizi) on restaurant industry, “Ristorazione 2015– rapporto annuale”, the main category of the market are restaurants with about 168.289 active enterprises in 2014, followed by bars segment that accounts for 149.085 businesses. Catering services are the less common and less influential category with just 3.017 enterprises².

Fornari (2006) develops a more detailed classification. The author analyzes in depth both restaurants and bars segments, identifying some peculiar characteristics that can recognize different subgroups. In particular, he highlights three clusters for restaurant category based on the following properties:

- the degree and the typology of dining offer, for instance full service, self-service or take-away, differentiating for the level of personnel service;
- the specialization of the menu, for example: steak house, fish restaurant, sushi bar, etc.;
- the distinction for price range such as tavern, luxury or more traditional restaurants.

To these groups, Fornari (2006) adds a fourth category based on marketing function and aim, whether it is address to both demand and supply or just to one dimension. Therefore, the final classification comprehends four type of restaurants: commercial restaurants, intermediate restaurants, top-level restaurants and pizzerias. The variable that primarily specifies how each clusters works is the average menu price.

Considering that dining out is primary an occasional event, price level is an important discriminating factor for both restaurant supply and restaurant demand sides. As stated by Fornari (2006), *prices set differences among restaurants, thus influencing the supply side of the foodservice sector*. At the same time, price range can also affects the way customers prefer and choose a restaurant over another, modifying demand pattern.

An additional interesting aspect regarding foodservice demand side is a certain degree of seasonality. “*Restaurant sales fluctuate with seasons, business cycles, and consumer income cycles. They also respond to purely local events and to fashions and fads*” (Freeman and Hannan, 1983, p. 1126). In effect, it is possible to infer some volatility and to point out a pattern for what concern service requests. There are periods in which restaurant service is highly requested, for instance at weekend or at festivity days, and some other times when

¹ To see the overall system of classification of economic activities, visit <http://www.istat.it/it/strumenti/definizioni-e-classificazioni/ateco-2007> (viewed 13/02/2016).

² The whole report on financial structure of businesses in restaurant industry is released by FIPE (2015), ‘Ristorazione 2015 – rapporto annuale’, available at <http://www.fipe.it/centro-studi/centro-studi-2015.html?format=html&start=0> (viewed 13/02/2016).

there is a lack of demand. A regular time interval exists between peak moments of restaurant service and down periods, especially in the short time. Since these fluctuations show up mainly during a week period or even in the daytime, restaurant seasonality is typically defined in the very short time.

Moreover, like in many other businesses, the socio-economic context influences volatility in the restaurant industry. In a positive economic climate, people have a propensity for dining out and, therefore, restaurateurs will have more regular consumer arrivals. In contrast, during negative economic trends people pay attention on how to manage their money so that they are more reluctant to hang out at restaurants or bars (Chapman et al., 2007). Demand becomes more unstable and, consequently, restaurant performance may undergo a slowdown.

The influence of economic context can also be noticed from looking at data on the restaurant industry. The Italian restaurant sector presents a wide and heterogeneous offer, which is constantly expanding following international food trends created, for example, by new occasion of dining out like brunch or by particular food fashion. Nevertheless, it is not immune to economic downturn and its consequences. At the end of 2014, the overall Italian hospitality industry counts about 418.094 registered structures, of which 49.653 are accommodations and 368.441 are businesses in the restaurant industry³.

³ Other information about restaurant industry for the past years can be found at Infocamere webpage <https://www.infocamere.it/movi/cgi/roberto?pGeoTk=IT&pTipTk=I&pPerTk=A2014> (viewed 13/02/2016).

Table 1. OVERVIEW OVER ITALIAN POPULATION AND RESTAURANT INDUSTRY.

YEAR	POPULATION	RESTAURANT INDUSTRY (ATECO 56)	REST. IND. GROWTH %	POPULATION/ REST. IND.	REST. IND. CLOSURE	REST. IND. CLOSURE %
2014	60.782.668	321.768	1,46%	189	27.971	2,84%
2013	60.782.668	317.140	1,61%	192	27.199	5,92%
2012	59.685.227	312.101	1,90%	191	25.678	4,26%
2011	59.394.207	306.273	2,29%	194	24.629	2,22%
2010	59.190.143	299.425	2,74%	198	24.095	-1,95%
2009	59.000.586	291.447	-	202	24.575	-

Source: Istat and Infocamere data processing

More in detail, concerning the foodservice market, 321.786 businesses out of the 368.441 were operative at the end of 2014 while 27.971 closed their activity. Given a resident population estimated around 60.782.668 in 2014, there is one operative restaurant for every 189 people in Italy (see table 1). Comparing with previous years, both businesses and population have enlarged but restaurant industry growth was greater than that of population. Thus, population/operative restaurant ratio has decrease meaning that nowadays there are more dining places for every single person relative to 2009. Despite this positive trend, note that the restaurant industry growth slows down between 2010 and 2014. While in 2010 businesses in Italian foodservice industry grew around 2.74% compared with the previous year, in 2014 the increase was about 1.46%, more than one percent lower than 2010. The market results slightly saturated and this negative trend is lasting since the debt crisis in 2010. Therefore, the general economic slowdown influenced the growth rate in restaurant industry, making any investments in this sector both more risky and expensive.

Data on restaurant industry closures are of great interest too. Looking at the percentage value of closing, observe that the trend has been positive and quite regular in the past five years. Restaurants turnover is increasing, caused by the recent several years of economic crisis and the depression on consumer consumption. Despite between 2009 and 2010 the number of closed businesses decreased, from 2010 it started to increase dramatically. The peak of business closures was in 2013 when the closure rate was about 6%. If we look at the number of closing businesses, almost 28 thousands food service enterprises closed during 2014 whereas about 24 thousands shut down in 2010. Again, a contributing factor was the recent debt crisis that, above all, involved Italy. In such a negative economic context,

businesses who are able to survive are those that focus on their core activities and have a well-defined strategy to retain and gain customers.

Looking generally at the European restaurant industry, it appears as one of the most dynamic industries, with about 1.5 million of operative businesses observed in 2010. It covers about 7% of the total amount of enterprises in the Old Continent, resulting as of significant impact for European economy (Fipe, 2014). In particular, the restaurant industry in Italy is quite vivid and stands among the best and most important markets in Europe together with France, United Kingdom and Germany, accounting for 13.1% of value added in this sector at EU level in 2010⁴.

Italian restaurant industry is quite heterogeneous and locally distributed, characterized by small enterprises (employing from 10 to 49 persons) but especially by micro enterprises with fewer than 10 employees (Eurostat, 2010). Micro enterprises represent the typical size class businesses for restaurant service industry in Europe, accounting for 43.7% share of value added and employing 46.1% of the workforce in this sector.

Specifically, Italy reported the highest level of employment share of EU micro enterprises, employing 68.8% of people working in the food and beverage service sector. There are few large enterprises and data highlights a peculiar characteristic of the Italian market: the scarcity of restaurant chain businesses and, in general, the use of franchising format. Nevertheless, in recent years the franchising model is growing, especially among fast food restaurants, pizzerias and cafeterias where trends are positive in term of sales volume, employment and number of structures involved⁵. In particular, the franchising solution could offer the possibility to create a competitive advantage, exploiting not only the brand name thus positive word of mouth but also the intrinsic characteristics of this sector, for instance the rivalry between the large number of distributors and the relatively low capital investments.

For a better insight into the foodservice world, it can be useful to determine the overall attractiveness of the industry through Porter's five forces model. This valuable tool can help in understanding the market and identifying those areas where there are opportunities of improvement, strengthening a restaurant's competitive position.

Starting the analysis from the bargaining power of buyer, it is clear that consumers have a strong influence over restaurant businesses. Today restaurant customers have a wide range of choices and consumer switching cost are relatively low since dining places tend to be very similar to each other and menu offer is quite the same. Therefore, the bargaining power

⁴ Source: Eurostat, statistics explained, available at http://ec.europa.eu/eurostat/statistics-explained/index.php/Food_and_beverage_services_statistics_-_NACE_Rev._2, (viewed 13/02/2016).

⁵ For any further data on franchising sales volume see 'Rapporto Assofranchising Italia – Strutture, Tendenze e Scenari' available at <http://www.assofranchising.it/it/dati-e-statistiche.html>, (viewed 13/02/2016).

of buyers has to be managed properly in order to convert this force into a business strength. Conversely, the power of suppliers is a bit lower given the fact that there are many food and beverage suppliers and restaurateurs can easily switch from one distributor to another, looking for the best offer. Here restaurants have a powerful position but, at the same time, it is important to establish and maintain good collaborations with suppliers to create a competitive advantage.

The threat of substitute plays an important role too. In the current environment, many restaurants may differ just for one item in the menu. With such a competitive market, the restaurant that better satisfies its customers and is able to create a unique experience will beat the competition. Similarly, the threat of new entrants has a great impact on overall industry attractiveness. Barriers of entrance are low and the investments and the time needed to start and run a business in this market are below the ones of classical hospitality industry. Furthermore, technology required for restaurant service is simple to find and not too sophisticated.

Together, bargaining power of the buyer and supplier, threat of substitutes and barriers of entrance lead to some concerns about the possibility of new entrants. At the same time, restaurateurs must pay attention on existing competitors: in this marketplace, rivalry is very strong and restaurant managers should focus their attention on how to enhance customer satisfaction and thus how to build customer loyalty. Generally, the attractiveness and the convenience of being part of the restaurant industry seems to be scarce given its highly competitive environment. Customers have the greatest influence over restaurateurs and they make the difference in restaurant performance.

Moreover, through the years customers have become more sophisticated and value-oriented whereas businesses have tried to stand out in many different ways, distinguishing for type of cuisine, style and range of services, menu and price variety and so on. “*Today’s consumers are more knowledgeable about food and drinks than ever before*” (Riehle et al., 2014, p. 43). They are interested in what they eat, they seek for food-related experiences, always expecting a great service quality. At the same time, they follow the latest trends in the restaurant industry and look for valuable experiences to report to others.

To survive in this highly competitive environment, restaurants should follow a well-defined customer oriented strategy, to offer something more and significantly beyond what competitors are already doing. One profitable way to surprise customers can be offering gluten-free meals: building a niche and breaking the normality of a classic restaurant.

1.2 CELIAC DISEASE: WHAT IT IS AND HOW IT IS DEVELOPING

The main difference between gluten-free niche and all the other types of minor markets distinguishable through segmentation analyses, for instance vegan or biologic restaurants, is that the former involves people not only with a specific need, but also with a real disease.

Celiac disease is not a food allergy. “Celiac disease (CD) is an autoimmune disorder occurred in genetically predisposed individuals, and triggered by the ingestion of dietary gluten, the major protein component in wheat, barley and rye. Treatment of CD and other gluten-related disorders is based on the lifelong exclusion of gluten containing cereals from the diet” (Catassi and Fasano, 2013, pp. VII-VIII)⁶.

Celiac disease can manifest earlier with an unappreciated range of clinical presentations, including the typical malabsorption syndrome and a spectrum of symptoms potentially affecting any organ system (Kruzliak and Bhagat, 2012). Some of the symptoms associated with it are, for example, diarrhea, abdominal pain and constipation while typical disorders can be type 1 diabetes mellitus, Down syndrome, anemia, arthritis, osteoporosis, infertility, and short stature⁷. When the disease is not treated adequately because of inobservance of the diet or because of omitted CD diagnosis due to its atypical or silent manifestation, it could lead to even worst illnesses, for example intestinal lymphomas.

For some people, eating gluten-free is a choice, whereas the only treatment for people with some kind of gluten intolerance is the strictly observance of a gluten-free diet in order to decrease and eventually eliminate its symptoms, and to avoid intestinal damages. This means that patients suffering from celiac disease have to exclude the majority of foods derived from wheat and the other cereals commonly used in everyday life. Moreover, risks of contamination during food processing are high: the use of same cooking tools or the presence of gluten additives in foodstuffs contribute to a wider presence of gluten in naturally gluten-free food. Until researchers find alternative treatments to celiac disorder, a gluten-free diet remains the only solution.

There exist various pathologies connected to gluten intolerance. For instance, people can be gluten sensitive, showing gluten-related disorders even if they are not affected by CD, or can have wheat allergy with symptoms similar to those of common food allergies. In every case, it is suggested to avoid consuming gluten so changes in daily diet are needed.

⁶ For further considerations on celiac disease, see CATASSI, C. and FASANO, A. (2013), ‘Nutrition and celiac disease’, *Nutrients*, online version available at <http://books.mdpi.com/pdfview/book/67>.

⁷ A more detailed description of symptoms related to celiac disease can be found in FASANO, A. et al. (2003), ‘Prevalence of celiac disease in At-Risk and Not-At-Risk groups in the United States’, (reprinted) *Arch Intern Med*/vol. 163, Feb. 10.

Celiac disease history is related to the evolution of humans and their food habits. In particular, the intensification and the development of agricultural techniques in wheat fields has risen as well as gluten-related disorders strengthened and both are still evolving in the same direction. Originally, CD was considered a pediatric illness because children were the majority of patients showing disorders due to the consumption of products containing gluten. In fact, firstly gluten-free treatments were introduced after World War II, when physician Willem-Karel Dicke noticed that mortality rate of children with celiac disease dropped dramatically during the war. In that period, wheat flour was lacking so that Dicke addressed gluten to be the primary cause of celiac disease. Nowadays it is commonly known that CD could arise also in adulthood; it depends from case to case. Moreover, celiac disease is the most frequent type of food related intolerance in the world. Its diffusion is quite widespread and, thanks to new tests used to verify the existence of gluten related diseases, its diagnosis is increasing.

In Europe, valuations indicate that, on average, CD affects around 1% of population. Estimates vary among European countries, from 0.2% showed in Germany to 2-3% in Finland and Sweden. Similarly, USA reports around 1% of residents suffering from celiac disease, while in South America the percentage is a bit lower; around 0.8%.

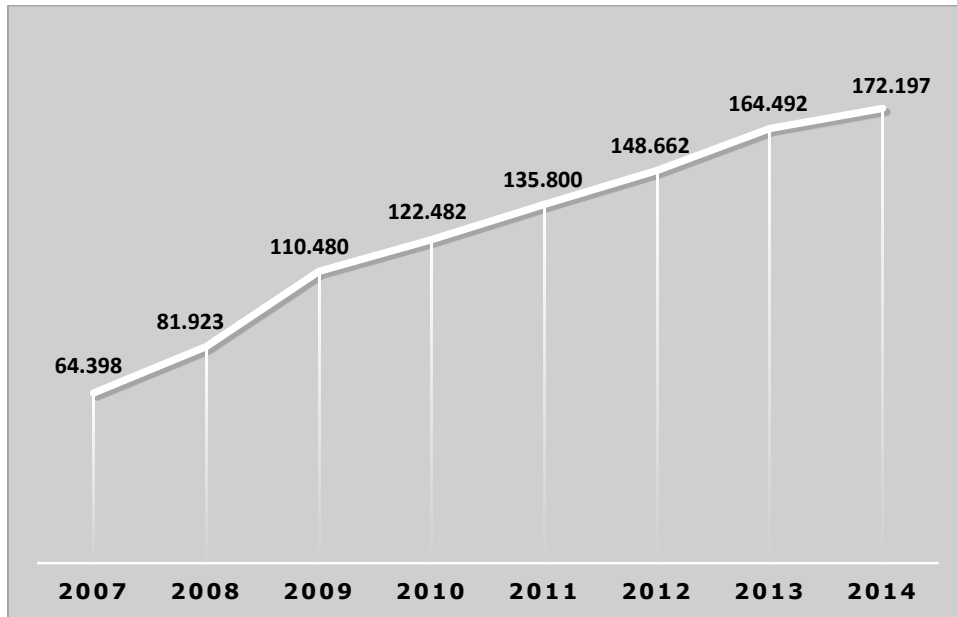
In Middle East and North Africa celiac disease is rather common even if diagnosis rates are still low because of the lack of facilities and, at the same time, due to poor awareness. Concerning the Asia Pacific region, the knowledge is limited. India is known to be one of the countries most affected by CD whereas in Japan, Indonesia and Korea this epidemiology is likely to be rare. In China, gluten consumption is largely diffused due to people's diet but there is not much information about celiac disease to be able to infer on the range of population affected and quantify it⁸.

In Italy there were about 172.197 people affected by celiac disease at the end of 2014, of which 121.964 are women and 50.233 are men. Therefore, the disease affects more women than men and the ratio man/woman is equal to 1:2⁹. Comparing with the year before, in 2014 celiac diagnosis increased by 5% (see exhibit 1).

⁸ Data source: CATASSI, C., GATTI, S. and FASANO, A. (2014), 'The new epidemiology of celiac disease', *Journal of Pediatric Gastroenterology and Nutrition*, vol. 59, issue p. S7-S9.

⁹ Data collected from 'Relazione annuale al parlamento sulla celiachia anno 2014', Ministero della Salute, available at http://www.celiachia.it/public/bo/upload/norme/rel_parlamento_2014.pdf (viewed 13/02/2016).

Exhibit 1. ITALIAN PEOPLE SUFFERING FROM CELIAC DISEASE, 2007-2014.

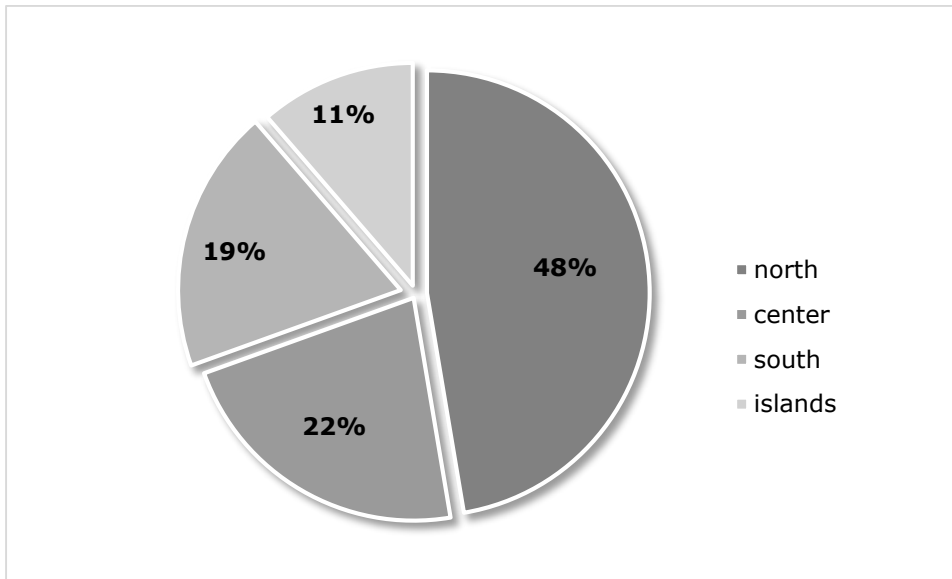


Source: Ministry of Health data processing

As it can be seen by looking at exhibit 1, since 2007 the trend of people who have been diagnosed with celiac disease is positive and it is constantly rising. This is due to two major causes: on one hand, more and more people find out that they have this disorder because of the large consumption of refined wheat flour; on the other hand, nowadays doctors are more aware of causes and symptoms of CD and thanks to more efficient tests they are able to determine the disease. Overall in about eight years, the population with celiac disease has more than double, increasing by the 167%.

The three Italian regions with the highest presence of CD diagnosis at the end of 2014 are Lombardia, counting 30.541 people, Lazio with 17.355 individuals and Campania, reporting about 15.509 people. Despite this ranking, the majority of individuals with celiac disease are located in the north of Italy, accounting around 48% of population with CD (see exhibit 2).

Exhibit 2. DISTRIBUTION OF ITALIAN POPULATION WITH CELIAC DISEASE IN 2014.



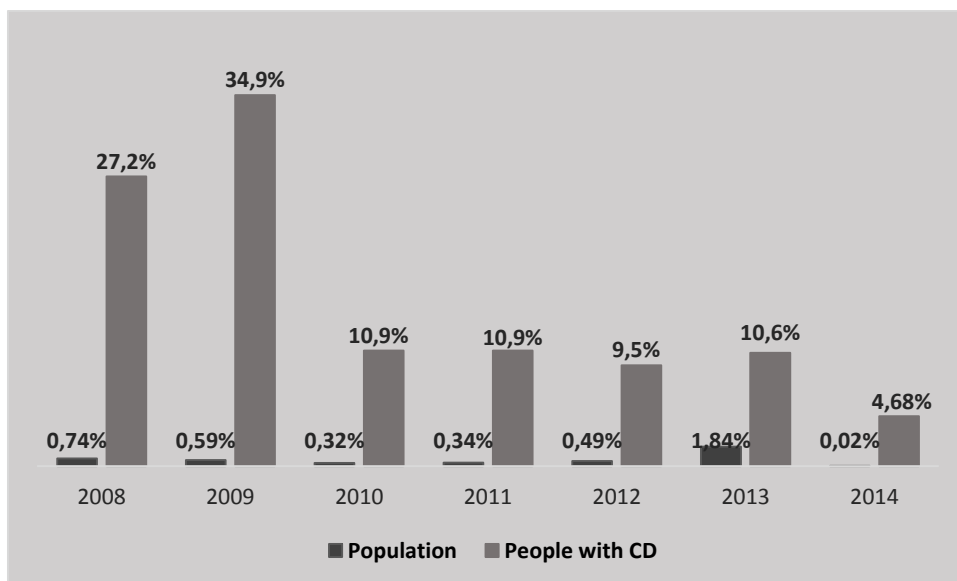
Source: Ministry of Health data processing

Exhibit 2 shows the distribution of people affected by CD in Italy, allocating among north, center, south and islands at the end of 2014¹⁰. The second area with the greatest concentration of diagnosis is center Italy with 22%, followed by the south that reports 19%. Finally, Sicilia and Sardegna account for around 11% of the total Italian population with celiac disorder.

Compared to the entire Italian population, the portion of people suffering from celiac disease accounts for around 0.3% at the end of 2014. This value is increasing over time: every year the number of people with CD grows more than the increase of the total population. That is, for instance, between 2013 and 2014 Italian residents rose around 0.02% whereas individuals diagnosed by celiac disease grew about 4.7% (see exhibit 3).

¹⁰ Consider north Regions: Valle D'Aosta, Piemonte, Liguria, Lombardia, Trentino Alto Adige, Veneto, Friuli Venezia Giulia, Emilia Romagna, Marche; center Regions: Toscana, Umbria, Abruzzo, Lazio; south Regions: Campania, Molise, Puglia, Basilicata and Calabria; and Sardegna and Sicilia as islands.

Exhibit 3. GROWTH RATES OF POPULATION AND PEOPLE WITH CELIAC DISEASE IN ITALY, 2008-2014.



Source: Istat and Ministry of Health data processing

Despite values showed in exhibit 3, data collected by the Italian Ministry of Health asses that people with celiac disease are more than the number provided by actual data. In effect, they calculate that the percentage of people affected by CD and, in general, the fraction of gluten intolerant individuals is higher, reaching about 1% of the population¹¹. Therefore, they infer that the diagnosis are still low because people are not aware of the disorders and problems related to gluten consumptions: they believe that around 70%-80% of cases are not diagnosed due to the so-called ‘celiac disease iceberg’ and due to forms of atypical CD, which show different symptoms from the classical one.

Lack of information and misinformation are, therefore, a major problem. If in the past this inconvenience was caused by the fact that doctors were able to diagnose CD only post-mortem and there were not any specific methods to prevent and identify the disease, today people are generally poorly informed, especially in developing countries.

The need for more information is important for both people suffering from the disease and for individuals working in the whole hospitality industry. In effect, after the diagnosis people have to know about food containing gluten, how to interpret food labelling and about the legislation regulating the distribution of gluten-free products. Moreover, they should be provided with the list of restaurants and other enterprises in the hospitality industry that offer

¹¹ More information are detailed in ‘Relazione annuale al parlamento sulla celiachia anno 2014’, Ministero della Salute (2014).

foodstuffs not containing gluten so that they could enjoy their spare time without worrying about dietary needs.

Businesses in the hospitality industry, on the other hand, should be better informed about food related allergies and celiac disease. Towers and Pratten (2003) collected a sample of 35 pubs in an English town and revealed that a great number of businesses in that market have limited knowledge about food allergies and how to deal with and respond to them. Nowadays, a lot more people are intolerant to certain foods and the hospitality sector cannot overlook it. If restaurateurs want to impress and exceed consumer expectations, surprising their customers with something valuable and significantly out of the ordinary, they should provide awareness of food allergies and of how to behave accordingly. In this way, they are able to enhance customer satisfaction and gain a higher chance of repeated patronage and increased sales.

In addition, celiac disease has brought some concerns from a legal point of view and it benefits from a certain degree of protection. Given the increasing diffusion of people suffering from celiac disease, European and Italian legislators have provided legal protection to guarantee the proper information and safety to people. Therefore, these juridical provisions should drive the attention of restaurateurs and push them to satisfy the rising need of gluten-free food.

1.3 LEGISLATIONS IN FAVOUR OF CELIAC DISEASE

Since celiac disease appears to be one of the permanent illnesses that concern a great number of people both at European and at national level, governments have taken action in order to protect those people, enhancing and facilitating everyday life.

Initially, in Italy, celiac disease was classified among rare pathologies but then, given its frequent number of diagnosis, it has been identified as a permanent intolerance by ‘Legge 4 luglio 2005, n. 123’ and recognized as a social disease; meaning a disease that entails social and human issues.

With the ‘Decreto 8 Giugno 2001’ also known as ‘Decreto Veronesi’, for the first time in Italy it is established that, after an individual has been diagnosed by celiac disease, he or she has the right to receive free gluten-free products under a certain expenditure ceiling. That is, the law regulates the distribution of food among the authorized institutions intended for people with particular dietary needs, in this case gluten-free products, once it is certified and reported that the person suffers from CD.

‘Legge 4 Luglio 2005, n.123’¹² takes a further important step in the protection of people with celiac disease. Declaring CD as a social disease, it aims to guarantee the normal inclusion to social life of individuals affected by celiac disease. In order to do so, the law declares the need of early diagnosis and prevention of gluten related disorders following some simple procedures while educating the entire population.

Specifically, article 4 establishes once again the right to receive gluten-free products under specific expenditure ceiling, differentiated from men and women and based on age, which is regulated by a dedicated Ministerial Decree (‘DM 4 maggio 2006’), so that to safeguard the strict diet. Moreover, concerning canteens in schools, hospitals and public institutions, it sets the obligation to provide gluten-free food if previously requested.

Moreover, article 5 declares information rights; in particular, pharmaceutical products are obliged to clearly state whether they can be taken by people with celiac disease. Furthermore, it establishes the obligation for all Italian Regions to include training courses about CD in the entire hospitality industry. In this case, for companies working in the public sector as well as for those in the private sector who want to prepare gluten-free food there are dedicated courses to guarantee safety and reliability in the service.

At European level, starting from Directive 2000/13/EC and its following modifications, it is disciplined the labelling, presentation and advertising of foodstuffs to provide uniformity among different European legislations. Specifically, Directive 2003/89/EC introduces some changes to favour an easier interpretation of food labelling in order to protect people suffering from any particular food allergy, intolerance or disease. The UE Directive establishes food and beverage labelling, guaranteeing the consumer the possibility to acknowledge food composition and ingredients.

European Commission released also the Regulation n.41 of 20 January 2009¹³, entered into force from 1 January 2012, which regulates the composition and labelling of foodstuffs suitable for people intolerant to gluten. Thus, in order to enable individuals to find on European markets a variety of products appropriate for their needs and for their level of gluten sensitivity, even a detailed labelling of products that are not originally intended for a gluten-free diet but yet have very low quantities of gluten should help them in using foodstuffs in the right way.

In particular, article 3 dictates the rules that companies providing gluten-free foodstuffs for people intolerant to gluten have to follow. It concerns the quantity of gluten

¹² The law is available at <http://www.parlamento.it/parlam/leggi/051231.htm>, (viewed 13/02/2016).

¹³ Full text available at http://www.celiachia.it/public/bo/upload/norme/reg_41-2009_CE.pdf, (viewed 13/02/2016).

contained in products and the labelling, advertising and presentation of those products. Furthermore, it recommends to avoid contamination during preparation processes of oats, keeping the level of gluten not greater than 20mg/kg as well as to not exceed a specific level of gluten in any ingredients which substitutes or are made from wheat, barley, rye and oats or their crossbred varieties which have been especially processed in order to reduce gluten.

From the legal point of view, legislations aim to protect the consumer on two principal sides: one is related specifically to food consumption at home, concerning food labelling, while the other pertains to the ordinary life of people with celiac disease, thus diagnosis and follow up. In effect, the State wants to guarantee the safety of a correct homemade diet starting from the use of foodstuffs suitable for individuals intolerant to gluten: only through clear and universal food labelling and proper advertising people can prevent unpleasant disorders. At the same time, the legislation guarantee safety on principle, establishing the right amount of gluten contained in foodstuffs that include ingredients made from wheat, barley and rye and their crossbred varieties processed to reduce gluten, and finally sold to people intolerant to gluten.

Regarding individuals' security, the law safeguards people trying to spread information about celiac disease among hospital sector so that to assure early diagnosis. The aim is to provide standard procedures thanks to the use of new tests to diagnose the illness and then to protect the patient teaching him or her about the adoption of gluten-free diet.

Given their particularity in preparation processes and ingredients, gluten-free products have higher prices than common goods so the consequent total cost of this kind of diet is high. The State intervenes helping people suffering from celiac disease with coupons monthly distributed for the purchase of foodstuffs suitable for them in authorized distributors.

Beyond legislation, in Italy a handbook of food suitable for people with celiac disease is release by the Italian Coeliac Association every year. This manual aims to give a list of all foodstuffs that are not specifically prepared for a gluten-free diet but that people intolerant to gluten can consume. It is distributed to all individuals registered to AIC and to doctors, nutritionists, pharmacists, canteens of public institutions, schools and hospitals, and to affiliated companies in the hospitality industry but there is also the online version available for all. Therefore, it works as an additional guarantee for consumers with celiac disease and as a guideline for people dealing with a person affected by it.

1.4 AIC AND AFC NETWORK

The Italian Coeliac Association (Associazione Italiana Celiachia, also known with the acronym AIC¹⁴) has always worked to favor and protect individuals affected by celiac disease. This association has worked along with public institution at both national and European level to raise awareness about gluten intolerance and to guarantee the right protection to gluten intolerant consumers.

AIC associative system is composed by 20 regional AIC venues, one for each Italian region, that are responsible for providing information and assistance, for organizing training courses for anyone dealing with celiac disease and in general for carrying out all tasks at local level.

AIC mission aims to enable people with celiac disease to live serenely and consciously. It acts to remove obstacles and situations of diversity that make these people feel different because of their illness, helping and supporting them. In addition, it aims to increase social attention providing correct and broad information about CD. In order to do so, AIC works on different extents:

- making aware political, administrative, and health institutions of granting rights for people with celiac disease and their application;
- sensitizing and educating the health sector to eventually diagnose the illness and to provide an adequate assistance to the patient;
- promoting and sustaining scientific research through the combined use of synergies from national and international environments;
- providing support and help to those people suffering from CD and their family, with special attention on younger individuals;
- launching public initiatives and projects to remove gluten related disadvantages derived from everyday life and to inform the whole population.

AIC has always fought in order to allow people with celiac disease to follow strictly gluten-free diet. One interesting project developed by the Association is the brand ‘Spiga Barrata’¹⁵. This logo symbolizes the appropriateness of a product to be consumed by a person suffering from CD. AIC personally checks and verifies the suitability of foodstuffs having the brand ‘Spiga Barrata’ on their packaging so that granting their correct productive processes and assuring safety.

¹⁴ The association website can be found at the following link <http://www.celiachia.it/home/HomePage.aspx>, (viewed 15/02/2016).

¹⁵ For further information about this project and the list of products see the website page <http://www.celiachia.it/DIETA/Dieta.aspx?SS=176>, (viewed 13/02/2016).

Besides initiatives directed to raise awareness in schools or at workplaces, some projects are addressed in part to the hospitality industry in order to allow people intolerant to gluten to have the possibility of dining out without worries. Among all, AIC launched a special project called ‘Alimentazione Fuori Casa’ or AFC¹⁶ in the early 2000. Everyone has the need of eating out for work, study, tourism or simply for enjoying their spare time. Since one major obstacle for a person with celiac disease is to find on the market places serving gluten-free meals, the Association created a network engaging at first restaurants. Through the years, this project has extended to all companies in hospitality industry those who have manifested an interest in satisfying customers intolerant to gluten. Bars, catering services, ice-cream parlors and hotels along with enterprises such as Trenitalia or MSC Crociere working on long distance journey today are part of AFC network and are diffused all over Italy.

Companies who want to join the network have to follow some procedures to ensure their capability of correctly fulfilling all requirements for a safe service. Firstly, they have to attend a basic theoretical and practical course concerning celiac disease and gluten-free cooking provided by regional venues of AIC. Through this course, firms learn the basic knowledge on the disease and the diet as well as become familiar with all specific technical rules and procedures to obey for a safe preparation of gluten-free food. Moreover, it shows the characteristics of gluten-free basic ingredients such as flour and pasta.

Then, local AIC completes the educational course with some training at company premises in order to offer consulting services, for instance helping with the definition of menu or finding the best way to arrange the kitchen with a proper area dedicated to the preparation of gluten-free meals as to avoid contamination. These consultancies last for the entire period the firm joins AFC network.

Finally, the companies sign a Memorandum of Understanding through which they commit to follow AIC rules and agree on periodical supervisions by AIC staff. In addition, the AIC provides enterprises of the gluten-free network by informative material on celiac disease and association developments.

Therefore, the Italian Coeliac Association yearly publishes printed guides for dining out without gluten where all the enterprises of AFC network are listed. These AFC guides are distributed to all people associated to AIC and to companies of the network. On the website of the Association, there is also the online version available for all or there is the possibility to download the application ‘AIC Mobile’ so that to find, for instance, a restaurant through a smartphone.

¹⁶ The project webpage is available at <http://www.celiachia.it/dieta/Dieta.aspx?SS=95>, (viewed 13/02/2016).

With project ‘Alimentazione Fuori Casa’, the Italian Coeliac Association tries to overcome a basic disadvantage for individuals with celiac disease regarding the hospitality industry: the lack of information about the illness. In effect, the Association is working to spread the right information through all industries. The hospitality industry still has little knowledge on CD. Some companies may prefer to not provide a gluten-free service because they do not want to face the risk of contamination or do not want to face the related costs. Actually, AIC courses aim to guarantee the correct process during food preparation so that to eliminate the risk of gluten contamination. Moreover, they teach restaurateurs, cooks and all the staff how to manage properly ingredients and cooking tools. Thus, following rules and procedures suggested by the Association the problem of food contamination should not arise. Furthermore, the costs associated with the preparation of gluten-free meals are most related to food ingredients and specific tools required: not different from those costs necessary for granting a superior quality service, for instance.

When the desire of delivering higher value for customers arise, investments come afterwards. In this case, restaurateurs do not need to create an entirely new menu; instead, they have to individuate the ingredients suitable for people with gluten intolerance and substituting them for the ones containing gluten. That is, the restaurant offers a gluten-free menu similar and in addition to traditional items. Personnel has to be educated consequently so that to be able to respond adequately to customer requests. After all, restaurants will gain higher customer satisfaction and larger chance to retain customers resulting in repeated comebacks, thus earning higher sales volume.

Under AIC and AFC supervision, procedures are certificated and clearly in place, the staff has the knowledge necessary to deal with celiac disease and therefore people intolerant to gluten could be confident on the appropriate quality and safety of the service. Being part of the network also provides great reliability, fulfilling consumer desire of more certainty on ingredients used in food offered.

Another advantage for the foodservice company is the possibility of exploiting synergies deriving from a strategic network, which is described as “*the existing and potential array of partnership with customers, suppliers and competitors, enhancing firms’ performance by providing information, resources and access to market*”¹⁷ (Crook et al, 2003, p. 52). Hence, the link with AFC network and AFC guide become valuable resources that firms outside this network cannot replicate.

¹⁷ CROOK, T.R., KETCHEN, D.J. and SNOW, C.C. (2003), ‘Competitive edge: a strategic management model’, Cornell Hotel and Restaurant Administration Quarterly. In this study, authors deepen current topics on strategic management, giving better insight on how to sustain a competitive advantage.

The exchange between firms and AIC involves knowledge, instruments and validation. On one side, information as well as resources come from training courses taught by AIC expert team, while signing the Memorandum of Understanding the business acquires the qualification and certification for providing safe food. On the other side, companies of the network help to improve the quality of life of people with celiac disease thus they amplify the scope of the Italian Coeliac Association. Moreover, they contribute in spreading knowledge about celiac disease.

Naturally, the success of a business should not simply rely on network advantages. Every firm has to figure out the best way to combine information and resources gathered from AFC network so to implement its own strategy, offering something beyond the ordinary and creating at the same time customer interest and restaurant sales.

Being listed in the AFC guide communicates direct and indirect messages that may convince customers to select the restaurant over its competitors. For example, as a direct effect, a person intolerant to gluten can easily find nearby a restaurant, tavern or hotel that can satisfy his/her requests. Equally, *knowing that their special needs are understood and satisfied is likely to make a potential guest feel much more confident about making a reservation* (Mohammed Baiomy et al., 2003)¹⁸.

Furthermore, a person with celiac disease subscribes to Italian Coeliac Association because he or she believes on benefits provided by the Association. There is a trust relationship between the individual and the Association. Similarly, this feeling of confidence is transferred to the 'Alimentazione Fuori Casa' project and therefore it can engage companies listed in the official guide. The firm gains customers loyalty thanks to a collective network trust.

The AFC guide operates also as an additional marketing tool for the firms in the network. From the business point of view, it serves as an instrument of communication and promotion through which reaching people. It becomes a different communication channel so that, for a person, it is easier to find the appropriate place where to spend spare time.

There is also a gain in terms of restaurant image. Having an interest in the need of people with a particular disease and proving the commitment through AIC certification demonstrates that the restaurant really cares about its customers. Consequently, this makes a good impression not only to people that suffer from celiac disease, but also to the whole society. That is, a person may think that the effort a restaurant put toward individuals

¹⁸ In their research, 'Menus as marketing tools: developing a resort hotel restaurant menu typology', MOHAMMED BAJOMY et al. focus the attention on the case of resort hotel. Certainly, the example can be extended to the case of AFC gluten-free network.

intolerant to gluten symbolizes, more in general, a service of superior quality: to his/her eyes, taking care of a particular customer segment becomes taking care of all guests.

Above all, *a key attribute of success is the capability of coping with changing needs of the markets while keeping a profitable operation* (Siguaw and Enz, 1999). Nowadays people with celiac disease, gluten intolerance or wheat allergy are increasing and everyday someone finds out to be gluten sensitive. Besides, there are individuals that, by choice, decide to follow a gluten-free diet because it is fashionable or because they believe they can prevent a future onset of disease. Not all businesses in the hospitality industry are able to respond to changes in the population. In fact, *changes in restaurant sector tend to be small and often restaurateurs are inclined to copy what their direct competitors are doing* (Auty, 1992).

In times during which the industry environment is still recovering from economic depression, entering the gluten-free niche can be a profitable solution to differentiate positively itself from the rivalry and to stand out in the eyes of customers, especially since there are still few enterprises competing in this segment. In this way, firms have the chance to enlarge their customer base toward individuals suffering from celiac disease as well as toward all people surrounding them. Therefore, working along with AFC network helps the company to accomplish its strategic task consisting in profitably meeting special customer needs with relative little investments and great business reliability and promotion.

CHAPTER 2

HOW NICHE STRATEGY INFLUENCES RESTAURANT PERFORMANCE

2.1 NICHE RESTAURANTS

If foodservice companies want to stand out of the rivalry, outperforming competitors, they need to differentiate themselves from the others. One way to gain greater differentiation is to pursue a niche market strategy.

Essentially, Kotler (2003, pp. 144-145) indicates a niche as a more narrowly defined group, identifiable “*by dividing a segment into sub-segments or by defining a group seeking a distinctive mix of benefits*”. Similarly, Dalgic and Leeuw (1994) consider niches those small markets consisting of an individual customer or a small group of customers characterized by similar traits and needs. Moreover, Kotler defines the main characteristics of an attractive niche as follow:

- customers have a distinctive set of needs;
- they are willing to pay a premium price to the firm that best satisfy their needs;
- the niche usually does not attract other competitors;
- the firm operating in a niche gains certain economies through specialization;
- the niche has size, profit and growth potential.

Niche strategies are pursued to increase in its own favor the level of competitiveness, involving only a few direct rivals. The cornerstone of a niche market strategy is to devise the product/service around a distinctive element, bringing quality to excellence, in order to satisfy a specific and personalized demand.

In particular, a niche focuses on individuals, on a homogeneous group where relationships are a critical success factor. The company-customer relationships are strong and long-term, comparable with the concept of loyalty, so that Dalgic and Leeuw (1994) support the idea of a win-win situation where mutual benefits for both firm and customer are the result. At one side, customers are satisfied and see their wants becoming true. At the other side, this kind of relationship is useful to retain customers and sustain long-term profitability.

Moreover, it acts as a deterrent for potential competitors because once customers are engaged in such a strong relationship as loyalty, they are less inclined to switch.

A further characteristic of a niche market is reputation, which is the direct consequence of loyalty behaviors. McKenna (1988) asserts that *people's opinions are crucial for the success of the product/service because niche marketing depends on word of mouth references and infrastructures development*. Only if firms are capable of meeting actual customer needs they will be repaid with loyalty thus good reputation.

Sometimes, products/services of niche markets are unknown to ordinary people, in part because they satisfy a particular need that may interest only a small group of individuals and common people totally ignore them, in part because they want to stay exclusive, available just for few people, like luxury goods. Concerning the first case, through positive grapevines firms can overcome this inconvenient so that turning in an essential need what was even not considered a need before and gaining new customers.

First, a niche market has to “*offer the customer a clearly differentiated product that fills (or creates) a need*” (Michaelson, 1988, p. 23). This strategy is pursued starting from a specific need of few customers or by developing a new product or service and then finding or creating a market (Parrish et al., 2006). There are various examples of niche strategies in restaurant industry. For instance, think about the so-called ‘molecular cuisine’. Recently introduced in the latest 80s, it is a new innovative type of cooking that applies principles of physics and chemistry to cooking¹⁹. It focuses on physical and chemical transformations that occur during food preparation and mixes social, artistic and technical components.

Originally, molecular gastronomy was born as a food science but starting from 21st century it was linked to culinary activities and it indicates a revolutionary style of cooking. Given the adoption of particular methods and food ingredients, the atypical molecular cuisine targets a small customer segment and aims to offer a unique dining experience through food volumes, substances, colors and tastes. Certainly, this kind of cooking is not suitable for all and, at the same time, in Italy, as well as in the rest of the world, there are few chefs representative of the movement.

Restaurants nominated by famous guides or listed in internationally ranking for superior performance form a particular niche. Michelin three-starred restaurants can be taken as example. In this case, best chefs and their restaurants are rewarded and internationally recognized by the famous Michelin Guide, so niche is indirectly created by the ratings. In

¹⁹ For further considerations on molecular gastronomy, see article by THIS, H. (2006), “Food for tomorrow?”, European Molecular Biology Organization, available at <http://embor.embopress.org/content/7/11/1062>, (viewed 13/02/2016).

Italy, only eight restaurants have three Michelin stars by the end of 2014²⁰. Companies who reach this award demonstrate to achieve excellence in food quality and great cooking abilities. People are willing to pay a premium price to have the chance of living an experience through food and beverage tasting. It represents a kind of luxury good that not all consumers can afford and, simultaneously, not all restaurateurs can achieve.

Conversely, exist many restaurants that can fall into a niche if we consider their ‘concept’ or food items in the menu. These enterprises combine and search for:

- identity, meaning different class of age, gender or status;
- values or passions, such as healthy, vegetarian or fashionable items;
- and purposes, like wellness or learning.

They target different customer clusters on which develop their restaurants. The rise of restaurant concepts that boost one or plus attributes of their service toward ethical tendencies, for instance vegan or vegetarian restaurants, is one example. Biological and organic restaurants are other two type of particular business offers. The crux is food properties and the aim is to satisfy consumers taking care of what they worth more. Note that, for these categories, there could coexist either restaurants that supply only items in conformity to their food concept or restaurants that provide vegan or biological items in addition to the more classical offer. Furthermore, there exist restaurants centered totally on a product, the majority of which related to a particular item linked to local territory, or restaurants targeting tourist segments.

Differently, other restaurants emphasize and enhance atmosphere elements. Luxury and fashion-related restaurants select high-income people and individuals who follow the latest trends. Here, the interior design plays the most important role together with food design and therefore the whole atmosphere makes the difference. Brand names become the key for attracting selected customers. In fact, always more frequently it is possible to find restaurants that bear the name of worldwide fashion brands. Thus, collaborations between foodservice and fashion worlds result in co-branding experiences that exploit fashion brands’ names in order to gain specific consumers. In addition, restaurateurs avail themselves of famous architects or interior designers to add further value to atmosphere and to arouse interest on targeted customers, positioning to differentiate from rivalry.

In all cases presented above, the focus is on targeting a well-defined customer cluster. Restaurants try to do better and succeed over competitors through various positioning

²⁰ To check the complete list of Italian Michelin starred restaurants, see the article by PAGANO, V. (2014), ‘Guida Michelin 2015. Tutte le stelle dei migliori ristorante in Italia’ available at <http://www.scattidigusto.it/2014/11/04/guida-michelin-2015-tutte-le-stelle-dei-migliori-ristoranti-italia/>, (viewed 13/02/2016).

strategies, enhancing some of the attributes that most affect satisfaction of their customers. At the same time, food quality must be never underestimated. “*Higher levels of service quality produce higher levels of customer satisfaction, which in turn lead to higher levels of customer patronage and sales revenue*” (Chow et al., 2007, pp. 698-699).

Therefore, to deliver superior dining experiences, restaurants have to manage well the right combination of all the elements typical of foodservice. Niche restaurants need to disclose their supply through the right and coherent use of communication channels, in particular taking advantage of word of mouth. Moreover, companies have to seek continuous improvement so that being able to gain and keep customers’ loyalty, reaching higher performances at both qualitative and financial level.

In general, niche restaurants have an additional advantage: as stated by McKenna (1988, p. 92) “*customer focus derived from niche marketing helps companies respond faster to demand changes*”. One example of restaurant’ strategy that captures consumer changed needs is represented by the rising number of green restaurants, which operate in an environmentally friendly and energy-efficient manner (Namkung and Jang, 2013).

Recently, more and more restaurants are turning “green” and organic because organic food consumption is becoming increasingly popular in developed countries (Poulston and Yiu, 2011). Organic food has become synonymous of healthy food and consumers believe that the taste of organically and locally grown food is superior in term of quality to that of normal food.

Firms pursuing green strategies are committed to some ecologically practices such as reducing waste, saving energy and water, and recycling (Manaktola and Jauhari, 2007). They offer healthy and fresh menu choices, using ingredients grown in an environmentally conscious manner and items locally sourced, including also onsite gardens (Riehle et al., 2014).

Namkung and Jang (2013), collecting 512 observations from American diners, prove the importance of green food, especially in upscale casual restaurants. Their findings provide strong support to green practices, both food or environmentally focus, in upscale casual and casual restaurants where customers demonstrate to be more likely to come back because of restaurant’s green attitudes. Differently, customers of fast food restaurants show little concerns on green practices.

The green niche proves also to be more salient for individuals with greater interest on health and nutrition as well as for customers with relatively higher disposal incomes (Namkung and Jang, 2013; Poulston and Yiu, 2011). Moreover, upscale restaurant consumers have a willingness to pay more for organic food and *for these better-for-the-environment*

options (LaVecchia, 2008). This means that restaurateurs, who pursue green practices, should target a precise upscale customer segment where customers assign high priority on green and healthy food.

“Firms that uses green products can strengthen their eco-friendly image to attract more customers’ attention and enhance customer satisfaction” (Jang et al., 2007, p. 804). Because of green practices, restaurants gain higher brand image than those who do not pursue this kind of strategy, thus increasing profitability. Responding to consumer desire of organic and environmentally conscious food results in higher satisfaction ratings, which in turn influence positive behavioral intentions to return to a restaurant. Therefore, repeat patronage leads to higher sales volume and enhance restaurant overall performance.

All business examples presented previously are the answer to the increase of new needs and wants. For them, the future challenge consists whether they will survive if their business one day will be out of fashion and whether they are capable of switching in favor of new tendencies.

A niche in restaurant industry that is currently on fashion but simultaneously will last in future is related to gluten-free world. In this case, the central element is particularly delicate because behind the business there is the need to help and satisfy people with a real disease. A gluten-free restaurant tries to overcome problems originated from celiac disease, preparing food that do not contain gluten.

Gluten-free restaurants can be considered as part of a nice market since it has the main characteristics of it: first, customers have a clear and specific need to be satisfied, which is the possibility of dining out as ordinary people. Secondly, given the scarce supply, customers are willing to pay a premium price in order to have the chance of going out with family or friends. Then, the small size of this niche and the lack of restaurants is mainly due to technical reasons.

In effect, handling gluten-free items involves problems of possible contamination with items containing gluten and, in order to prepare food for people that suffer from celiac disease, restaurants need to adopt different workstations, beyond training staff to deal with it. Some investments are indispensable but, in turn, restaurants gain profitability through specialization and thanks to their valued food offer that boost customer satisfaction together with loyalty.

Besides the actual need of people with celiac disease, for whom a gluten-free diet is the only existent treatment, currently gluten-free food has become on fashion among developed countries. More and more often arise new diets avoiding items containing gluten,

in part because of some degree of scaremongering and wrong information. Therefore, even people that do not suffer of celiac disease have started to ask for gluten-free products.

The social aspect associated with celiac disease potentially can enhance the performance of gluten-free restaurants. That is, businesses offering food without gluten are showing that they take into consideration people with celiac disease and this, in turn, becomes a value-added on the eyes of the customers. Gluten-free restaurants gain a certain respect and receive positive feedback just because they care of their customers. Satisfaction and loyalty come afterwards, along with higher profitability.

Some niche businesses, like vegan restaurants, provide only products and services that are tailored on narrow customer segments. The risk, in these cases, is associated to the possibility of losing or not retaining customers because of the particular supply. In other words, dining out at a vegan restaurant can be something occasional due to the decision of someone approaching veganism. People that usually eat animal derived products could have no interest in coming back to that restaurant if no one else is vegan.

Differently, restaurateurs approach the gluten-free niche adding gluten-free meals to their normal menus, developing a niche offer inside their standard restaurant in order to deliver higher value to customers. If a person dines at a gluten-free restaurant because of his/her peer suffers from celiac disease, gluten-free products do not compromise the experience since the person can take ordinary dishes. People that do not suffer from celiac disease can come back to a gluten-free restaurant because they have appreciated and valued the previous dining experience.

Furthermore, vegan or vegetarian dishes can also be found in the menu of more common restaurants or they can be prepared on request. Being a gluten-free restaurant is something special that not every firm can supply and that requires specific procedures that cannot be improvised. Certainly, the fact that a restaurant is able to deal with problems related to food allergies and celiac disease leads to customers' positive feedback. The gluten-free option is a superior and additional reason why to choose and come to a restaurant rather than another.

Companies should not underestimate the potential standing on people surrounding individuals with an intolerance to gluten. Data on the actual number of people with celiac disease may be considered as too low to be worth but restaurateurs should also pay attention on people spending time with them, like friends and relatives. Dining out together with a person intolerant to gluten involves looking for a place that is able to satisfy this specific request and currently, in Italy, there are few restaurants capable of doing so. If a gluten-free restaurant delivers good quality products and services and exceeds customer expectations, of

both people suffering from celiac disease and their peers, it gains higher chances to retain its guests and to increase sales.

In the case of gluten-free restaurant, positive words of mouth coming from people with celiac disease but also from their friends and relatives enhance restaurant reputation and attract new consumers. Moreover, the Italian Coeliac Association certifies gluten-free restaurants through their project 'Alimentazione fuori casa' (AFC), which promotes eating out gluten-free and gives firms reliability and credibility so that assuring more customers confidence. In this way, positive words of mouth coming from the network can decrease advertising costs and increase restaurant profitability.

Together, market characteristics and the belonging of AFC project work in favor of companies entering glute-free niche. Gluten-free market can represent a profitable solution for foodservice firms that desire to differentiate from ordinary competition, delivering superior value for their customers and in particular for those people suffering of celiac disease, contributing to their well-being. Being listed in the AFC project makes the business easily recognizable by the consumer and trustworthy. Then, firms have the task of exceeding customer expectations through great service quality in order to increase sales and the whole restaurant performance.

2.2 THE ROLE OF CUSTOMER SATISFACTION

In restaurant industry, consumer purchase is optional, not compulsory and it is all about enjoyment of dining out: therefore, low number of purchase and low customer switching costs characterize the market. Customers dine out for many different reasons, for instance because of social or work occasions, and they may choose a restaurant given their personal characteristics and preferences. Moreover, the great number and variety of businesses in restaurant industry makes easier the switch from one restaurant to another. Thus, it is important to comprehend the dynamic of this market from the perspective of the customer who is the ultimate arbiter of how much to spend and where, when and what to eat (Andaleeb and Conway, 2006).

Restaurant managers need to develop a strategy in order to retain customers and gain the new ones, understanding the actual needs of their customers. Pursuing a niche market strategy among businesses in restaurant industry is one way to target a precise customer segment, understand what customers desire and what they value most, exactly meet their needs, enhancing overall customer satisfaction.

Heskett et al. (1994) show that nowadays consumers are more value oriented, where for value they mean the results of what they receive from the service in relation to total costs. Value is considered always relative, because it is based both on customer's perception of the service and on their initial expectations. Naturally, initial expectations depend on the characteristics of the individual and are formed based on past experiences, thus are unique for each consumer.

A customer who receives what she or he expected in a product/service is more likely to be satisfied (Bowen and Shoemaker, 2003). Customers of restaurant industry are looking for experience qualities: quality of food, menu variety, value and the overall atmosphere sum up some of them. While quality of food is quite easy to judge, it also represents the first trait that sets evident differences between restaurant services. Differently, menu variety, as well as atmosphere, is an element that is getting more value nowadays. Offering low fat, organic, kilometer zero or food allergies conscious menus results as a value-added for restaurants and releases a positive impression to customers. At the same time, this wider offer should not increase excessively prices or compromise portion size or food quality itself.

In particular, *prices can largely influence customers because item price has the capacity of attracting or repelling them* (Monroe, 1989). Starting from prices, customers can establish if a restaurant is worth or not. Food prices are also used as measure of quality, meaning that if prices are on average high people tend to expect good quality otherwise, if prices are low, they expect lower quality. Lastly, restaurant atmosphere includes any physical settings, noise level, temperature, odors and cleanliness. Atmosphere overall perception may influence customers expectation in a positive or negative way, allowing for a first judgement that precedes every other experience qualities²¹.

The combination of quality, menu variety, price and atmosphere element and any other particular restaurant attributes leads to different levels of customer satisfaction, which is considered as one influential part in determining restaurants' profit and which can make the difference between competitors (Chi e Gursoy, 2009). Therefore, restaurateurs should reach a good level of guest satisfaction and develop a unique restaurant experience that enable them to achieve their strategy thus increasing whole restaurant performance.

In hospitality industry, reaching a great level of guest satisfaction or even exceed consumers' expectation results in positive feedback from the customer and this reinforce restaurant performance compared with those of the rivalry. Switching costs will consequently increase and customers will be more inclined to come back.

²¹ JOANNE M. SULEK and RHONDA L. HENSLEY (2004) in 'The relative importance of food, atmosphere and fairness of wait' deepen the impact of restaurant attributes that matter for customers.

Heskett et al. (1994) identify customer satisfaction along with service quality as fundamental keys in company profitability and future growth. Using the framework of service-profit chain, they explain the relationship between profitability, customer loyalty and satisfaction, employee satisfaction and productivity. Basically, profit and growth derive from loyal customers who are satisfied with the value of service whereas a valuable service is obtained thanks to satisfied, loyal and productive employees.

By definition, processes in service companies are characterized by a mix of front- and back-office activities²² so restaurant managers cannot overlook employees because they are fundamental for the success of the business. Heskett et al. (1994) highlight some example in which low employee turnover is linked to high level of customer satisfaction. In order to reach low level of employee turnover, the basic rule is having a restaurant personnel highly satisfied and loyal, thus resulting more productive. Therefore, a skilled, friendly and motivated staff plays a central part in determining positively customer perception of the service and enhances guest satisfaction.

The importance of customer satisfaction is considered unquestionable but there is no univocal thought about what exactly forms it. Literature extends the study from tangible attributes, meaning elements of the physical environment, to intangible ones such as reliability, responsiveness, assurance and empathy (Wakefield and Blodgett, 1999). Together, tangible and intangible aspects influence guest experience: the latter at cognitive level, capturing perceived quality, the former at affective dimension, provoking excitement through a pleasant environment. For this reason, it is considered worthwhile training service personnel to deliver superior dining experience in compliance with restaurant concept, so that to deliver higher value to consumers.

Fundamentals of customer satisfaction are many and, as Gupta, McLaughlin and Gomez (2007, p. 285) report, “*the importance of a particular attribute varies according to the type of restaurant and the type of customer*”. That is, guests at luxury restaurant will have more concern on excellence in food quality, high-qualified personnel and sophisticated atmosphere in order to live a unique experience. Conversely, customers at fast food restaurant will evaluate most fairness of wait. In order to succeed and beat competition, foodservice enterprises should focus their strategy on those elements that better define their core business and befitting to their service level (Cheng 2005). They should define guest characteristics so that recognizing general purchase patterns and pinpoint demographic statistics in order to understand variability in sales volume.

²² Different types of process are listed in SLACK, N., BRANDON-JONES, A. and JOHNSTON, R. (2013), ‘Operations management’, Pearson, 7th ed., pp. 102-105.

Indeed, satisfaction ratings vary among customers forasmuch as they have different characteristics. People sitting at the same table in a restaurant may judge the service in different ways because they are more sensitive to some particular aspects and rather like or dislike something else. This attitude results in various level of satisfaction even if the product/service is the same.

Mittal and Kamakura (2001) explain how consumer features can modify the satisfaction-retention relationship thus introducing variability. The authors introduce three ways in order to explain variability: satisfaction thresholds, response bias and nonlinearity²³. What concerns more foodservice industry is the former connection involving satisfaction limits.

Therefore, *the link between customer satisfaction ratings and repurchase intention and behavior may vary according to guests' different thresholds or tolerance levels toward repeat purchase* (Mittal and Kamakura, 2001). That is, giving the same rating, customers with higher threshold may be less incline to come back to the restaurant in the short time. Conversely, people with lower threshold may even repurchase in the same week. Of course, customer characteristics like income or age are likely to influence more the propensity of dining out and come back at the same pizzeria, for example.

The ultimate aim of reaching great level of guest satisfaction is to retain customers and to lead them to repeat purchases thus increasing restaurant sales volume. "*Satisfied customers re-purchase goods and services in larger volumes and at higher frequency rates than do unsatisfied ones*" (Kim et al., 2013, p. 405)²⁴. Anderson and Sullivan (1993) find a positive correlation between satisfaction and repurchase intention: in fact, higher level of satisfaction leads to higher repeat patronage and sales volume.

The advantages of customer retention are linked also to their lower cost in term of information. In general, an existing consumer costs less than a new one since he/she already knows the product and service offered and requires less information. Therefore, the cost associated with future service transactions decrease with the increase of customer satisfaction (Anderson et al., 1994).

Furthermore, the cost of maintaining existing customers is lower than the cost of keeping the new ones (Reichheld, 1996), given that usual customers establish a certain attachment to the restaurant brand so that it is easier to satisfy them. For instance, a frequent

²³ For the purpose of this study, only satisfaction thresholds are examined. To consult the entire study, see MITTAL, V. and KAMAKURA, W.A., 2001, 'Satisfaction, repurchase intent, and repurchase behavior: investigating the moderate effect of customer characteristics'.

²⁴ In "Determinants affecting comprehensive property-level hotel performance: the moderating role of hotel type", Kim et al. analyze the effects of customer satisfaction on hotel performance but the study can be equally associated to the case of restaurant industry.

guest usually overlooks an occasional service flaw and his/her general satisfaction remains almost unchanged while for a newly acquired customer this could threaten the entire experience.

In general, “*regular customers not only affect revenues, they also provide predictability, security and enjoyment for those involved in the service encounter*” (Kivela et al., 1999, p. 215). A stable and loyal customer base becomes an instrument against seasonality and periods of lower demand.

Moreover, a pleased and satisfied customer will have a propensity for recommend the restaurant whereas the unsatisfied one will easily substitute one restaurant with another. Kim et al. (2013) demonstrate the existence of a positive and significant relation between satisfaction and recommendation. In restaurant industry, positive recommendation are fundamental to face uncertainty of purchases and to lower the risks of trial.

Consequently, positive feedback and word-of-mouth, derived from higher customer satisfaction, contribute to build a strong firm reputation. Reputation plays an important role in the whole hospitality industry and while a good name is difficult to develop and maintain, a negative impression lasts in the long term. Anderson et al. (1994) explain how increase in firm reputation leads to higher awareness and stronger relationship not only with customers but also with suppliers and distributors. Furthermore, it decreases the risks of trial and it can influence customer’s evaluations of the service, *providing insulation from short-term shocks in the environment* (Anderson et al., 1994).

The relationship between guest satisfaction, repeat purchase and business performance is theoretically demonstrated but results more complex to explain empirically. The problem is defining the right combination of restaurant attributes that most influence customer satisfaction and return patronage. In effect, as the number of various restaurant typologies rise, so it does the number of elements that drive customer satisfaction and affect firm performance.

Gupta, McLaughlin and Gomez (2007) examine some drivers of guest satisfaction and demonstrate how those attributes influence the likelihood to come back and therefore restaurant performance. Their research extends from general characteristics, which are food, value, service, greeting and restaurant, to detailed attributes that are the specification of the major ones²⁵. In both cases, the results lead to positive and significant effects on repeat purchase: all the attributes, some more than others, influence positively comeback behavior.

²⁵ To check the entire list of attributes, see GUPTA, MCLAUGHLIN and GOMEZ, 2007, ‘Guest satisfaction and restaurant performance’.

Consequently, Gupta et al. (2007) develop a second model in order to capture the way through which comeback scores condition performance of three different restaurants concept (measured as average daily number of entrées sold). Two out of three restaurant models confirm comeback scores as highly reliable indicators of restaurant performance. Therefore, higher levels of customer satisfaction lead to large possibilities of repeat purchase and, as a consequence, to increase restaurant sales.

Gupta et al. (2007) recommend not considering their model as blanket rule since *the connection between satisfaction, repeat purchase and business performance is unique and distinct for every restaurant concept*. However, this relationship remains quite evident and restaurateurs have to find out the key attributes on which working on and doing well.

It is possible that the improvement of restaurant economic performance due to higher satisfaction does not show up in the short-run. Anderson et al. (1994, p. 63) link this effect to the fact that guest satisfaction affects future purchase intentions, thus *“the greater proportion of any economic returns from improving customer satisfaction also will be realized in in subsequent periods”*. Similarly, Anderson and Sullivan (1993) suggest that, given the greater cost associated with acquiring new customers, firms which have a relatively stable customer base should enjoy higher profitability in the long-run.

Firms capable to reach high level of customer satisfaction gain superior economic returns (Anderson et al., 1994). Niche strategy aims to enhance satisfaction. Following a niche market strategy means targeting a particular customer segment and fulfilling exactly its needs. In this way, if a company is able to meet and exceed customer expectations, then it will boost customer satisfaction and its own profits.

2.3 THE LOYALTY EFFECT

The positive effects of loyal customers on firm performance have been broadly studied and proved. Heskett et al. (1994) indicate customer loyalty as the ultimate base of company's profitability and growth. Certainly, satisfaction is a prerequisite for loyalty but *loyalty extends beyond simple satisfaction* (Bowen and Shoemaker, 2003).

“A loyal customer is one who values the relationship with the company enough to make the company a preferred supplier. Loyal customers don't switch for small variations in price or service, they provide honest and constructive feedback, they consolidate the bulk of their category purchases with the company, they never abuse company personnel, and they provide enthusiastic referrals” (Reichheld, 2002, p. 126).

Like guest satisfaction, loyalty assures repeat purchases and it can guarantee higher profitability. Loyal customers are those who come back at a restaurant and are committed to repeat frequently purchase, those who develop a special devotion to the brand and who have a favorable attitude and emotional commitment toward the business.

Many researches confirm that a positive link between customer loyalty and firm profitability does exist (Anderson and Sullivan, 1993; Bowen and Chen, 2001). As stated by Reichheld and Sasser (1990, p. 105), *“as a customer’s relationship with the company lengthens, profits rise. Companies can boost profits by almost 100% by retaining just 5% more of their customers”*.

In the service-profit chain framework, Heskett et al. (1994) state that firm’s profit and growth are stimulated primarily by loyalty, which is measured through customer retention and repeat purchase. Therefore, increasing loyalty of current customers means assuring future purchases. Thus, loyal customers become more profitable over time and they embody a cumulative value that will account for a large proportion of sales and growth of the firm.

Furthermore, loyalty leads to a decrease in operating costs and marketing costs, and an increase in sales. As such, loyal customers require less information because they are used to the product/service offered and, at the same time, they provide information to newly guests with whom they may interact.

Loyal customers tend to spread around positive word of mouth (WOM) and recommend the business, inviting other people to enjoy dining out in their favorite place. For this reason, loyal customers can be viewed as restaurant employees that cover marketers function. They promote restaurant activities, provide references and business referrals as well as serve as feedback.

Positive word of mouth is considered a key success factor, especially in the case of a niche market strategy. Nowadays, people trust more WOM and recommendations from friends and family than other forms of marketing coming from the firm. Even online customer’s reviews are used as a valuable instrument to judge a priori products and services (Confente, 2015). Given the difficulty of ex-ante evaluation of services and the risk associated in particular with niche services, word of mouth can overcome these disadvantages, giving some confidence and helping consumers in making comparison among competitors.

Overall, like in hospitality industry, loyal customers’ willingness to give positive recommendations increases restaurant reliability and decreases guests’ perceived risk (Bowen and Chen, 2001). Loyal customers establish a certain commitment and develop a trust relationship with the firm: they voluntarily cooperate for the success of the business. They are more inclined to engage in positive word of mouth thus helping the company in creating

awareness, enhancing customer knowledge and influencing other people (Hsu and Jang, 2008). These benefits are even more important in the case of a niche firm where often products and services are unknown to common people and the associated perceived risk is higher. WOM from loyal customers provides reliability, enhance reputation and can generate additional revenues.

Moreover, loyal customers tend to spend extra money, purchasing a wider variety of items and seeking for tasting the latest dish on restaurant's menu. Accordingly, sales will increase and therefore as purchases rise, operating costs decline: "*the longer a company keeps a customer, the more money it stands to make*" (Reichheld and Sasser, 1990, p. 106).

Reichheld and Sasser (1990) rely on the acknowledgment that investments on loyal guests is not a cost, instead it results more profitable than the margin on one time sale. This means that seeking for continuous improvement on service quality and customer satisfaction is like an investment on loyalty because fewer defections entail longer relationship between guests and restaurants. Furthermore, Anderson et al. (1994) consider satisfied and loyal customers as *revenue-generating assets* and consequently suggest treating them as investments rather than expenses.

Maximizing value for consumers is the reason why companies do exist. In particular, businesses in restaurant industry should pay attention on perceived value for guests, meaning the general benefit customers receive relative to total costs, since guests who receive 'value for money' are more satisfied than guests who do not perceived it (Zeithaml, 1988).

McDougall and Levesque (2000) use perceived value as an important determinant of satisfaction and loyalty. They also relate perceived value to a standard used by customer to compare different enterprises and their attributes. As such, perceived value plays a key role when guests have to decide to come back or not at a restaurant and thus it is a critical variable concerning their future choices.

Given that perceived value is formed also considering costs, prices make the difference. Consequently, changes in prices influence customers' future intentions to come back because the more customers give importance to perceived value the more they are tempted to switch restaurant when an increase in prices occurs. Anderson et al. (1994), as well as Ladhari et al. (2008), agree on the fact that customer satisfaction and loyalty should reduce price elasticities. That is, a satisfied and loyal individual is willing to pay more and is more likely to be tolerant to increase in prices since he or she values the affiliation with the company. Loyal customers are less likely to switch to a competitor because of changes in prices (Bowen and Shoemaker, 2003).

Restaurateurs can achieve customer satisfaction and loyalty only if they seek and aim for excellence in service quality. A strategic and combined work on most significant restaurant attributes and on perceived value is at the base of building guest satisfaction thanks to which induce loyalty behavior. In turn, loyalty becomes a source of sustainable competitive advantage so that companies will strive for keeping every customer they are able to serve in a profitable way.

Loyalty is like a relationship of trust and commitment between customer and restaurant (Bowen and Shoemaker, 2003). One factor that makes successful niche strategies is the ability of building strong relationships and, therefore, creating both loyalty attitude and loyalty behavior with customers. Niche strategies are intended to establish customer loyalty in a way that competitors cannot easily replicate.

Loyalty is as much important as customer satisfaction but clearly the two concepts are not the same thing and neither the former is the equal consequence of the latter. Many studies confirm that the relationship between satisfaction and loyalty behavior is strong but nonlinear and the most of researches are based on service thresholds concept developed by Coyne (1989)²⁶. The author explains the existence of two different thresholds of service that affect customer behavior. In particular, when satisfaction reaches a certain level, loyalty increases rapidly, whereas when satisfaction decreases to a diverse threshold customer loyalty falls equally dramatically (Coyne, 1989). That is, there are different thresholds that characterize satisfaction and dissatisfaction and a minor change in satisfaction can provoke a substantial change in loyalty increase²⁷.

Furthermore, Oliva et al. (1992) explain how a period of repeated satisfaction does not necessarily turn into loyalty if it was preceded by a history of dissatisfaction. Therefore, loyalty will result only when satisfaction threshold is achieved. Similarly, "*dissatisfaction following a long period of satisfaction is not likely to result in switching until a dissatisfaction threshold is breached*" (Oliva et al., 1992, p. 85). Guest satisfaction causes customer loyalty and works for enhancing it in order to affect restaurant profitability.

Loyalty is essential for firms in niche markets since it represents a barrier against competition. A loyal customer base rarely switches to a new entrant because a niche company, by definition, is *strongly dedicated to their customers and offer superior performance* (Kotler, 2003), thus loyal customers are less incline to change.

²⁶ The study is developed in COYNE, K., 1989, 'Beyond service fads - meaningful strategies for the real world'.

²⁷ BOWEN, J.T. and CHEN, S-L., 2001. In this regard, authors Bowen and Chen prove nonlinearity and asymmetry between satisfaction and loyalty in their research 'The relationship between customer loyalty and customer satisfaction'.

Certainly, restaurant managers have to meet customer expectations or, better yet, they should exceed them. Customer satisfaction is indeed at the base of business' success, as well as the ability of delivering the fair 'value for money' consistently with restaurant concept. In order to do that, it is necessary to understand what customer needs and wants are and which things customers do not really appreciate so that retain them and develop loyal relationships.

In addition to loyalty and customer satisfaction, Reichheld and Sasser (1990) believe that it is important not only to understand how to capture customers but also to comprehend the reasons why they leave or never come back. In this regard, Reichheld and Sasser (1990) propose a *zero defection strategy* for service industries. Every firm tries to achieve perfect quality but when it comes to services market, things start to become less clear: in fact, the reason why customers never come back remains often unknown. Indeed, eliminating all defections for companies competing in those industries is impossible. At least, they should try to reduce their weaknesses and correct them.

Defecting customers are linked to fewer profits because they represent less repeat patronage and symbolize the lost opportunity of developing loyal and lasting relationships (Reichheld and Sasser, 1990). Therefore, defecting customers leave or never come back for some reasons and other people could follow them for the same reasons. Thus, the basic idea is to identify the information about defections and learn from business' own mistakes, so that seeking for continuous improvement²⁸. By doing so, firms gain better understanding of their business and learn how to manage shortcomings, obtaining a useful and at the same time different insight on how their business is running. Obviously, Reichheld and Sasser (1990) examine the value related to defecting customers because they rely on the greatest importance of loyal customers on firm profitability. Again, the benefits of loyal customers are considered essential to outperform competitors.

2.4 HYPOTHESES

Performing customer-focused business strategies like niche strategies, which are made specifically to achieve higher customer satisfaction and to build loyalty, can help firms overcome weaknesses of restaurant industry structure, such as strong rivalry, power of buyers and low barriers to entrance. Therefore, here stands the potential power of the gluten-free niche: pursuing a made-to-measure strategy to boost loyal relationships with customers so that

²⁸ In their paper, 'Zero defections: quality comes to services', 1990, Reichheld and Sasser explain how to manage defections and how to pursue a 'zero defections culture', providing also many useful charts showing the importance of long lasting relationship with loyal customers.

retaining them and improving overall business profitability, taking advantage of the AFC network.

Little studies have been made concerning how niche strategies, and specifically the gluten-free niche, influence performance of businesses in restaurant industry hence the aim of this study is to verify if, in an industry that seems quite saturate, there is the possibility to grow and improve the business pursuing a gluten-free strategy. A first goal is to empirically test and compare the performance of those firms in restaurant industry, which have joined the AFC project and have entered the gluten-free niche, with other firms of the industry so that to find a premium associated with being part of the network, hypothesizing:

H1: There is a positive association between serving a specific market niche and performance.

More to the point, assessing the EBITDA margin and the total sales as measurements of firms' performance, the previous hypothesis is specified as follow:

H1a: There is a positive association between serving a specific market niche and operating margin.

H1b: There is a positive association between serving a specific market niche and sales growth.

In this study, being part of the gluten-free niche means also joining the "Alimentazione Fuori Casa" network. More and more firms are joining the AFC network and, at the same time, people with celiac disease are strongly increasing all over Italy, as well as individuals that have gluten relate intolerances or spontaneously decide to avoid eating gluten. In order to capture the influence of the size of the AFC network over performance, it is hypothesized:

H2: There is a positive association between the size of the AFC network and performance.

Thus, a second pair of hypotheses concern the AFC network, specifically the growing number of firms in the network, over restaurant performance measured through EBITDA margin and total sales. Formally stated:

H2a: There is a positive association between the size of the AFC network and operating margin.

H2b: There is a positive association between the size of the AFC network and sales growth.

Moreover, targeting people with celiac disease means also aiming for people surrounding them, thus firms can exploit a bigger network of consumers, increasing sales and becoming more profitable than common firms in restaurant industry. This positive effect should become even more intense the longer a firm stays in the gluten-free niche, since it can build loyal relationships, benefitting from loyal customers. Hence, the final purpose of the study is to investigate the power of the AFC network over time on firms' performance, generally expressed as follow:

H3: There is a positive association between permanence in the AFC network and performance.

In particular, explaining the performance through firms' operating margin and firms' revenues growth, the previous hypothesis is further specified as:

H3a: There is a positive association between permanence in the AFC network and operating margin.

H3b: There is a positive association between permanence in the AFC network and sales growth.

CHAPTER 3

THE CASE OF ITALIAN RESTAURANT INDUSTRY

3.1 RESEARCH METHODS

Previous studies demonstrate extensively the impact of higher customer satisfaction as well as the loyalty effects on firm's economic performance. Researches deepen various aspects of these themes, focusing on different attributes that may influence general satisfaction ratings more than other and, consequently, conditioning comeback scores and repeat purchase.

Moreover, one way to lay emphasis on the benefits coming from customer satisfaction and loyalty is to pursue a niche strategy. In effect, targeting a well-defined and tiny customer segment, supplying products and services that fill a precise need, should drive all the resources of a business toward seeking perfect quality and satisfaction. In turn high customer satisfaction leads to loyalty behaviors, which lower costs and enhance firm performance. Therefore, *customers of a niche are more willing to pay a premium price to get their differentiated product or service, leaving space for profits and growth potential* (Kotler, 2003).

Despite the current growth of gluten-free related markets, little studies are undertaken to find the consequences of entering the gluten-free niche in restaurant industry. Very few researchers examine whether or not pursuing this kind of strategy is advantageous for a restaurant firm, especially in economic terms. Surely, supplying gluten-free meals is something that increases satisfaction of those people who suffer from celiac disease but it also may influence positively the perception and the experience of common people.

Furthermore, given the scarce number of businesses able to deal with gluten-free food, individuals intolerant to gluten are more likely to return frequently to gluten-free restaurants if they enjoyed previous dining experience. At the same time, there is the possibility of exploiting the advantages coming from AFC network and AIC certification as well as of benefitting from the network of people surrounding a person with celiac disease.

Being part of the gluten-free niche theoretically seems to be worthwhile for a restaurant that wants to improve its performance. This strategy can enhance overall customer

dining experience and satisfaction, thus boosting repeat patronage and purchases. In addition, it is an advantageous way to exceed expectations of a customer that nowadays is more and more value oriented and food conscious. A gluten-free option is also an answer to changing needs among population.

Therefore, being part of gluten-free niche and of AFC network means standing out from classic rivalry and offering something that goes beyond the ordinary, so that to differentiate strategically from competitors. In this study, the gluten-free option is considered as a valuable attribute of dining experience that makes customers to come back to a restaurant, retaining them, thus increasing sales volume and firm's overall profitability.

In order to assess whether being part of the gluten-free niche is a profitable solution for restaurants, the first part of the study analyses trends of hospitality and restaurant industries in the case of Italy and then it highlights trends in restaurant industry in three specific Regions, Lombardia, Toscana and Veneto. Before proceeding with the analysis on the markets, an initial examination is conducted on the dynamic of growth path of people with celiac disease and companies listed on the project "Alimentazione Fuori Casa", both at an aggregate level and at a regional level in order to understand how the two variables are developing over time.

Data on individuals with celiac disease considered in the research are taken from documents "Relazione Annuale al Parlamento sulla Celiachia"²⁹ released by the Italian Ministry of Health, where the census of Italian people with celiac disease is annually published along with a detailed analysis on the development and researches concerning this field. Data on people affected by celiac disease are available at aggregate and regional level from 2007 until 2014.

The Italian Coeliac Association provided the list of all companies being part of project "Alimentazione Fuori Casa", with data on type of business, Region and province of headquarters, VAT numbers, date of activation of the project and, in the event, expiration date and motivation of cancellation. Despite the AFC project lasts since early 2000s, AFC firms' data are available starting from 2010 to beginning of 2015 because data were handled with a different database before 2010.

At the end of 2014, the AFC guide counts about 3.790 companies in the network and the list also allowed for a better insight on different kind of businesses that have entered the network in the past years. Restaurants are the type of business with the greatest presence

²⁹ The Ministry of Health yearly publishes the "Relazione Annuale al Parlamento sulla Celiachia" document to investigate on the development of celiac disease in Italy. The documents on the past years can be found at the following link <http://www.celiachia.it/NORME/Norme.aspx?SS=346&M=639> (viewed 13/02/2016).

including around 1.587 companies, almost half of total businesses inside the AFC project, and are followed by accommodation segment, counting about 645 companies, while pizzerias are the third largest category with 592 companies.

The first part of the research continues with the overview over general hospitality and restaurant industries as well as the gluten-free niche. The aim is to compare the evolution of these markets and the trend of the niche together with growth paths of Italian population and people suffering from celiac disease over the past years, so that to comprehend the related diffusion and development. The analysis is conducted both at aggregate level and at regional level, based on the creation of four ratios highlighting the relationship among Italian population, people with celiac disease, the number of businesses in hospitality and restaurant industry and firms in the AFC network.

The database of Istat (Istituto Nazionale di Statistica) is used to get information about Italian population and regional inhabitants over recent years. Data considered in this study are collected from 2002 to 2014.

InfoCamere-Movimprese³⁰ database, which is the IT Company of the Italian Chambers of Commerce, is used to extrapolate data on the development of businesses in restaurant industry and hospitality industry. For the purpose of this study are examined companies classified under category ATECO 56 that fall into restaurant industry between 2010 and 2014, whereas companies of categories ATECO 55 and ATECO 56 are taken into account to represent hospitality industry.

The second part of the research gets better insight on the economic performance of common restaurants compared with that of gluten-free restaurants, taking into account the cases of three Italian Regions: Lombardia, Toscana and Veneto. These three Regions are chosen as a sample for the study because of the great diffusion of businesses in restaurant industry in these areas. Moreover, the choice was dictated by looking at one particular ratio that conveys the relationship between people with celiac disease (PCD for simplicity) and AFC companies for year 2013. This ratio shows for every how many individuals with celiac disease it is possible to find a gluten-free restaurant. All the three selected Regions rank as average values.

Specifically, Toscana is one of the Italian Regions with the highest PCD/AFC companies ratio, meaning that the probability of finding a gluten-free restaurant compared with the number of people with CD is quite high, while Veneto stands in the middle.

³⁰ Movimprese is the statistical analysis on the birth and death of Italian companies that every three months Infocamere performed on behalf of Unioncamere. The website is available at <http://www.infocamere.it/movimprese?pGeoTk=IT&pTipTk=I&pPerTk=A2014> (viewed 13/02/2016).

Conversely, Lombardia positions among Regions with the lowest values, that is, those areas where there are few gluten-free restaurants compared with the number of individuals suffering from celiac disease.

In order to build the dataset with the information about firms' economic and financial data it is used AIDA (Analisi Informatizzata delle Aziende) database of Bureau Van Dijk, which stores comprehensive data on about one million Italian limited companies. The dataset of this study is created considering companies falling into category ATECO 56.1, which are registered in Lombardia, Toscana and Veneto. Around 10.528 total companies of the three Regions are collected at the beginning as dataset from which start to perform the analysis. The information collected through AIDA database cover the time span between 2005 and 2014. In addition to firm's general information about year of foundation, Region and province of headquarters and VAT number, data concern basic elements of financial statements, for instance total assets, total revenues and costs. Moreover, profitability ratios like EBITDA and EBITDA margin are gathered to investigate on companies' operating profitability. By means of a matching analysis through VAT numbers between AIDA and AFC datasets, it was possible to identify a sample of 134 gluten-free enterprises, of which 48 are located in Lombardia, 60 in Toscana and 26 in Veneto. Hence, economic data from AIDA database were integrated with AIC information.

Consequently, the first regression models compare the performance of gluten-free restaurants with the performance of restaurants that are not in the AFC network. A dummy variable denominated *AFC* is created to indicate whether the company observed is part of the gluten-free niche ($x=1$) or not ($x=0$) and it is used as independent variable. It covers the time span between 2010 and 2014 since information on activation dates of AFC project are available from 2010. The EBITDA margin, the earnings before interests, tax, depreciation and amortization divided by total revenues (*EBITDA/Revenues*), is utilized as dependent variable on which running the regression models since it expresses a fair measurement of companies' operating profitability. Another proxy of firm's performance used in this study is the natural logarithm of total revenues, *ln(Revenues)*, which is adopted as additional dependent variable.

Two regressions models are run yearly, from 2010 to 2014, for each one of the dependent variables: one simple regression analysis regresses the dummy variable *AFC* first against *EBITDA/Revenues* and then against *ln(Revenues)*; a second full model regresses the dummy *AFC* along with two control variables against each dependent variables. One control variable is *ln(Total Assets)*, the natural logarithm of total assets of each company that provides a measure of the size of a company. The second control variable is *ln(Income Per Capita)*, the natural logarithm of the average income per capita at provincial level, which

capture the wealth of people living in the Italian Province where a company is located. Data about the average income per capita are gathered from L'Osservatorio Findomestic³¹ for years between 2010 and 2014. Then, similar regression models are run considering the same dataset as panel data, so that observing any change or trend over time.

The analysis continues with a deepened investigation over AFC companies and the power of the network, running two more regression models. In particular, it was first questioned whether the growing number of companies joining the AFC project can influence the performance of companies in the network. For this purpose, through AIC data it is created a new variable called *Network* that observes the number of companies in the AFC network between 2010 and 2014 at provincial level. The renovated regression model regresses variable *Network* together with the two control variables on firm's total assets and average income per capita as independent variables against EBITDA margin and against the natural log of revenues.

Lastly, a final regression model is developed to capture the effect linked to the condition of being in the AFC network for a long time. In other words, the aim is to understand if companies that remain in the gluten-free niche become more profitable over time. A new variable *AFC-trend* is developed considering the number of years since when a restaurant is in the network. Given that AIC data on activation dates of AFC project are available starting from 2010, the dataset used for this regression is downsized to only AFC companies born from 2010. Therefore, the last regression model captures the effects of *AFC-trend*, $\ln(\text{Total Assets})$ and $\ln(\text{Income Per Capita})$ on independent variables EBITDA/Revenues and $\ln(\text{Revenues})$.

3.2 THE DIFFUSION OF AFC NETWORK

The Italian Celiac Association is continuously looking for new companies willing to enter the "Alimentazione Fuori Casa" network so that growing the gluten-free niche and increasing the possibilities of dining out without worries of gluten contamination.

According to AIC data, at the end of 2014, the AFC project counts about 3.790 companies in the whole hospitality industry. Firms joining the project are mainly restaurants that represent the 42% of total companies, together with hotels that account for 17% of businesses, and pizzerias, which count 16% of companies.

³¹ Findomestic is part of the BNP Paribas group and annually publishes "L'Osservatorio Findomestic · consumi", which analyzes the markets on durable consumer goods. The documents are available at <http://www.osservatoriofindomestic.it/osservatorio-dei-consumi/index.html>, (viewed 13/02/2016).

Table 2. NUMBER OF COMPANIES IN THE AFC PROJECT AT THE END OF 2014.

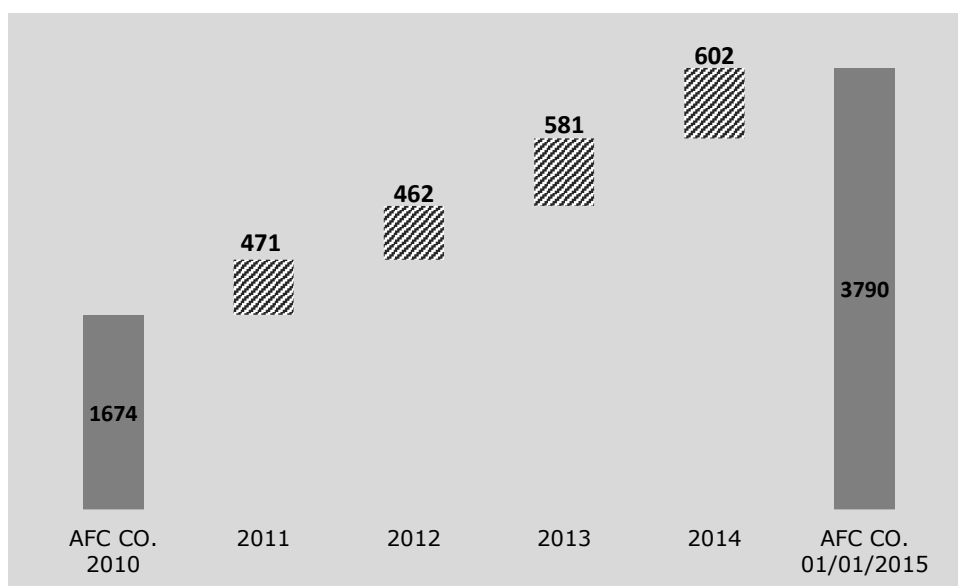
REGION	AFC COMPANIES	REGION	AFC COMPANIES
<i>Abruzzo</i>	88	<i>Piemonte</i>	319
<i>Basilicata</i>	21	<i>Puglia</i>	339
<i>Calabria</i>	225	<i>Sardegna</i>	53
<i>Campania</i>	299	<i>Sicilia</i>	197
<i>Emilia Romagna</i>	279	<i>Toscana</i>	472
<i>Friuli Venezia Giulia</i>	106	<i>Trentino Alto Adige</i>	111
<i>Lazio</i>	267	<i>Umbria</i>	157
<i>Liguria</i>	152	<i>Valle D'Aosta</i>	21
<i>Lombardia</i>	323	<i>Veneto</i>	198
<i>Marche</i>	123	TOTAL	3.790
<i>Molise</i>	40		

Source: AIC data processing

The Region with the highest number of companies that subscribed to AFC project is Toscana, counting about 472 companies, followed by Puglia, with a total of 339 firms, and by Lombardia, which counts 323 companies (see Table 2). Basilicata, Valle D'Aosta and Molise are the Regions with the lowest participation rate in the AFC project.

There are more and more companies entering the gluten-free niche in recent years. The growth path of AFC network of the past years, 2010-2014, is characterized by a positive and increasing trend (see exhibit 4), which is of great interest since many people find out to be gluten-intolerant and the need of eating out gluten-free persists and is growing. Looking at exhibit 4 it is possible to notice that, all over Italy, firms joining the AFC network have more than double in five years. In each year between 2010 and 2014, companies that decided to enter the gluten-free niche have grown around 23% on average. Only in 2014, 602 firms subscribed to the AFC project, contributing to the well-being of people with celiac disease. These data reveal that more and more companies in the whole hospitality industry are willing to increase customer satisfaction while responding to changes in customer needs, so that to be able to supply a valuable service.

Exhibit 4. COMPANIES ENTERING THE AFC PROJECT, 2010-2014.



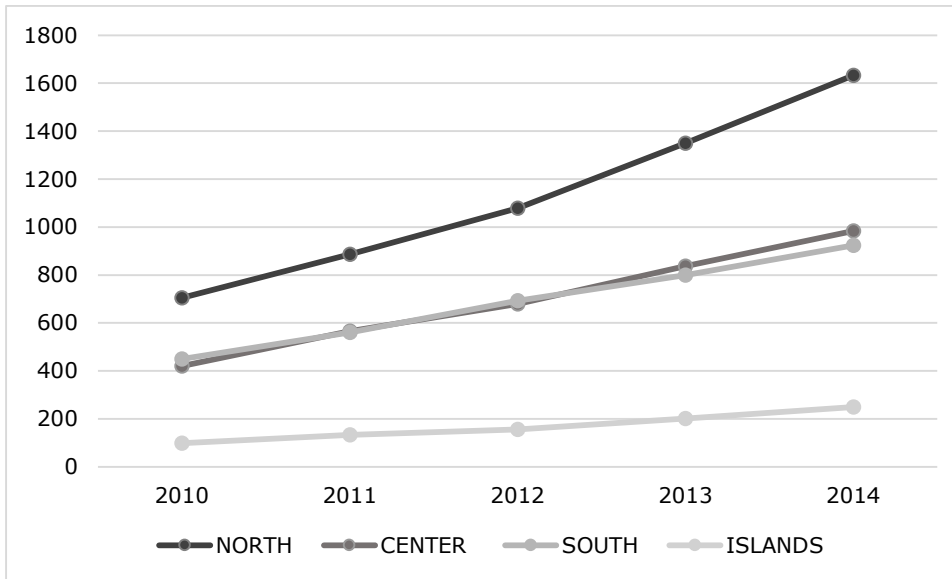
Source: AIC data processing

The growing number of companies joining the AFC network similarly follows the trend of Italian people diagnosed by celiac disease. Data show increasing rates of growth between 2010 and 2014 both for AFC network firms and for people suffering from celiac disease, which set respectively around 23% and 10.3% on average. In particular, as shown in exhibits 5 and 6, the greatest diffusion of people with celiac disease and of AFC companies is in the north of Italy, considering Valle D'Aosta, Piemonte, Liguria, Lombardia, Trentino Alto Adige, Veneto, Friuli Venezia Giulia, Emilia Romagna, Marche as northern Regions. Both central (Toscana, Umbria, Abruzzo, Lazio) and southern Regions (Campania, Molise, Puglia, Basilicata, Calabria) stand in the average³². Differently, island Regions Sardegna and Sicilia show the lowest growth rates.

Looking at exhibits 5 and 6, notice that the trend of companies entering the AFC network reflects the one of people diagnosed by celiac disease at regional level. These trends reveal how some companies in the Italian hospitality industry are coping with demand changes, thus considering the investment on gluten-free niche as a worthy strategy to supply something different and valuable for consumers.

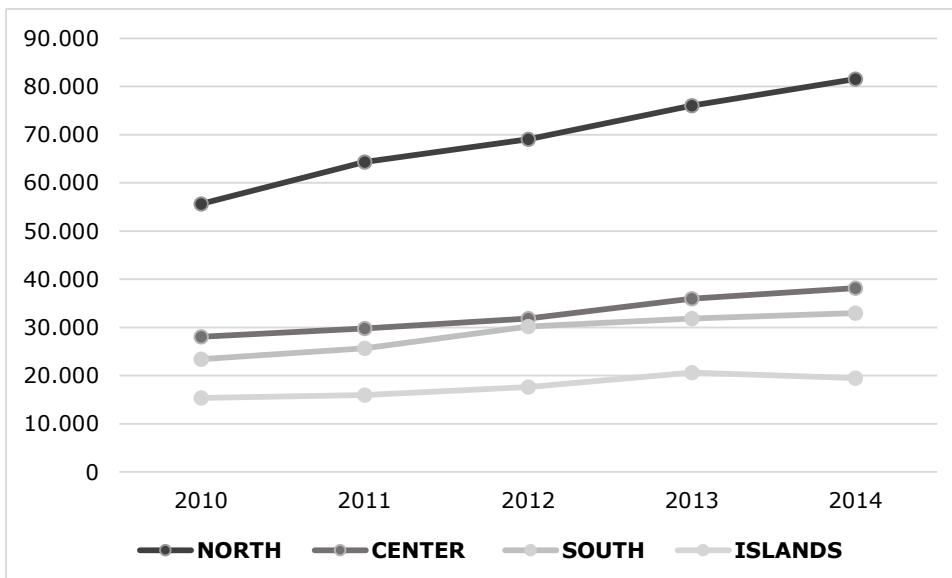
³² This regional subdivision follows the subdivision proposed by Ministry of Health in the document "Relazione annuale al Parlamento sulla celiachia" to get better insights on the distribution of people with celiac disease in the Italian territory.

Exhibit 5. DISTRIBUTION OF AFC COMPANIES AMONG NORTH, CENTER, SOUTH AND ISLANDS.



Source: AIC data processing

Exhibit 6. DISTRIBUTION OF PEOPLE WITH CELIAC DISEASE AMONG NORTH, CENTER, SOUTH AND ISLANDS.



Source: Ministry of Health data processing

As there are many firms that decide to join the gluten-free niche, some other opt for ending the AFC project. Data collected from AIC illustrate different reasons why some companies choose to exit the gluten-free niche, which can be consensual, meaning that both the company and AIC agree on the project surrender, or can be linked to other particular motives.

AIC data highlight eight reasons why companies decide to leave the AFC project. This could be caused by something that strictly concerns the firm, like organizational restructuring, changed headquarters, changed owner and staff, changed typology of business activity or by chased business. Furthermore, there could be non-compliance with the “Memorandum of Understanding” or a missed monitoring. Finally, there is the possibility of consensually agree on the surrender of the AFC project.

Of the 3.790 companies listed in the AFC guide at June 2015, 234 abandoned the project, which means around 6.2% of total companies. The main reason why firms decided to exit the gluten-free niche is related to a consensual and voluntary agreement between firms and AIC on the surrender of the project, which interested about 100 firms (43% of firms that left the AFC network).

The second main cause of companies abandoning the AFC project is due to ceased business, which involved 62 firms, around 26% of leaving companies, and changed owner and staff that concerned around 35 firms (15%) follows it. All the other reasons cited previously account for the remaining 16%, of which 6% is represented by non-compliance with the “Memorandum of Understanding” whereas the other motives account for less than 3% each.

According to AIC data, the Region with the highest cancellation rate is Calabria, counting about 43 companies that left the project, about 18.4% of total cancellations, of which the majority, around 84%, chose to exit the AFC network through consensual surrender (see Table 3). Toscana is the second Region with the highest number of cancellations counting 32 firms, around 13.7% of the total, followed by Emilia Romagna with 31 firms. In both cases, again the majority of companies left with consensual surrender of AFC project.

Table 3. AFC COMPANIES AND NUMBER OF CANCELLATIONS OF AFC PROJECT AT THE END OF 2014.

REGION	AFC COMPANIES	Cancellations	% on total cancellations
<i>Abruzzo</i>	88	5	2,1%
<i>Basilicata</i>	21	1	0,4%
<i>Calabria</i>	225	43	18,4%
<i>Campania</i>	299	25	10,7%
<i>Emilia Romagna</i>	279	31	13,2%
<i>Friuli Venezia Giulia</i>	106	2	0,9%
<i>Lazio</i>	267	20	8,5%
<i>Liguria</i>	152	6	2,6%
<i>Lombardia</i>	323	6	2,6%
<i>Marche</i>	123	4	1,7%
<i>Molise</i>	40	1	0,4%
<i>Piemonte</i>	319	15	6,4%
<i>Puglia</i>	339	18	7,7%
<i>Sardegna</i>	53	1	0,4%
<i>Sicilia</i>	197	9	3,8%
<i>Toscana</i>	472	32	13,7%
<i>Trentino Alto Adige</i>	111	2	0,9%
<i>Umbria</i>	157	7	3,0%
<i>Valle D'Aosta</i>	21	0	0,0%
<i>Veneto</i>	198	6	2,6%
TOTAL	3790	234	100%

Source: AIC data processing

For a better understanding of the dynamic and development of the gluten-free niche, it is useful compare data on AFC network and on people with celiac disease with information about the more generic hospitality and restaurant industries as well as with those about Italian population. For instance, getting some general insights on how Italian hospitality and restaurant industries are developing so that comparing their trends with the development of AFC network help in understanding whether the gluten-free niche follows the same growth path or not and can help in inferring niche's profitability.

In general, the Italian hospitality industry grew on average around 2.2% from 2010 to 2014 and it counts about 418.094 companies in its sector at the end of 2014 (see Table 4). Restaurant industry, which represents the 88% of the whole hospitality industry with about 368.441 firms in 2014, followed the same trend. For both industries there was a little slowdown in 2014 where, conversely from previous years, the number of new companies entering hospitality and restaurant industries decreased under 2%.

Table 4. HOSPITALITY INDUSTRY, RESTAURANT INDUSTRY, AFC COMPANIES FROM 2010 TO 2014.

	2010	2011	2012	2013	2014
Hospitality Ind.	383.549	392.337	401.507	410.230	418.094
AFC Companies	1.674	2.145	2.607	3.188	3.790
Restaurant Ind.	337.407	345.537	353.846	361.613	368.441
AFC Restaurants	1.376	1.734	2.113	2.603	3.145
AFC Hotels	298	411	494	585	645

Source: Infocamere and AIC data processing

Companies in restaurant industry that join the AFC network represents the 83% of the total number firms in the network in 2014, which includes also hotels. Similarly to what happened to the general hospitality and restaurant industries, in 2014 there was a decline in the growth rate of the AFC network, especially regarding the hotel sector that grew by 10%.

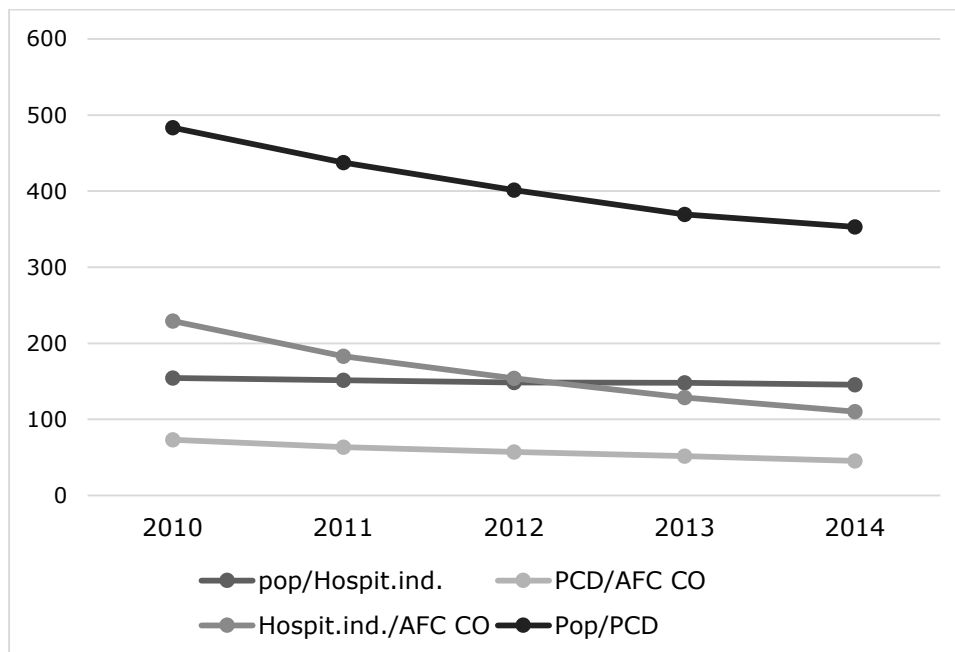
Looking at growth rate of Italian population and at the trend characterizing hospitality industry, data reveal that hospitality industry experienced a bigger expansion and it greatly increased its national coverage between 2010 and 2014. That is, there are more businesses available for Italian residents in this industry, because the number of businesses in hospitality industry has grown more than overall Italian population. In effect, according to Istat data, the resident population of Italy was about 60.795.612 at the end of 2014, of which 172.197 were individuals suffering from celiac disease. In 2014, Italian population grew only by 0.02%, the lowest rate for the past ten years, during which population increased around 0.56% on average.

Therefore, a first ratio is created considering the relationship between the number of firms in hospitality industry and the number of people living in Italy. For instance, given a population of more than 60 million residents and the whole hospitality industry counting 410.230 firms in 2013, the coverage of a business in hospitality industry is about 148 people. In other words, this means that people could found a business in the hospitality industry for every 148 individuals. The proportion between population and firms in hospitality industry has remained quite stable over the period between 2010 and 2014, moving from a value of 154 to a value of 145: if in 2010 there was a business in hospitality industry for every 154 individuals, in 2014 the ratio was 1:145 (see exhibit 7).

Similarly, it was created a second ratio involving all the companies in the AFC network and people suffering from celiac disease (PCD) between 2010 and 2014. During this period, the growth rate of companies joining the gluten-free network has been higher than the one of people diagnosed by celiac disease, thus the ratio between these two quantities decreases over time. Progressively, the number of businesses able to provide safe gluten-free meals has improved its coverage relative to people with celiac disease all over Italy.

For instance, the proportion between AFC companies and individuals with celiac disease was 1:73 in 2010, which equals one firm able to supply gluten-free meals for every 73 people with celiac disease. This proportion moved to 1:63 in 2011, then to 1:57 in 2012 and to 1:52 in 2013. At the end of 2014 it reached 1:45, demonstrating a progressive expansion of the network. Therefore, through recent years the AFC network is becoming more efficient and copious as well as more capable of supplying a larger number of people suffering from celiac disease with safe gluten-free meals. In effect, looking at exhibit 7, between 2010 and 2014 the ratio people with celiac disease/AFC companies moved from 73 to 45, representing a great improvement if compared with the ratio total population/hospitality industry in the same period, which moved from 154 to 145.

Exhibit 7. RATIOS COMPARISON IN HOSPITALITY INDUSTRY, FROM 2010 TO 2014.



Source: AIC, InfoCamere, Istat, Ministry of Health data processing

A third ratio takes into account the proportion of firms in hospitality industry compared to all companies in the AFC network. Between 2010 and 2014, this proportion went from 229 to 110, which means that in 2010 a business in the AFC network could be found every 229 firms in hospitality industry, whereas in 2014 it could be found every 110. As such, the AFC network grew faster than the general hospitality industry.

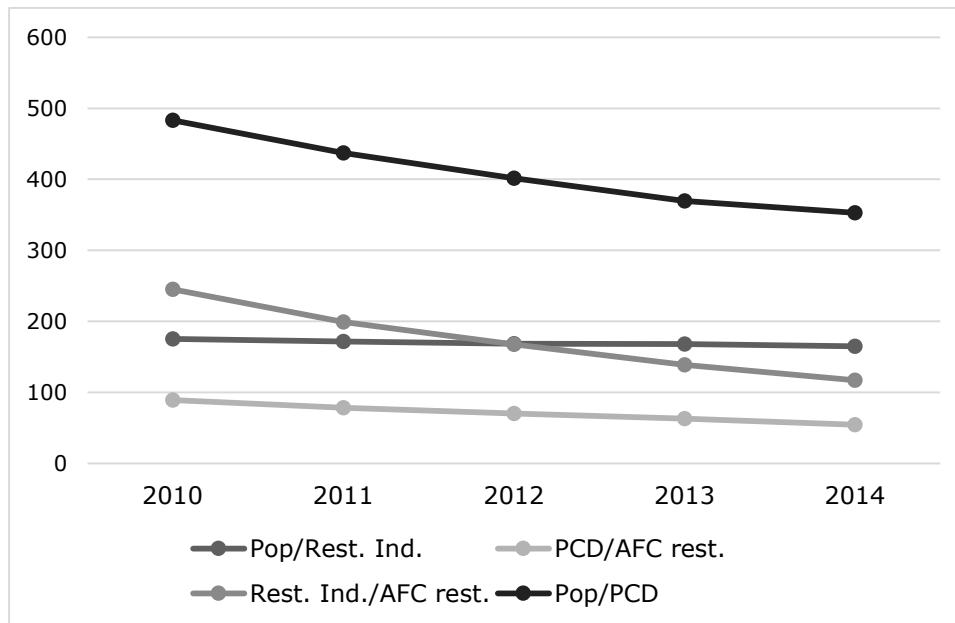
Furthermore, considering the reverse ratio AFC companies/hospitality industry, the percentage of companies in the gluten-free niche respect to total firms in hospitality industry grew from 0.44% to 0.91% between 2010 and 2014. Clearly, companies in the gluten-free network are increasing and this may indicate a certain degree of profitability in the gluten-free niche.

Finally, to get the complete overview on the Italian case, a fourth ratio was used to investigate on the relationship between Italian population and people with celiac disease. This relationship slightly decreases over the five years considered, 2010-2014, moving from a value of 483 to 353, meaning that there was a person with celiac disease every 353 Italians in 2014. Looking at its reverse ratio, the percentage that indicate the proportion of people with celiac disease among population moved from 0.2% to 0.3%. Actually, the Ministry of Health believes that the real proportion of people with celiac disease over Italian population should be near 1%, meaning around 600.000 people despite the 172.197 already diagnosed, and argues that there is a persistent lack of diagnosis related to gluten intolerance. However, data show that diagnosis of celiac disease among Italian residents are increasing over time and consequently so does the need of eating out gluten-free.

Moving to the specific case of restaurant industry, a specular analysis was conducted at restaurant industry level, considering only businesses falling into category ATECO 56, in order to properly investigate on those companies that focus their core business on food preparation and are devote to satisfy their customers through food. In particular, the basic ratio on the relationship between population and people with celiac disease remains the same and, again, it serves as a guide on the development of gluten intolerance among Italian people (see exhibit 8).

The proportion of restaurants entering the AFC network on the total number of businesses in restaurant industry reflects the one between all AFC companies and the whole hospitality industry. In fact, restaurants joining the gluten-free niche were the 0.41% of total firms in restaurant industry in 2010, while in 2014 they constituted to 0.85%. This is because restaurant category represents more than 80% of hospitality industry and it has a great influence in the whole industry as well as among companies entering the AFC project.

Exhibit 8. RATIOS COMPARISON IN RESTAURANT INDUSTRY, FROM 2010 TO 2014.



Source: AIC, InfoCamere, Istat, Ministry of Health data processing

Exhibit 8 shows also restaurant industry/AFC restaurant ratio, which displays that a person with celiac disease could find a gluten-free restaurant every 245 normal restaurants in 2010 while in 2014 the proportion was 1:117. In five years, this relationship has improved by 109%, demonstrating that more restaurateurs are willing to undertake the gluten-free project and proving a certain convenience in joining the AFC network.

Concerning the other two ratios, which compare the total number of businesses in restaurant industry with the population sample in the celiac disease/AFC case and in the more general case, notice that, again, they follow the same trends of hospitality industry but there are some differences in values. Specifically, data in exhibit 8 show that the percentage values of ratio concerning people with celiac disease/AFC restaurants are slightly higher if compared with those in the case of hospitality industry showed in exhibit 7. In effect, there is a restaurant in the AFC network for every 89 people suffering from celiac disease in 2010 and it decreases to 55 people in 2014, improving the ratio by the 38% in five years. Considering the years in between 2010 and 2014, there was a gluten-free restaurant for every 78 individuals with celiac disease in 2011, for every 70 individuals in 2012 and for every 63 in 2013.

Differently, for what concerns the last relationship between the more common restaurant industry and Italian population, the improvement was not so remarkable. In fact, the ratio grew of about 6% during the period 2010-2014 (4% in the first four years). That is, a

business in restaurant industry could be found for every 175 Italian residents in 2010, while in 2014 there was a business in restaurant industry for every 165 individuals.

Comparing trends of the last two ratios considered in the analysis, the one related to the gluten-free niche has experienced a greater growth than the latter one. Moreover, the relationship between gluten-free businesses and all the others companies in the same industry is slightly changing in favor of the former, indicating a faster development of the gluten-free niche rather than of common business models. Therefore, the greater development of the AFC network and all the ratios suggest the existence of some advantages related to the fact of being part of the gluten-free niche that may lead to a better performance respect to others companies. In the same way, the continuous new diagnosis of gluten related disorders are making the gluten-free niche more profitable. Given the increasing and persistent need of eating out gluten-free, joining the AFC project may be a valuable strategy to satisfy customers and differentiate from the ordinary rivalry.

3.3 THE CASES OF LOMBARDIA, TOSCANA AND VENETO

Three Italian Regions are taken as example for a further and deepened investigation on the influence of gluten-free niche over restaurant performance. As already mentioned above, this choice was made given the scores in the ratio involving companies in AFC network and people with celiac disease resident in these parts of Italy at the end of 2013 (see table 5).

Getting down to the single cases, Lombardia is the Region with the largest number of inhabitants³³ and the highest percentage of people with celiac disease. Conversely, it shows to be one of the Regions with the lowest score considering the people with celiac disease/AFC companies ratio, counting a gluten-free restaurant for every 103 individuals with celiac disease in 2013. Differently, Toscana is one of the Regions where the AFC network is greatly diffused. In fact, in 2013 there was a gluten-free restaurant for every 32 people with CD and the AFC companies were about the 1.60% of total companies being part of hospitality industry in Toscana.

Finally, Veneto is a Region that reports ratio value standing near the Italian average. Furthermore, also data concerning the presence of people with celiac disease rank on the average, counting around 6% of total Italian residents with celiac disease. Here there was a gluten-free restaurant for every 62 individuals with CD at the end of 2013 but companies in

³³ Istat counts 9.794.525 residents in Lombardia in 2013; 3.692.828 residents in Toscana; and 4.881.756 residents in Veneto. www.istat.it.

the AFC network were just the 0.55% of total businesses registered in Veneto under hospitality industry.

Table 5. PEOPLE WITH CELIAC DISEASE AND AFC COMPANIES' DISTRIBUTION AT REGIONAL LEVEL IN 2013.

REGION	PEOPLE WITH CD	AFC CO 2013	% PCD	PCD/AFC CO
Abruzzo	3.909	82	2,4%	48
Basilicata	871	16	0,5%	54
Calabria	4.709	203	2,9%	23
Campania	15.509	257	9,4%	60
Emilia Romagna	13.053	213	7,9%	61
Friuli Venezia Giulia	2.860	66	1,7%	43
Lazio	16.576	220	10,1%	75
Liguria	4.216	140	2,6%	30
Lombardia	28.611	277	17,4%	103
Marche	3.028	105	1,8%	29
Molise	779	27	0,5%	29
Piemonte	10.966	282	6,7%	39
Puglia	10.005	296	6,1%	34
Sardegna	6.256	49	3,8%	128
Sicilia	14.344	153	8,7%	94
Toscana	13.073	410	7,9%	32
Trentino Alto Adige	2.944	85	1,8%	35
Umbria	2.397	125	1,5%	19
Valle D'Aosta	404	21	0,2%	19
Veneto	9.982	161	6,1%	62
TOTAL	164.492	3.188	100%	52

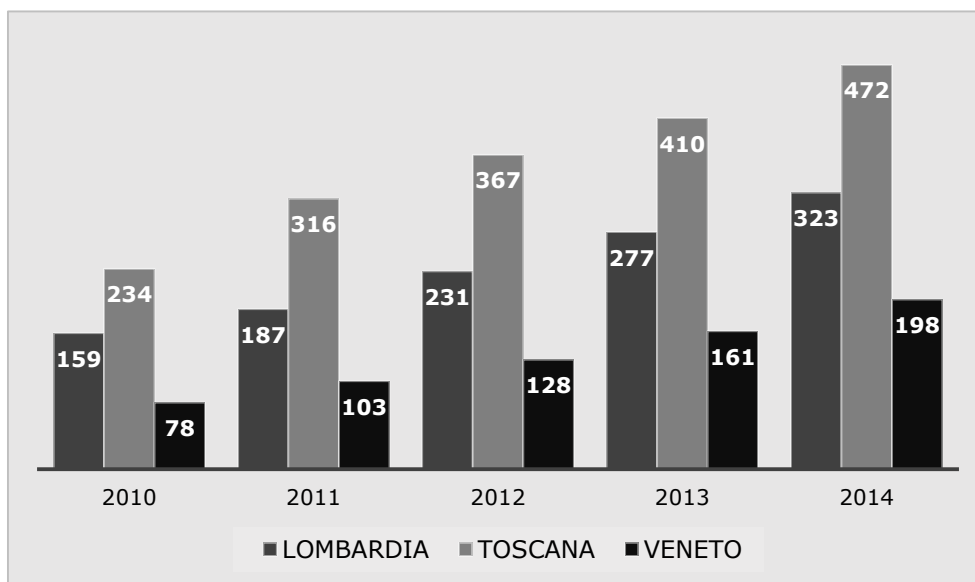
Source: AIC and Ministry of Health data processing

To have a general overview on restaurant industry and gluten-free niche of Lombardia, Veneto and Toscana, a first analysis is done for each of the three Regions, which follows the analysis made at aggregated level. Therefore, the diffusion of the AFC project as well as of celiac disease in these areas is examined at first, followed by an investigation over the degree of cancellation of the project and finally by a comparison among ratios analysis.

Exhibit 9 shows the number of companies that decided to join the AFC project in Lombardia, Toscana and Veneto between 2010 and 2014. Clearly, it can be notice the strong adherence to the project in Toscana, where, for instance, 62 new companies chose to enter the

gluten-free niche in 2014 (which represents the 10% of total new companies entering the gluten-free niche in Italy in the same year).

Exhibit 9. COMPANIES ENTERING THE AFC PROJECT IN LOMBARDIA, TOSCANA AND VENETO BETWEEN 2010 AND 2014.



Source: AIC data processing

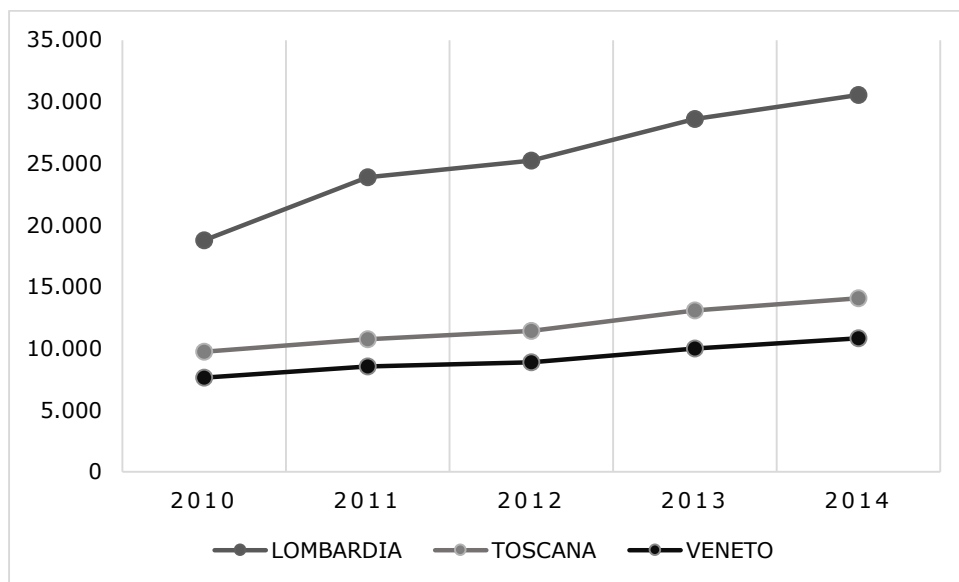
Comparing data with those at aggregate level, which report an increase of the network of about 23% on average during the period between 2010 and 2014, Lombardia and Toscana grew slightly less, reaching respectively 19% and 20% on average. Differently, Veneto reported a greater development, growing of about 26% on average between 2010 and 2014. Despite some differences on growth paths, Toscana remains the Region with the strongest presence of firms in gluten-free niche, covering the 12% of total firms in the niche at the end of 2014. Similarly, Lombardia covers about 9% of total AFC companies, while firms in the AFC network registered in Veneto represent the 5% of the total.

The increase in the number of companies entering the gluten-free niche is also justified by the growth in the number of individuals diagnosed by celiac disease and its consequent increased demand of eating out gluten-free. Lombardia has the highest presence of people with celiac disease in Italy and, from 2010 to 2014, the diagnosis of this disorder grew on average around 13%, a lot more if compared with the other Regions. The peak was in 2011, when people with celiac disease increased of about 27% (see exhibit 10).

Diagnosis of celiac disease in Toscana and Veneto grew around 10% on average in the period between 2010 and 2014. Therefore, data in exhibit 11 show that Toscana has a greater

presence of individuals with celiac disease, about 14.066 people at the end of 2014, if compared with Veneto in which the number of people with celiac disease reach 10.813 people in the same year.

Exhibit 10. PEOPLE WITH CELIAC DISEASE RESIDENT IN LOMBARDIA, TOSCANA AND VENETO, 2010-2014.



Source: Ministry of Health data processing

If Toscana is one of the Italian Region with the highest presence of gluten-free companies and a moderate presence of people with celiac disease, it is also one of those with the highest cancellation rates. In effect, up to June 2015 it counts 32 firms that decided to end the AFC project, which is the 14% of total number of companies that abandoned the network. The reasons why companies left the AFC project are in compliance with the general trend at aggregate level. Therefore, the majority of these firms (15 firms) chose to leave the gluten-free niche through consensual agreement with the Italian Coeliac Association, giving up with the AFC project. Concerning the others firms, about nine cancellations are due to ceased business and about seven cancellations are caused by changed owner and personnel, while just one is due to changed headquarters.

Unlike Toscana, Lombardia and Veneto registered lower number of companies abandoning the AFC project. Both Regions report six cancellations each at 2015, that is about 3% of total cancellations at Italian level. In particular, three companies of Lombardia decided to give up with the AFC network because of ceased business, whereas just one of the others motivated this decision through consensual agreement with AIC. The remaining two

cancellations are due to changed owner and personnel and to non-compliance with 'Memorandum of Understanding'.

Concerning the six companies of Veneto, half of them left the gluten-free niche because of changed owner and personnel and only one because of ceased business. Instead, unlike the general trend, the other two cancellations are due to changed typology of business activity, meaning that companies abandoned the AFC project because they switched their core business into a different economic activity.

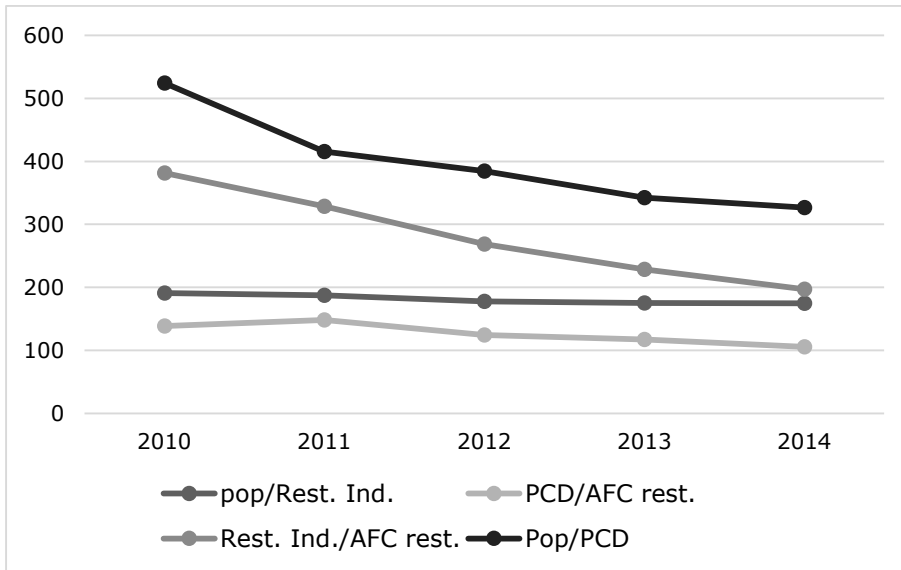
To see the general trends of how relationships among population, people with celiac disease, companies in restaurant industry and in AFC network in the three specific situations are developing, the ratios analysis is performed also at regional level. In this case, the analysis takes into account only restaurant industry and its respective companies in the gluten-free niche since businesses in restaurant industry cover the largest portion of businesses in the whole hospitality industry and, as seen before, trends are almost the same.

Specifically, in Lombardia companies of restaurant industry represent the 93% of total companies of hospitality industry, while in Toscana they are the 82% and in Veneto the 89%. Therefore, the focus on restaurant industry perfectly frames the following analysis on economic data and profitability trends characterizing firms in this market. Together, companies in this industry located in Lombardia, Toscana and Veneto cover the 31% of total companies in the industry at Italian level: 15% are in Lombardia, 7% in Toscana and 8% in Veneto.

Looking at exhibits 11 and 12, notice that ratio trends of both Lombardia and Veneto are quite similar and follow the same growth path but differ in term of values. One major difference is more evident in people with celiac disease/AFC restaurants ratio referred to Lombardia data for the year 2011. In this case an increase in the value of the ratio occurred given by a stronger increase in the number of people with celiac disease registered in Lombardia compared with the number of new companies joining the AFC network.

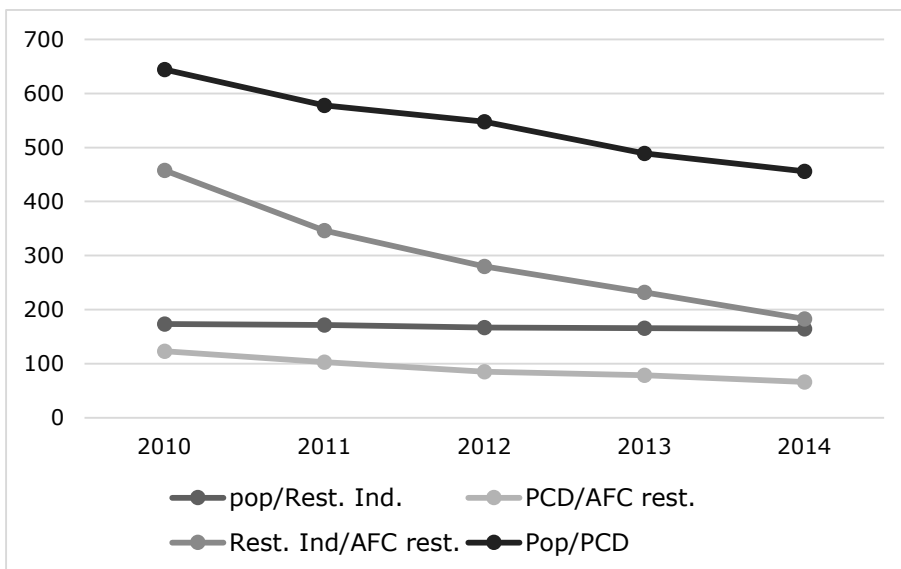
The great increase in the number of diagnosis of celiac disease in Lombardia is also reflected in the ratio between people with celiac disease and population. Therefore, there is a greater increase in the proportion of people with celiac disease, which moves from 0.19% to 0.31% between 2010 and 2014, whereas in Veneto the proportion goes from 0.16% to 0.22%. Following the ratio population/PCD displayed in exhibits 11 and 12, this mean that, in 2010, there is a person suffering from celiac disease every 524 residents in Lombardia and every 644 residents in Veneto: at the end of 2014, the ratio equals 1:327 and 1:456 respectively. Again, these values demonstrate the increased diffusion of gluten related disease.

Exhibit 11. LOMBARDIA: RATIOS COMPARISON IN RESTAURANT INDUSTRY, FROM 2010 TO 2014.



Source: AIC, InfoCamere, Istat, Ministry of Health data processing

Exhibit 12. VENETO: RATIOS COMPARISON IN RESTAURANT INDUSTRY, FROM 2010 TO 2014.



Source: AIC, InfoCamere, Istat, Ministry of Health data processing

For what concern the remaining two ratios, there is a similar trend for both Lombardia and Veneto. In particular, the ratio involving population resident in these areas and businesses

in restaurant industry remains almost stable around values registered at aggregate level, which confirms the mature status of this market. More in detail, the ratio implies one restaurant for every 191 inhabitants in Lombardia in 2010 and it decreases to 175 inhabitants at the end of 2014 (see exhibit 11). In Veneto, this proportion goes from one restaurant for every 173 residents in 2010 to 1:164 in 2014 (see exhibit 12). Both cases demonstrate a minor advance in restaurant industry that seems to be a quite saturate industry.

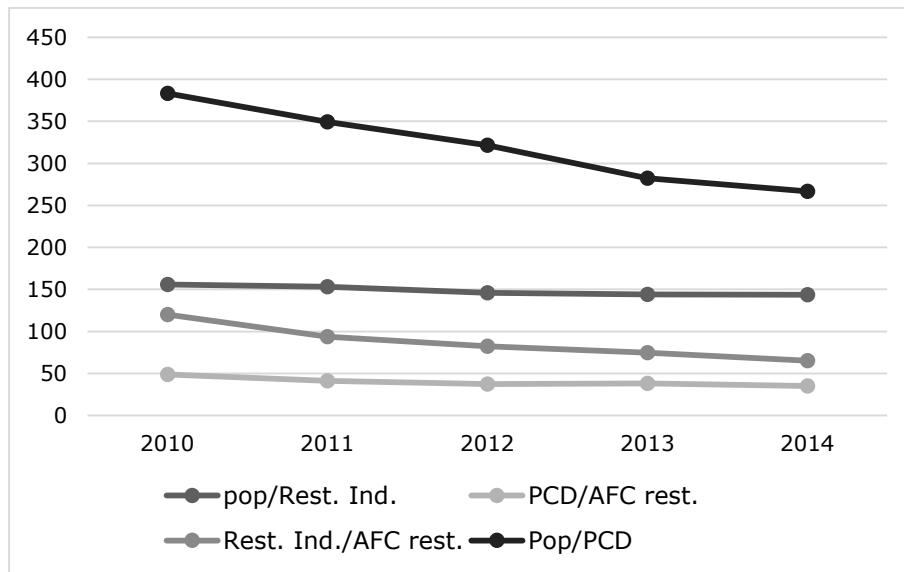
Exhibits 11 and 12 also highlight the greater increase in the ratio restaurant industry/AFC restaurants that show the development of the gluten-free niche. Specifically, if the proportion in Lombardia is equal to one AFC restaurant for every 381 common restaurants in 2010, at the end of 2014 it is 1:197. Similarly, in Veneto it goes from one gluten-free restaurant for every 457 traditional restaurants in 2010 to one for every 183 after 4 years, which represents a great improvement.

Taking its reverse ratio, in Lombardia the percentage of AFC restaurants among restaurant industry moves from 0.26% to 0.51% between 2010 and 2014, while in Veneto it goes from 0.22% to 0.55%. Differently from data at aggregate level, which report values moving from 0.4% to 0.85%, in these two Regions the presence of companies able to supply a gluten-free option is slightly smaller than the Italian average, especially in the case of Lombardia.

On the contrary, Toscana reports higher values in almost every ratio analyzed if compared with Lombardia, Veneto and Italian values. Starting from the relationship between the total number of businesses in restaurant industry and AFC restaurants registered in this area, exhibit 13 displays the strongest presence of companies in the gluten-free niche, which spreads from one gluten-free restaurant every 120 common restaurants in 2010 to 1:65 in 2014. The proportion of AFC restaurants over traditional businesses equals 0.83% in 2010 and it reaches 1.54% in 2014. This is due to the greater growth of the AFC network in Toscana that increased by 19% on average each year, whereas the restaurant industry grew just by 2% on average. Here the values of the ratio are above the Italian scores.

The proportion of people with celiac disease over Toscana's inhabitants is also higher than the proportion in the other cases. The percentage moves from 0.26% to 0.38% between 2010 and 2014, while at neither Italian level nor in Veneto it exceed 0.3% and in Lombardia it is equal to 0.31%. Considering population/PCD ratio, it means one person with celiac disease every 383 residents in 2010 and every 267 in 2014 (see exhibit 13).

Exhibit 13. TOSCANA: RATIOS COMPARISON IN RESTAURANT INDUSTRY, FROM 2010 TO 2014.



Source: AIC, InfoCamere, Istat, Ministry of Health data processing

Regarding the relationship between people living in Toscana and the number of businesses in restaurant industry, again ratio values are below the average. In effect, at the end of 2014 in this area it is possible to find a restaurant for every 144 residents. Probably the lower population density in this Region influences ratio's scores, since people residents in Toscana in 2014 were about 3.751 million, whereas in Lombardia were almost 10 million and in Veneto 5 million despite their smaller area compared with the one of Toscana.

Lastly, even the ratio involving individuals with celiac disease and companies in the AFC network reports lower values, but with a difference in trend during 2013. Looking at exhibit 13, note that the ratio seems to be stable at the same value in 2013 and in 2012: in effect, ratio value increases by one point, differently from the trend of previous years. In other words, a person could found a gluten-free restaurant for every 37 people with celiac disease in 2012 but for every 38 people with celiac disease in 2013, whereas in 2010 the ratio was 1:49. The little appreciation registered in 2013 is caused by a stronger increase in the diagnosis of individuals with celiac disease that grew of almost 15% in 2013, while new entrants in the AFC network grew of about 12.5% the same year. However, in 2014 the ratio continued its decreasing trend, moving to one gluten-free restaurant for every 35 people with celiac disease, aided by the large number of companies that decided to join the AFC network in the same year.

Therefore, all the ratios depict the premises of a favorable environment for companies entering the AFC network, both at regional and at national level. The analysis highlights a greater growth of gluten-free niche compared to the general restaurant industry, which seems to be quite stable. In fact, ratios' trends unveil spaces for further and profitable development in the niche given the increasing number of people with celiac disease and consequently the increasing demand of gluten-free food. Exploring if there are returns also in economic and profitable terms for firms in the network is the following step.

3.4 THE PERFORMANCE OF RESTAURANTS IN AND OUTSIDE THE GLUTEN-FREE NICHE

In order to proceed with the empirical analysis on the economic performance of firms in the gluten-free niche, at first it is used a set of 10.528 Italian companies of Lombardia, Toscana and Veneto extracted from AIDA database, which belong to product category ATECO 56.1 (restaurants and mobile food service activities). Crosschecking through VAT numbers AIDA dataset with the list of AFC firms provided by Italian Association of Coeliac, it was possible to identify a sample of 134 gluten-free companies, 48 from Lombardia, 60 from Toscana and 26 from Veneto, and then integrating it with information acquired from AIC dataset.

The difference between the number of firms found to be part of the gluten-free niche and the number of other companies in restaurant industry in the current dataset is too large and can create distortions in the results of the analyses, thus a smaller sample of firms was considered more suitable. In particular, the sample was firstly downsized considering only companies of which were available data up to 2014. Then, given the big difference in the range of revenues and the great variance observed in the EBITDA margin index, it was done an additional reshaping leaving out firms with extreme values, specifically those with revenues higher than 3.5 € millions as well as firms reporting EBITDA margin lower than -50 and higher than 50. In this way, the final dataset consists of 3.553 companies of which 123 firms joining the gluten-free niche.

To test restaurant performance, a first empirical analysis is based on a simple linear regression³⁴ that investigate whether there is a superior performance associated with the gluten-free niche, that is whether being part of the AFC network leads to higher profitability. The dataset used is further tinned-out basing the estimations of linear regression on the results of a propensity score matching analysis done with Stata command `teffects psmatch`, which

³⁴ All the regression models are run using Stata ®.

matches observations that received a treatment (in this case, being part of the AFC network is considered the treatment) with those that did not received the treatment. The value of total assets in 2014 and the Region of belonging are the two covariates chosen to perform the match. Doing so, the regression model takes the observations that have a corresponding match, dropping those that do not have any match because of extreme or unusual values.

The regression analysis is then conducted for each year between 2010 and 2014 since information about the activation dates of the AFC project are available starting from 2010. The model of this linear regression is the following:

$$EBITDA/Revenues_i = \alpha + \beta \cdot AFC_i + \varepsilon_i$$

where $EBITDA/Revenues_i$ is chosen as dependent variable to test the operating margin, which allows to a fairly view of company's core profitability, and AFC_i is the independent or explanatory dummy variable that takes value 1 if the company is in the AFC network and 0 otherwise. Note that the number of company observed increases over time since new companies are established over the years; hence, the number of observations considered in each regression model is different compared with previous years. In table 6 it is reported the sample of observed companies relative to AFC_i dummy variable for each year taken into account in the models.

Table 6. SAMPLE OF OBSERVED COMPANIES RELATIVE TO DUMMY VARIABLE AFC ($AFC=1$ IF A FIRM IS IN THE AFC NETWORK, $AFC=0$ OTHERWISE), 2010-2014.

AFC	2010	2011	2012	2013	2014
1	58	75	93	108	123
0	2.266	2.522	2.730	3.072	3.430
Total N	2.324	2.597	2.823	3.180	3.553

See Appendix A

Table 7. DESCRIPTIVE STATISTICS FOR VARIABLES USED IN THE REGRESSION MODELS.

VARIABLES	N	Mean	St. Deviation	Min	Max
EBITDA/Rev 2010	2.201	5,11	11,30	-47,88	47,57
EBITDA/Rev 2011	2.483	5,56	11,24	-46,50	50,30
EBITDA/Rev 2012	2.750	4,80	11,24	-50,54	46,41
EBITDA/Rev 2013	3.041	4,09	11,89	-51,19	54,22
EBITDA/Rev 2014	3.517	3,68	12,77	-49,93	49,69
Ln (Revenues) 2010	2.200	12,89	0,926	5,89	15,07
Ln (Revenues) 2011	2.482	12,91	0,923	7,65	15,12
Ln (Revenues) 2012	2.748	12,90	0,944	7,00	15,15
Ln (Revenues) 2013	3.038	12,84	1,002	5,02	15,12
Ln (Revenues) 2014	3.512	12,73	1,075	4,69	15,06
Ln (Total Assets) 2010	2.256	12,54	1,002	8,02	15,79
Ln (Total Assets) 2011	2.544	12,54	0,998	7,98	15,98
Ln (Total Assets) 2012	2.786	12,51	1,011	6,80	15,93
Ln (Total Assets) 2013	3.101	12,42	1,084	0	15,88
Ln (Total Assets) 2014	3.534	12,36	1,058	6,98	15,85
Ln (Income Per Capita) 2010	2.324	9,91	0,144	9,62	10,12
Ln (Income Per Capita) 2011	2.597	9,94	0,172	9,60	10,20
Ln (Income Per Capita) 2012	2.823	9,93	0,178	9,57	10,20
Ln (Income Per Capita) 2013	3.180	9,94	0,177	9,58	10,21
Ln (Income Per Capita) 2014	3.553	9,94	0,174	9,60	10,22

See Appendix A

Table 7 shows the descriptive statistics of variables considered in the regression models to verify whether it exists a positive association between serving a specific market niche and firms' performance (hypothesis *H1*). Both the EBITDA/Revenues and Ln(Revenues) variables report mean values that, except for 2011, decrease over time but differ in values of standard deviation. In effect, EBITDA/Revenues variables report larger standard deviations than Ln(Revenues) variables, which means that there is a greater dispersion in the set of data regarding the operating margin from their mean values. Moreover, mean values of EBITDA/Revenues variables highlight a larger decrease in the core profitability of firms in restaurant industry relative to the other variables that remain quite constants.

The outputs of the first regression model are shown in table 8 for each year between 2010 and 2014. *AFC* variable refers each time to the year considered in the regression model. For instance, it accounts for AFC companies in 2010 when the model is regressed against

EBITDA/revenues 2010, then it accounts for companies in the AFC network in 2011 when regressed against EBITDA/revenues 2011 and so on (in table 6 for simplicity is just reported as AFC).

Table 8. OUTPUTS OF SIMPLE LINEAR REGRESSION ANALYSES WITH *EBITDA/REVENUES* DEPENDENT VARIABLE AND DUMMY *AFC* INDEPENDENT VARIABLE, 2010-2014.

VARIABLES	EBITDA/Rev 2010	EBITDA/Rev 2011	EBITDA/Rev 2012	EBITDA/Rev 2013	EBITDA/Rev 2014
AFC	0.643 (1.215)	0.269 (1.036)	1.821** (0.809)	1.386 (1.076)	3.211** (0.957)
Constant	5.184*** (0.243)	5.563*** (0.231)	4.811*** (0.219)	4.148*** (0.218)	4.700*** (0.216)
Observations	2,168	2,448	2,715	3,015	3,015
R-squared	0.000	0.000	0.001	0.000	0.002

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See Appendix A

Since AFC_i is a dummy variable which indicate whether the company is in the gluten-free niche or not and therefore takes value $x=1$ or $x=0$ respectively, its β coefficient indicates the difference between gluten-free restaurants and common restaurants. Table 8 reports positive AFC coefficients that suggest a superior performance of those firms being part of the gluten-free niche but for years 2010, 2011 and 2013 the results are not statistically significant. The influence of the independent variable AFC over firm's core profitability becomes significant at level 5% in 2012 and 2014. This means that, considering the coefficient AFC for year 2014, gluten-free restaurant reports, on average, $EBITDA/Revenues$ values that are 2.879 points higher than a restaurant not in the gluten-free network. In this case, the choice of being a gluten-free restaurant is associated with more profitable business results and confirms hypothesis $H1a$: there is a positive association between serving a specific market niche and operating margin. However, the regression model has the R^2 index almost equal to 0, which indicates that the model do not explain the variance of the independent variable.

A second linear regression is run to improve the regression output, taking into account two control variables that may influence the results. The new regression model becomes:

$$EBITDA/Revenues_i = \alpha + \beta \cdot AFC_i + \gamma \cdot \ln(TotalAssets_i) + \delta \cdot \ln(IncomePerCapita_i) + \varepsilon_i$$

where variable $EBITDA/Revenues_i$ is again the dependent variable and AFC_i is the independent dummy variable that indicates if a firm is part ($x=1$) or not ($x=0$) of the gluten-free niche. Variable $\ln(Total Assets_i)$ is the natural logarithm of total assets and is used as control variable that gives an indication of companies' size; $\ln(Income Per Capita_i)$ is the natural logarithm of the average income per capita at provincial level and is a second control variable that captures the wealth of the area in which companies operate. Table 9 displays the results of the new regression analyses. As before, variables AFC , $\ln(Total Assets)$ and $\ln(Income Per Capita)$ change values depending on the year for which the regression model is run. The R^2 in this regression model improves but is still low.

Table 9. OUTPUTS OF MULTIPLE LINEAR REGRESSION ANALYSES WITH $EBITDA/REVENUES$ AS DEPENDENT VARIABLE, DUMMY AFC INDEPENDENT VARIABLE AND CONTROL VARIABLES $LN(TOTAL ASSETS)$ AND $LN(INCOME PER CAPITA)$, 2010-2014.

VARIABLES	EBITDA/Rev 2010	EBITDA/Rev 2011	EBITDA/Rev 2012	EBITDA/Rev 2013	EBITDA/Rev 2014
AFC	0.0909 (1.135)	-0.114 (1.005)	1.198 (0.770)	0.793 (1.037)	2.674*** (0.925)
Ln (Total Assets)	2.149*** (0.252)	2.316*** (0.270)	2.212*** (0.256)	2.017*** (0.243)	1.810*** (0.250)
Ln (Income Per Capita)	-1.883 (1.571)	-3.156** (1.249)	-3.372*** (1.168)	-2.811** (1.145)	-3.732*** (1.192)
Constant	-3.771 (15.61)	7.854 (12.55)	10.60 (11.74)	6.951 (11.54)	19.20 (11.92)
Observations	2,169	2,448	2,715	3,015	3,015
R-squared	0.033	0.040	0.039	0.030	0.028

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

See Appendix A

Outputs in table 9 show that only for year 2014 the AFC variable is a significant predictor that is positively associated with the value of $EBITDA$ margin, increasing it by 2.674 points on average. That is, being part of the gluten-free niche is related to a better performance. Unfortunately, for the other years the variable results not statistically significant but it still keeps positive signs, except for 2011. Probably, the sample of gluten-free

companies for years 2010-2013 is too little compared with sample of other restaurants in order to be statistically significant in the regression model. Perhaps, as theory suggests that customer satisfaction and loyalty become more profitable over time (Heskett et al, 1994; Anderson et al., 1994), it is possible that word of mouth, trust and reliability acquired from the gluten-free network finally turn into significant changes in term of firm's profitability after some time.

On the contrary, both control variables are significant but have opposite influences on the dependent variable (see table 9). In effect, while $\ln(\text{Total Assets})$ suggests a positive influence on the score of EBITDA/Revenues , curiously variable $\ln(\text{Income Per Capita})$ has a negative sign, meaning that one unit change in the value of the average income per capita results in a decrease in EBITDA margin score.

Since regression models on EBITDA margin are not significant for each year, a similar regression analysis is run considering the natural logarithm of total revenues ($\ln(\text{Revenues})$) as another indicator of firm's performance. The method used is the same as the preceding analysis: two regression models yearly run after having considered the matched result for each observation gathered through Stata command `teffects psmatch`. The first analysis is a linear regression analysis that regress the AFC_i dummy variable against the independent variable $\ln(\text{Revenues}_i)$. The outputs are displayed in table 10 (again, variable AFC expresses each time the different values across the five years).

Table 10. OUTPUTS OF SIMPLE LINEAR REGRESSION ANALYSES WITH LN(REVENUES) AS DEPENDENT VARIABLE, AFC INDEPENDENT DUMMY VARIABLE, 2010-2014.

VARIABLES	Ln (Rev) 2010	Ln (Rev) 2011	Ln (Rev) 2012	Ln (Rev) 2013	Ln (Rev) 2014
AFC	0.262** (0.107)	0.137 (0.108)	0.186** (0.0921)	0.174** (0.0880)	0.181** (0.0802)
Constant	12.89*** (0.0202)	12.92*** (0.0189)	12.90*** (0.0183)	12.84*** (0.0183)	12.91*** (0.0175)
Observations	2,164	2,444	2,711	3,010	3,010
R-squared	0.002	0.001	0.001	0.001	0.001

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See Appendix A

In this regression model outputs for variable $\ln(\text{Revenues}_i)$ are all positive and have p-values lower than 0.05, except for year 2011 (see table 10). The analysis reveals that *AFC* variable is statistically significant, showing that the condition of being part of the gluten-free niche is related to positive changes in the total amount of revenues. As such, the premium gained on total revenues if a company is in the *AFC* network is equal to 18% in 2014. However, the R^2 is very low, indicating that there are other factors that can predict the variability in the value of the dependent variable.

To deepen the relationship between the condition of being part of the gluten-free niche and firm's economic returns, the second regression model is run adding a second explanatory variable, $\ln(\text{Income Per Capita}_i)$, so that accounting for residents' wealth. Table 11 shows the outputs for the new regression model (variables *AFC* and $\ln(\text{Income Per Capita})$ yearly considered).

Table 11. OUTPUTS OF MULTIPLE LINEAR REGRESSION ANALYSES WITH LN(REVENUES) AS DEPENDENT VARIABLE, DUMMY AFC AND LN(INCOME PER CAPITA) AS INDEPENDENT VARIABLES, 2010-2014.

VARIABLES	Ln (Rev) 2010	Ln (Rev) 2011	Ln (Rev) 2012	Ln (Rev) 2013	Ln (Rev) 2014
<i>AFC</i>	0.273** (0.108)	0.154 (0.107)	0.215** (0.0914)	0.210** (0.0873)	0.212*** (0.0806)
Ln (Income Per Capita)	0.784*** (0.125)	0.456*** (0.102)	0.568*** (0.0932)	0.727*** (0.0934)	0.680*** (0.0942)
Constant	5.117*** (1.245)	8.380*** (1.018)	7.255*** (0.926)	5.617*** (0.929)	6.143*** (0.939)
Observations	2,164	2,444	2,711	3,010	3,010
R-squared	0.018	0.009	0.014	0.019	0.018

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

See Appendix A

Similarly to the results of previous linear regression model, outputs of the new regression model result positive and statistically significant at a level of 5% for years 2010, 2012, 2013 and 2014, whereas only *AFC* value for 2011 is not significant (see table 11). Therefore, being part of the *AFC* network is positive correlated with total revenues earned by the company and this finding support hypothesis *H1b*, which states that there is a positive

association between restaurants serving a specific market niche, specifically the gluten-free niche, and sales growth. For instance, in 2014 a gluten-free restaurant has on average 21% higher revenues than a restaurant not gluten-free. These findings suggest that supplying gluten-free food is advantageous in economic term and improves restaurant performance. Restaurateurs should consider the possibility to add gluten-free offer to their menu if they desire to enhance their business and acquire new customers, relying on the possibility of gaining a premium through the gluten-free niche and the AFC network.

Also the second independent variable $\ln(\text{Income Per Capita})$ results statistically significant for all the five years but, contrary to the regression model on *EBITDA margin*, it is positive, meaning that a change in the average income per capita increase the level of total revenues. In other words, a 100% increase in the average income per capita leads to an increase in revenue by 68%.

Overall, the regression model still has a R^2 low even if it is slightly higher than previous model. Regardless of the R^2 , the significant coefficients represent the mean change in the dependent variable for one unit changed in the explanatory variable and consequently both *AFC* and $\ln(\text{Income Per Capita})$ are valuable predictors for total revenues and have influenced the amount of total revenues in 2010, 2012, 2013 and 2014.

Since the dataset describes the evolution of distinct variables over different points in time, it was possible to check whether the condition of being a gluten-free restaurant led in general to significant effects on firms' performance over time. Therefore, two regression models are run considering the final dataset of 3.553 observations as panel data covering years from 2010 to 2014. The regression models are the following:

$$y_{it} = \alpha + \beta \cdot AFC_{it} + \varepsilon_{it} ;$$

$$y_{it} = \alpha + \beta \cdot AFC_{it} + \gamma \cdot \ln(\text{TotalAssets}_{it}) + \delta \cdot \ln(\text{IncomePerCapita}_{it}) + \varepsilon_{it}$$

where y_{it} is the dependent variable that express each time one of the two different index of restaurant performance y_1 and y_2 , which are $EBITDA/Revenues_{it}$ and $\ln(Revenues_{it})$. The independent variable AFC_{it} is, as seen before, a dummy variable that takes value equals to 1 when the observed company is in the gluten-free niche and takes value equals to 0 otherwise and captures the premium associated with being into the AFC network. Variables $\ln(\text{Total Assets}_{it})$ and $\ln(\text{Income Per Capita}_{it})$ are introduced in the second model as control variables to indicate, respectively, company' size and the wealth of people living in the same Italian province where the company operates.

Table 12 reports the outputs of the models for the two different dependent variables (y_1 and y_2), with and without accounting for the influence of control variables. The first models without control variables have an R^2 very low. However, *AFC* variable is positive but does not have a significant effect on *EBITDA/Revenues*, given p-value slightly higher than 0.05, whereas it has positive and significant effect on $\ln(\text{Revenues})$. This finding suggests that companies in the gluten-free niche earn more revenues on average relative to companies not in the niche; hence, there is a positive association between serving the gluten-free niche and sales growth.

The model with control variables for *EBITDA/Revenues* explains roughly 4% of the variance in the dependent variable as indicated by R^2 (see table 12). However, *AFC* variable is positive but still does not have a significant effect on *EBITDA/Revenues*. Differently, both the control variables have significant effects on EBITDA margin but one works in the opposite way respect to the other. In fact, while the natural logarithm of total assets increases on average the level of *EBITDA/Revenues* indicating that a unitary increase in total assets will increase the EBITDA margin, $\ln(\text{Income Per Capita})$ decreases it, leading to opposite effects.

Table 12. REGRESSION RESULTS FOR INDEPENDENT VARIABLES $Y_1 = \text{EBITDA/REVENUES}$ AND $Y_2 = \text{LN (REVENUES)}$, WITH AND WITHOUT CONTROL VARIABLES, USING PANEL DATA FOR YEARS FROM 2010 TO 2014.

VARIABLES	Outputs without control variables		Outputs with control variables	
	(y1)	(y2)	(y1)	(y2)
	EBITDA/Rev	Ln Rev	EBITDA/Rev	Ln Rev
AFC	1.282* (0.703)	0.144*** (0.0505)	0.649 (0.676)	0.0813** (0.0422)
Ln (Total Assets)			2.582*** (0.199)	0.653*** (0.0180)
Ln (Income Per Capita)			-3.270*** (0.930)	0.346*** (0.0665)
Constant	3.598*** (0.217)	12.72*** (0.0183)	4.198 (9.257)	1.207* (0.668)
Observations	3,553	3,553	3,553	3,553
R-squared	0.0013	0.0011	0.0378	0.4359

Dummies year considered

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

See Appendix A

Different are results in the case of $\ln(\text{Revenues})$ as dependent variable in the model accounting for two more independent variables (see table 12). The R^2 indicates that the model explains around 44% of the variation in the dependent variable. All the three explanatory variables are statistically significant at level 5% and positively influence the natural log of revenues. In particular, in this regression model both the natural logarithm of total assets and of average income per capita report positive coefficients, favoring an increase in total revenues.

More interesting is the output of variable *AFC*, which shows the difference between gluten-free and not gluten-free companies, that confirms the positive link related to being in the AFC network with performance. Therefore, a gluten-free restaurant has roughly 8% higher total revenues than a restaurant that do not provide gluten-free food. Also this model support the initial hypothesis *H1b*, which states that serving a specific market niche is positively associated to sales growth. Thus, restaurateurs should consider the possibility to join the AFC network as a profitable strategy to outperform rivalry. Doing so, they first will increase customer satisfaction expanding their customers' base toward those people suffering from celiac disease and consequently will gain higher revenues relying on the higher value delivered through being part of a niche as well as by being part of the AFC network.

3.5 RESTAURANTS PERFORMANCE AND THE INFLUENCE OF AFC NETWORK

Since previous regression analyses have suggested that gluten-free restaurants gain better performance, especially in term of higher revenues, compared with common businesses in the industry, the last part of the empirical analysis focuses only on the sample of gluten-free restaurants in order to measure any effects that strictly arise by the fact of being part of the AFC network.

A first interesting consideration on companies of the AFC sample concerns the degree of youth of the companies associated with the year of foundation. About 27 firms were established before the 2000s while the majority, 70 firms, were born between 2000 and 2009 and about 37 companies were born between 2010 and 2014. Unfortunately, from this sample it was not possible to investigate properly whether firms decided to join the AFC network during their first years of business or later since the date of activation of AFC project are available starting from 2010.

However, taking into account only firms born from 2010, it is possible to measure how much time passes in between the date of company's foundation and the date of activation of AFC project in the case of younger gluten-free firms. As a result, the average days for the activation results equal to 486, which means about one year and three months after company's foundation. Hence, the time required to become a gluten-free restaurant is not so long. Probably younger companies, which decide to join the gluten-free niche from the very beginning of their food service activity, desire to enter the restaurant industry with a well-defined positioning strategy so that to be able to exploit niche related advantages, addressing their business toward the satisfaction of a particular customer segment and differentiate from the great competitiveness of this market. At the same time, they show to have a great degree of awareness about celiac disease related problems.

As many firms decide to enter the gluten-free niche, the competitiveness inside the niche starts to increase. Understand if the gluten-free niche can guarantee higher restaurant performance while the number of gluten-free businesses and AFC network' size grow over time is important so that to comprehend the degree of rivalry within the niche. For this reason, an additional regression model is developed considering the total sample of 134 gluten-free firms as panel data and including a new variable called *Network*, which account for the number of gluten-free companies distributed at provincial level between 2010 and 2014. The aim is to investigate the effects of variable *Network* together with control variables $\ln(\text{Total Assets})$ and $\ln(\text{Income Per Capita})$ on *EBITDA/Revenues* (y_1) and on the natural log of revenues (y_2). The regression models become as follow:

$$y_{it} = \alpha + \beta \cdot \text{Network}_{it} + \gamma \cdot \ln(\text{TotalAssets}_{it}) + \delta \cdot \ln(\text{IncomePerCapita}_{it}) + \varepsilon_{it}$$

where the independent variable Network_{it} varies across province of company's belonging and across years. The descriptive statistics regarding the new variable *Network* are displayed in table 13. Standard deviation values indicate that there is a great degree of dispersion of data from their mean values, highlighting the different diffusion of firms in the AFC network located throughout the province. This can also be seen by looking at minimum and maximum levels reached in the *Network* variable: there are some province where gluten-free restaurants are few and some other where gluten-free restaurants are quite diffused. Outputs of the regression model are shown in table 14. The R^2 of the two regressions are very different from each other: the model for EBITDA margin has an R^2 very low and equal to 2%, whereas the model that takes into account the natural log of revenues explains about 45% of the variability of the independent variable.

Table 13. DESCRIPTIVE STATISTICS FOR VARIABLES *NETWORK* AND *AFC-TREND*.

VARIABLES	N	Mean	St. Deviation	Min	Max
NETWORK 2010	134	28	19,04	3	61
NETWORK 2011	134	37	26,48	3	85
NETWORK 2012	134	46	32,14	4	103
NETWORK 2013	134	53	37,18	6	119
NETWORK 2014	134	61	42,17	7	136
AFC – trend 2010	9	0,222	0,441	0	1
AFC – trend 2011	16	0,750	0,683	0	2
AFC – trend 2012	24	1,167	1,007	0	3
AFC – trend 2013	32	1,813	1,091	0	4
AFC – trend 2014	37	2,541	1,216	1	5

See Appendix A

Table 14. RESULTS OF REGRESSION MODELS FOR INDEPENDENT VARIABLES $Y_1 = \text{EBITDA/REVENUES}$ AND $Y_2 = \text{LN (REVENUES)}$ WITH NETWORK_t INDEPENDENT VARIABLE³⁵.

VARIABLES	(y ₁) EBITDA/Rev	(y ₂) Ln (Revenues)
Network	0.0992** (0.0387)	0.00382*** (0.00135)
Ln (Total Assets)	4.890*** (1.335)	0.692*** (0.0795)
Ln (Income Per Capita)	-32.19** (16.04)	0.0925 (0.433)
Constant	252.7* (151.1)	3.007 (4.411)
Observations	134	134
R-squared	0,026	0,4508

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See Appendix A

³⁵ Variable *Network* is not standardized so that to capture the size of AFC network at provincial level. The regression models run with *standardized Network* (obtained dividing the number of firms in the AFC network at provincial level by the total number of firms in restaurant industry gathered through AIDA at provincial level) report similar results, influencing positively at level 5% both operating margin and sales growth. The new coefficients for variable *standardized Network* are 18.86 in the case of model with EBITDA margin and 0.708 with Ln(Revenues). Coefficients of independent variable *ln(total assets)* are consistent with those reported in table 14. Differently, *ln(Income Per Capita)* is not statistically significant in the model for EBITDA margin while is statistically significant at level 5% in the model for total revenues. Finally, the R² remains basically the same.

As it can be seen looking at table 14, in both regression models the new variable *Network* has positive coefficients and is statistically significant at level 5%. This suggests that the rivalry within the AFC network does not influence negatively the performance of gluten-free companies in the niche, neither for EBITDA/Revenues nor for $\ln(\text{Revenues})$. Conversely, an increase in the number of gluten-free companies in the same province where the observed firm run its business is related with positive changes on EBITDA margin and on total revenues. Specifically, there is a greater positive association between the size of the AFC network and EBITDA margin rather than in revenues growth. New entrants in the gluten-free niche can strength the performance of companies already in the niche. In addition, more and more people find out to be gluten intolerant and the demand for gluten-free food is growing over the years, thus assuring a growing consumer base. However, restaurant managers should never underestimate the rivalry in their closest area and should seek for continuous improvement so that reaching great level of customer satisfaction and developing customer loyalty that rise switching costs.

The last type of analysis is conducted over AFC companies born after 2010 to check if the condition of being in the network from a long time positively influences the performance of the company. The analysis concerns a panel of 37 AFC companies that were born after 2010 because data collected through the Italian Coeliac Association report activation dates starting from 2010, so in this case any assessment over firms previously founded is misleading. The new independent variable is *AFC-trend_{it}* and expresses how many years the observed company is in the network (the descriptive statistics are reported in table 13). $\ln(\text{Total Assets})$ and $\ln(\text{Income Per Capita})$ are the control variables. The regression is run first over EBITDA margin and then over the natural logarithm of total revenues as dependent variables, which are used as measurement of restaurant performance: results are displayed in table 15.

The regression models for EBITDA margin and for the total revenues explain, respectively, around 10% and 51% of the variation in the dependent variables, as indicated by R^2 . In both models, the *AFC-trend* variable has positive and significant effects on the dependent variables: the longer a firm stays in the network, the better are the results of its economic performance. As expected, the results confirm hypothesis *H3* showing that there is a positive association between the permanence in the AFC network and firms performance. Consequently, the two models suggest that, through the years, firms in the AFC network are able to profitably attract and retain more customers and are able to increase their core profitability as well as to earn higher revenues, taking advantage of the reliability and power of the network.

Table 15. RESULTS OF REGRESSION MODELS FOR INDEPENDENT VARIABLES $Y_1 = \text{EBITDA/REVENUES}$ AND $Y_2 = \text{LN (REVENUES)}$ WITH AFC-TREND_I INDEPENDENT VARIABLE.

VARIABLES	(y ₁) EBITDA/Rev	(y ₂) Ln (Revenues)
AFC-trend	10.81** (4.642)	0.279*** (0.0645)
Ln (Total Assets)	5.845* (3.501)	0.866*** (0.135)
Ln (Income Per Capita)	-47.31 (42.80)	0.557 (0.946)
Constant	366.1 (406.5)	-4.136 (9.711)
Observations	37	37
R-squared	0,0967	0,5103

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See Appendix A

For what concern the other independent variables, the two models show different results (see table 15). In the model for EBITDA/Revenues, neither variable $\ln(\text{Total Assets})$ nor $\ln(\text{Income Per Capita})$ have significant effects on the dependent variable. Conversely, in the second model the natural log of total assets has significant effects on the dependent variable $\ln(\text{Revenues})$, revealing that one unitary increase in total assets will increase total revenues. Instead, the degree of wealth of people living in the same area where a restaurant is located is not influential.

Overall, both the regression models with variable *Network* and with variable *AFC-trend* suggest that the performance of gluten-free restaurants is strengthened by some intrinsic characteristics regarding the gluten-free network and firms themselves. Therefore, while the gluten-free niche is growing over time together with its related economic potential, so it does profitability of each firms within the AFC network. Moreover, the earlier a firm joins the gluten-free niche, the higher are its chances to satisfy and retain customers with celiac disease so that exploiting the advantages coming from loyal relationships created through the network.

CONCLUSIONS

This study examined the relation between serving a specific market niche, specifically the gluten-free niche, and restaurants performance on different levels of analysis. It first highlighted the importance of the customer segment identified by people suffering from celiac disease, which is rapidly growing over time and which has a peculiar need that is seeking to be satisfied: eating out gluten-free. Three main hypotheses were tested to analyze whether serving the gluten-free niche leads to positive changes in firms performance, which was measured through the operating margin and revenues growth, taking into account companies that have joined the “Alimentazione Fuori Casa” project. The first hypothesis *H1* investigates the positive association between serving the gluten-free niche and restaurant performance. The second hypothesis *H2* captures the influence of AFC network’ size, expressed through the number of firms in the network at provincial level, over firms performance. Finally, the third hypothesis *H3* examines the positive link between the permanence in the AFC network and restaurants performance.

Besides the relative narrow number of people with celiac disease, the other characteristic that makes this market segment look like a niche are its gluten-free products. In fact, gluten is a protein contained in many basic ingredients such as wheat, barley and rye and, therefore, managing on request gluten-free food cannot be done by any person without high risks of contamination. Preparing gluten-free food requires knowing the disease and the right use of food ingredients. With the “Alimentazione Fuori Casa” project, the Italian Coeliac Association trains restaurateurs on how to deal properly with gluten-free food, assuring safety in dining out gluten-free. At the same time, the project created by AIC provides reliability and visibility to any firm joining the AFC network.

More to the point, satisfying customers with celiac disease means adding or revisiting some items in the current menu that do not contain gluten. The choice of entering the gluten-free niche does not compromise the current offer or the service toward regular customers but simply aims to create a niche inside the existent business and it gives restaurant managers the possibility to improve customer satisfaction. Moreover, the gluten-free niche has the intrinsic

potential to attract and retain consumers that casually dine in a restaurant because their peer is intolerant to gluten.

The findings in this research provide some implications for managers of businesses in restaurant industry as well as in the whole hospitality industry. Nowadays, the Italian restaurant industry is a highly competitive environment, characterized by plenty of different business models. Choosing to be part of the gluten-free niche is a strategic choice to differentiate its own business from the others without totally change the restaurant concept. Furthermore, data on the industry reports the image of a market that is growing slowly: firms approaching the gluten-free niche have the possibility to boost their business toward an expanding and profitable customer segment, avoiding business and market slowdowns.

The empirical analysis has highlighted some important findings on the degree of profitability related to gluten-free firms in the area of Lombardia, Toscana and Veneto. Here, the number of people with celiac disease and of companies joining the AFC network is growing impressively. Overall, the regression models considered in this research suggest a positive association between serving the specific market niche of gluten-free and firms' performance, supporting hypothesis *H1*. For a firm in restaurant industry entering the gluten-free niche is worthwhile, resulting in better performance compared with ordinary competitors. Even though in some cases serving the gluten-free niche turns out to be not determinant over changes in EBITDA margin, weakly confirming hypothesis *H1a*, it shows to have a significant and positive association over firms' total revenues supporting hypothesis *H1b*: there is a positive association between serving a specific market niche and sales growth. Hence, firms in the AFC network prove to be able to attract and retain new customers, boosting their profitability.

As more and more companies decide to join the gluten-free niche, restaurant managers may be concerned about the size of the AFC network and rivalry within the network, especially if located in the closest area. The growing number of companies in the AFC network should not be discouraging because the analysis suggests that a larger number of companies in the niche supports company's performance. The findings provided by the two regression models confirm both hypotheses *H2a* and *H2b*: there is a positive association between the size of the AFC network and operating margin as well as sales growth. Moreover, even if the diffusion of the network is increasing, it is also raising the number of people suffering from celiac disease as well as the number of people with other different types of gluten related intolerance. In addition, some people spontaneously decide to exclude gluten from their daily diet. Consequently, the demand of eating out gluten-free is constantly enlarging.

Lastly, the results highlight a positive association between the permanence of firms in the AFC network and their performance: the longer a restaurant remains in the network, the more it improves its performance and has the chance of enhancing satisfaction of its customers. Both EBITDA margin and total revenues are influenced positively by the number of years a firm deals with the preparation of gluten-free food and, as expected, the models in this study support both hypotheses *H3a* and *H3b*: there exists a positive association between the permanence in the AFC network and operating margin as well as revenues growth. Hence, restaurateurs should consider the opportunity of developing long lasting relationship with customers attracted through the gluten-free niche so that to enhance restaurant's performance. At the same time, restaurant managers should not expect that just entering the gluten-free niche is sufficient to reach higher level of performance, rather they should always keep in mind that food quality is a key success factor in restaurant industry and therefore they cannot overlook it. The gluten-free niche is an opportunity to boost the business while seeking for continuous improvements in order to reach great level in the overall dining experience and customer satisfaction.

Despite the interesting findings highlighted by the models developed in this research, there are some limitations that may be considered to further improve the study. First, the analyses take into account firms in the AFC network in order to represent the diffusion of the gluten-free niche in restaurant industry. In Italy, there are firms that prepare and supply gluten-free food outside the AFC network and without any supervision or certification provided by the Italian Coeliac Association. These firms are not considered in this study because they are not recognized and registered by the AIC, therefore identifying them is quite difficult. Second, this research considers information gathered through AIDA database that contains only limited companies: consequently, small and micro size firms are excluded from the analyses. It would be appropriate to examine the sample of all gluten-free companies so that to reach also those micro enterprises that most represent the Italian restaurant industry and infer on the advantages of being part of the gluten-free niche.

In addition, in order to deepen the research on restaurants performance in the gluten-free niche, it may be interesting to expand the regression analyses to the whole Italian case, getting better insight on the overall power of the AFC network. Similarly, it would be appropriate measuring changes in firms' performance associated to the capability of serving the gluten-free niche with data starting from the very beginning of the AFC project. In this way, the overall power of the AFC network can be valuated since its start.

APPENDIX A

REGRESSION VARIABLES EXPLAINED

EBITDA/Rev	=	EBITDA margin, defined as earnings before interests, tax, depreciation and amortization divided by total revenues, it is used as index of firm's core profitability. Source: AIDA
Ln (Revenues)	=	Natural logarithm of total revenues, it is used as measure of firm performance. Source: AIDA
AFC	=	Dummy, defines the difference between gluten-free and not gluten-free firms. AFC=1 indicates firms in the AFC network, AFC=0 indicates firms not in the AFC network. Source: AIC
Ln (Total Assets)	=	Natural logarithm of total assets, it is used as measure of firm' size. Source: AIDA
Ln (Income Per Capita)	=	Natural logarithm of the average income per capita observed at provincial level, defines wealth of people. Source: Findomestic
Network	=	Network density, indicates the number of firms in AFC network at provincial level. Source: AIC
AFC-trend	=	Within AFC network trend, indicates the number of years since when a firm is part of the gluten-free niche. Source: AIC

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