

## Entrepreneurship in Culinary Arts: The Costa Rica experience with university students

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**Resumen:** La industria del turismo de Costa Rica representa 7,5% de PNB, 21% de las exportaciones totales y de esa contribución el subsector de alimento y bebidas representa 28%. El propósito de esta investigación fue el de identificar, elementos y obstáculos potenciales en jóvenes estudiantes de artes culinarias de universidades en Costa Rica. El estudio fue realizado entre estudiantes de artes culinarias en de la Universidad Interamericana de Costa Rica, las entrevistas realizadas fueron 237 todos los matriculados en artes culinarias. Ausencia de tradición, la falta de cultura empresarial entre los jóvenes estudiantes y la necesidad de apoyos de la familia y amigos parecen ser pertinente y una necesidad sentida por el grupo. La falta de instrucción general en negocio y la falta de iniciativa empresarial se reconoce por ambos grupos como una debilidad y necesidad. El “coaching” y el apoyo para mujeres empresarios es muy pertinente, en especial en los aspectos administrativos y técnicos en los jóvenes estudiantes de artes culinarias. La información generada por este estudio es importante si en verdad queremos entrenar con los programas en artes culinarias, la nueva casta de chef/empresarios necesarios para la expansión de la industria de la gastronomía en los próximos años para Costa Rica y la región

**Palabras clave:** Emprendeduria; Características personales; Obstáculos; Artes culinarias; Análisis multivariado.

**Título:** El espíritu empresarial en Artes Culinarias: La experiencia de Costa Rica con estudiantes universitarios

**Abstract:** The tourism industry of Costa Rica represents 7.5% of GNP, 21% of total exports earning and of that contribution the food and beverages subsector represents 28%. The purpose of this research was to identify, potential elements and obstacles in young university culinary arts students in Costa Rica, largest culinary arts students. The study was conducted among culinary arts students at the Universidad Interamericana de Costa Rica, the interviews conducted were 237 the entire enrollment of the culinary arts school. The findings indicate that .Absence of tradition, culture among the young students and need of family and peers supports appear to be relevant and a source of need by the group. Lack of general business and entrepreneurship training is recognize by both groups a weakness and as a need. Coaching and support for women entrepreneurs is very relevant in both the administrative and technical aspects of the young students of culinary arts The consideration of this information is important if we are to create with culinary arts training, the new breed of professional chefs entrepreneurs needs for the industry expansion in the years to come in Costa Rica and the region

**Key-words:** Entrepreneurship; Personal traits; Obstacles; Culinary arts; Multivariate analysis

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## Introduction

Tourism and all of its related services have become major macroeconomic players in all of the countries of Central America and Costa Rica is no exception. Table 1 clearly indicates that by 2008, tourism is about 2 million tourists, 7 to 8 % of Gross National Products, between 19 and 22% of total exports and billions of “colones” in investment from local as well as foreign sources. In the midst of an agricultural exports crisis, if it would not have been for the tourist dollars the country would have been in serious economic troubles had it depended today of the traditional agricultural exports: coffee, bananas, beef, sugar and pineapple as it did in the past.

The third part of the argument relates to the importance of the restaurant business in the 2008. According to estimates, developed base on statistics from the Costa Rica Tourism Institute, in that year the business generated by the expenditures of tourist in food and beverages, tend to fluctuate , between 500 and 800 millions dollars a year. In 2008, the food and beverages business was estimated at 822 million dollars or 28% of all the gross income generated to the country by the tourist industry. Table 3 indicates that every tourist spends in the country in an average stay of 10 to 14 days in food and beverages US\$393 dollars.

As it can be observed the restaurant business is almost a billion dollar business and at that level, there is no question about, the need for a “full” profes-

Table 1. Major Characteristics of Tourism and the Food Subsector , 2001-2008. Costa Rica

Year	Tourist Arrivals Numbers	Millions Dollars Quantity	Dollars/ Tourist Quantity	Tourism/ PIB %	Tourism/ TExports% %	Colones Investment Tourism 1000000	Colones Investment Gastronomy 1000000	InvGast/ ToInvest %
2001	1131406	1113	984	6,8	22,2	na	na	na
2002	1113359	1099	987	6,5	20,9	na	na	na
2003	1237948	1225	990	7,0	20,1	na	na	na
2004	1452326	1390	957	7,5	22,1	24599	4520	18.37
2005	1679051	1599	952	8,0	22,8	68622	7994	11.65
2006	1725261	1634	947	7,3	19,9	79177	3495	4.41
2007	1979789	1941	980	7,4	20,8	133848	6308	4.71
2008	2089174	2160	1034	7,2	22,7	366758	7583	2.07

Source: Author preparations based on Official Statistics from the Costa Rica Institute of Tourism. A (ICT, 2008 and BCCR, 2010).

The second important part of the tourism importance is shown in Table 2. Hotels and restaurants employed in 2004, the year of the last commercial and industrial census 50 thousands people and by 2010, reports by ICT, indicate that is almost a third more. (ICT, 2010)

Category	Number	%
0 to 5	9 758	19.5
6 to 30	12 616	25.2
31 to 100	8 574	17.1
101 & over	19 146	38.2
Total	50 094	100.0

Source : INEC. 2004. Industrial Census.

nalization of the activities, related to the training of “professional chefs” and the development of a “new class o young chefs entrepreneurs “ if we are to meet the challenges of 2010 and beyond.

The purpose of this research was to identify, potential elements and obstacles in young university culinary arts students in Costa Rica, largest culinary arts students, the one at the Universidad Latina –former Interamericana- de Costa Rica, in order to developed more complete

Expense Category	Participation In Exp/Tourist	Exp/Tourist US\$ dollars	US\$ dollars Millions
	%	1405	2089174
Lodging	0.32	449.6	939
Transportation	0.14	196.7	411
Food and Drinks	0.28	393.4	822
Entertainment	0.07	98.35	205
Medical Expenses	0.03	42.15	88
Other Expenses	0.16	224.8	470
Total	1	1405	2935

Source: Author Calculations base on Costa Rica Tourist Institute, Survey Data and Arrivals Report.

educational programs, looking at the training of chefs entrepreneurs as part of the culinary arts training of the school. The idea being that creation and innovation in culinary arts is the first stage of our idea of new breed of chefs entrepreneurs, the industry need of the 21st century and beyond.

### Objective of the study,

The objectives of the study were:

To establish if entrepreneurial development in students of culinary arts course was a multidimensional problem including, socio demographic, personal traits and obstacles instead of the traditional personality traits approach.

To identify what factors tend to explain the gap between personality traits and obstacles in culinary arts students as a way to reduce such a gap and improve training programs in entrepreneurial efforts at the culinary arts schools in Costa Rica.

### Hypothesis of the study

The general hypothesis of the study were :

H:1. Entrepreneurial development in culinary arts in Costa Rica university students, is influence by socio demographic, personal and obstacles, making it a multi-dimensional training challenge.

H:2. The family and friends impact on culinary arts university students entrepreneurial motivations development in Costa Rica is a central element in fostering entrepreneurship inclination in culinary arts students in Costa Rica.

## Review of the Literature

### Conceptual framework.

The first idea of what was an entrepreneur, was formulated by Cantillon various centuries ago. As a banker he knew from experience what signified the most essential characteristic of the entrepreneur to accept and to take the risk without the certainty of success. (Cantillon, 1997). Schumpeter defines him essentially as a one: that creates changes, blocks, destroys, disturbs, and modifies the normal state of affairs. (Schumpeter, 1942). Kirzner, adds the idea of permanent disruption. This continuous state of equilibrium and imbalance is what the entrepreneur creates. (Kirzner, 1999, 1982, 1973, 1969, 1963; Boehm, 1990; Bourdreaux, 1994; Choi, 1995). Drucker, associates entrepreneurship with the exploitation of an opportunity that changes the preferences of the consumer, social norms, etc. Drucker's entrepreneurs are always seeking

opportunities of change, respond to them and exploit the opportunity. (Drucker, 1985). Baumol defined the entrepreneur as someone that: uses the imagination, he is risked, ingenious, leader, persistent and specific when they are faced with new activities. (Baumol, 1993, 1990; 1968). Gartner refers to the entrepreneurs as an organization creator, and that what is important is not to analyze the characteristics of the personality of the entrepreneur but the forms in which they behaved when they were in their enterprise not their personality. (Gartner, 1986; 1969; Brockhuas and Horwits 1985)

The problem with Gartner argument, of an organization creator, is that suddenly, organization becomes too large and what began as an enterprising, innovative adventure becomes a large, lethargic and bureaucratic business. The US auto industry is a real life example of the heirs of Alfred P Sloan turning into automobile industry bureaucrats. Langlois interpretation of the second Schumpeter is quite relevant. (Langlois, 2002).

Social entrepreneurship is the new dimension, perhaps not that new. Dees, and others define social entrepreneurship with four dimensions that is to say, value creation notions, change agent, search for opportunities and ingenious, with those of accountability with discipline and interest for the social values always present. (Dees, 1998; Peredo and McLean. 2005). Carton et al, maintain that a social entrepreneur is an individual or group, that identifies the opportunities, obtains the necessary resources, creates and is responsible for the performance of the organization. (Carton et al, 1998). The social entrepreneurs are truly a social change agent.

The observation of Latin Entrepreneurs in general makes us believe, that the difference between the serial entrepreneur and the entrepreneur/businessman, is how each handles the success of the undertaking. The first usually "surrender" the day to day administration and management to others, if he is smart, and continues innovating seeking new opportunities. The second, identifies, creates and administers the business and manages its success. The first one wants new things constantly, the second is happy with its success, and manages it.

### Entrepreneurship in Culinary Arts: the universal challenge

Culinary arts, customers do not buy service delivery, they buy experiences; they do not buy service quality, they buy memories;

they do not buy food and drink, they buy meal experiences; they do not buy events or functions, they buy occasions” (Hemmington, 2008). . The Hemmington remarks “specify and clears” the awareness of the importance of entrepreneurship in hospitality, leisure, sport and tourism. Recent emphasis on culinary arts entrepreneurship has been coupled with developments in education and teaching on the subject. Today graduates with entrepreneurial abilities, good technical, business and interpersonal skills are increasingly being sought by employers.(Ball, 2005) and are what is needed today in the restaurant business, not just chefs.

It is important to understand that there are at least five major types of restaurants for star-up analysis purposes .The fast food, these restaurants can be national or regional chains, or locally owned operations provide a minimum amount of customer service and a low quality (not necessarily inferior) product. Cafeterias are differentiated next because of the increased amount of customer service offered and a higher quality menu.. The next category is theme/family (sometimes called casual dining) and contains a large number of sit down establishments with various types of food themes. The final category, fine dining, contains restaurants that offer the ultimate in high quality food and extensive service. This categorization is not all conclusive but it does serve as suitable starting point for the analysis of startup and survival variables in the restaurant industry, these variables are: location, management style, cost control, creativity and innovation, and capital requirements. (Crandall, et al, 1999). The principles are the same , the applications is what differs depending on the type of business being set up.

It is important to understand, that if one is interested in setting up a culinary arts operation it would be advisable to follow the traditional seven steps applied to the creation of a small restaurant, steps that usually follow a very similar sequence to that of the traditional business plan. the steps have been outline as follows: step 1 – conducting an assessment and setting goals, step 2 – developing your restaurant concept, step 3 – understanding regulatory requirements , step 4 – conducting market assessment and research, step 5- developing the marketing and customer service plan, step 6 – developing your organizational plan.. step 7 – developing your financial plan.(Bell et al, 2008)

Before thinking about owning a restaurant is important to remember that high-

performing restaurants generally seem to adopted a futuristic orientation, are more proactive, emphasized a greater degree of innovation, are the first to introduce new products and services in the market, continually sought to improve on product and service quality, and preempted the competition with innovations..(Jogaratham, et al, 1999;Jogarathnam, 2002)..

Innovation in the future will be the constant component of the new breed of chefs we feel are needed in the 21st century and beyond. Perhaps the best example of what we feel a new entrepreneurs chefs need to be are the chefs of France’s great restaurants and to understand them one needs to appreciate the multiple roles they play: creator, leader, entrepreneur, businessman, showman, and outstanding representative of French culture and excellence (Balazs, 2001). They are savvy entrepreneurs, running their restaurants as major financial operations, with all the concerns that being a part of France’s famed luxury goods business entails. They are deeply involved with every single detail, the planning, organization, strategy, operations, people management, corporate culture, client relations, and public relations of their company.(Balazs, 2002)

A recent analysis of Adrian Ferra, “revolution” revealed the four mechanisms through which great chef initiates change: creativity, theorization, reputation, and dissemination. Creativity is about the committed quest for novel concepts and techniques through methods for creativity and appropriate organizing. Theorization is manifested in the restaurant’s guiding philosophy and its evolutionary map, used to order the developments in the chef’s cuisine. It takes place through record-keeping, sense-making, and categorization. Reputation is about recognition by peers and critics and a more universal renown, achieved by the chef’s projecting and protecting his novel ideas and building consensus about the worth and merit of these ideas among relevant audiences. Finally, dissemination is about publications and participation in events in which the chef spreads his ideas. Once public, the chef’s novel ideas challenge existing conventions, thus generating paradoxes and providing potential for change.(Svejenova, et al, 2006)

The new breed of chefs entrepreneurs need to be aware that business succeed and fail just like any other activity. However even though some studies seem to look only at the so called high degree of turnover in the restaurant business a recent study that explored restaurant ownership

turnover rates using qualitative data, longitudinal data (1996-1999), and data from Dun and Bradstreet reports found that in contrast to frequently repeated statistics, a relatively modest 26.16 percent of independent restaurants failed during the first year of operation. Results from this study indicated marginal differences in restaurant failures between franchise chains (57.2 percent) and independent operators (61.4 percent). The paper is also critical of the quality and thus value of widely cited statistics, which are often used as evidence of the inexorable decline of small restaurants firms and suggest that far from suffering such misfortune, many small firms are likely to experience prosperity in the years ahead. Furthermore, a minority of firms which can be classed as entrepreneurial represent dynamic engines which have the potential to drive the hospitality industry into a healthy future. (Morrison and Thomas, 1999). This is interesting because that is what is happening today in Costa Rica, where the small and medium size restaurant are the vibrant heart of the culinary arts industry.

New chefs entrepreneurs need to be however well aware that the effective management of family life cycle and quality of-life issues is more important than previously believed in the growth and development of a restaurant and need to be constantly evaluated and kept in mind when hoping to become a chef entrepreneur. (Parsa et al, 2005).. This is essential since in many cases the restaurant is essentially a family operation and that the interaction between family and business is the among the top issues for guaranteeing business success.

Entrepreneurs are generalists who are good at a variety of skills, although not necessarily excellent at any one. (Lazaer, 2003). Adria and others seem to convey the idea that the manager's profile and personality influence his or her behavior and decision-making process and in establishing the conditions of becoming a great chef. (Legoherel, et al, 2004)

In essence the chef entrepreneur, needs to be aware that he or she are not different than any other of young entrepreneur. Eating should be a meal experience, a memory of an occasion where the idea of service quality is the ultimate expression of a moment not to be forgotten and to provide that you need to be : creator, leader, entrepreneur, businessman, showman, and outstanding representative of your culinary culture and with a universal level of excellence in the French and Spanish tradition

### **The Latin Entrepreneur in Culinary Arts : an approximation.**

The young Costa Rica university students breed of chef entrepreneur men or women in the culinary arts schools have to be in 2010 and beyond, a business creators and change agents of their environment and that means harmonizing simultaneously three dimensions:

- 1.- The social-family dimension, that tries to cover the family and its own personal characteristics, that make up his or hers human direct environment.
- 2.- The entrepreneurship capacity (personal traits-family-friends' interaction dimension), addressing the issues related to how he sees himself or herself and how the family sees them ,and creating the emotional value and self respect, of the social environment and the direct material and emotional recognition and support from family and friends.
- 3.- The organizational-institutional-obstacles' dimension, tries to address the issues related to the organization and changes he or she needs to deal with if he is to make its entrepreneurial intentions a reality. In other words deal with his or hers fears, lacks, and environment obstacles.

The adequate combination of these three vectors is essential in the region and in the country if young university chef men and women entrepreneurs are to make the contribution to economic growth and employment generation that is expected of them in the new decade, as a new innovative and creative chefs in a global and regional environment mark by regional competition and the shadows of the world crisis, that may affect the long term stability of the restaurant business development in Costa Rica and the region.

The previous statement applies as well to young men and women incline for culinary arts. The interesting things is the obvious innovation and creativity observed in many of the student that properly channel should be an asset in the education of the new breed of chef entrepreneur.

## **Materials and Methods**

### **Questionnaire Design Consideration.**

The major considerations influencing the design of the " measurement" instrument of the construct were :a) it had to be a simple, since we were dealing with students with little experience in participating in surveys , b) the number of levels of " likert scales" to measure perceptions had to be "reasonable". We attempted to use 10

levels but the reaction curiously was that they were too many levels and after much consideration settled for seven levels scale, and c) it had to be a one page instrument that took less than 15 minutes to be fill out because we had to use "class" time and the support of other professors.

### Analytic and Methodological Procedures.

#### *Phase I. Variables Specification.*

Dependent Variable Specification. ( Y = Gap)

Traditionally, the way to measure entrepreneurial inclination in young university students in Latin America studies has been to ask them the question about his of her interest for entrepreneurship. The results when this technique has been used has been that most "everybody" says I am interested in entrepreneurship and the discriminating capacity of the answer gets "lost".

The inability that we experience using the previous technique lead us to look for alternatives. The results was to use the GAP concept, idea commonly used in satisfaction studies based on the traditional definition of service quality by Parasuraman et al. The Gap Model conceptualize perception of service's quality as the difference between the expected level of service ,described by the highest point of the scale use and the actual level of service performance perceived linking, perception, likings and moods to satisfaction. (Parasurama, et al, 1985; Parasuraman et al, 1990; Leminen, 2002).

The dependent variable in our case, was the Gap, between the percentage points accumulated by adding the value of the perception reported on the personality traits and family and friends questions and the percentage points accumulated in with the importance of not having the different things reported in other previous studies as needed entrepreneurial development and whose absence could be perceived as an obstacles by the student. We felt it was more relevant to explain the gap between. positive traits and contributions of the family and peers and negative perception of the absences of certain needs perceive as needed, absence that in their minds was interpreted by their own saying as an obstacles , rather than to ask for the intention to create and own a business which most of the time, in our business environment turns out to be just a wish for many youngsters The GAP was conceived as the "balance" between positive reinforcement and personality traits of himself, family

and peers and institutional, personal and policy obstacles.

The GAP in simple mathematical notation is represented as follows:

$$Y = \text{Gap\% dependent variables} = \text{ICEx\%} - \text{IFDx\%}$$

Where

$$\text{ICEx\%} = ((\text{CE1} + \dots + \text{CE20}) / (y * n)) * 100$$

where, y = 7 , n = 20.

And is

$$\text{IFDx\%} = ((\text{FD1} + \dots + \text{FD20}) / (y * n)) * 100$$

where, y = 7 , n = 20

Where,

seven represents the maximum score of each perception question and 20 the number of question in the CE and FD categories

The Gap%. Therefore, represents the difference between the personal traits-family- friends interaction dimensions % score that translates itself into a set of positive contribution and the lacks of, or obstacles' dimension % score, that translates itself into the set of central obstacles as perceived by the individual being interviewed.

Where if

$\text{ICEx\%} > \text{IFDx\%}$ , the individual probably is a better candidate to work with in the future,

$\text{ICEx\%} = \text{IFDx\%}$ , the individual probably needs to be convince that obstacles can be overcome in the future if conditions improve and his or hers positive strengths enhance,

$\text{ICEx\%} < \text{IFDx\%}$ , the individual presents a situation where his perception of obstacles may be difficult to overcome and he or she maybe better off preparing itself for other options. ,

In the case of the *social-family dimension* for us is a human ecology conditioning that if properly identify, it could play an important role in the entrepreneurial intentions of the student, can be use, to enhance the emotional value of the family, friends and relatives interaction on the motivation, therefore, is added into the final model conception as another vector dimension just like any other. to see if elements of this group enter the final solution or not contributing to the testing of the central hypothesis of the study, which in essence was that they do act to "push" the student. in the direction of entrepreneurship rather than to look for employment..

*Independent Variables Specification*

The information for the measurement of each variable within each dimension of the construct are specify below:

The (Sd) social-family dimension, represented by the variables,

Sd1= Age

Sd2= Sex, male or female

Sd3= Education of the Father. (No education. primary, secondary. university, graduate, other)

Sd4= Education of the Mother. (No education. primary, secondary. university, graduate, other)

Sd5= Labor Activity of the Father. (Employer, Employee, Retired)

Sd6= Labor Activity of the Mother.(Employer, Employee, Housewife)

Sd7=Year in School.

The (CE<sub>x</sub>, Entrepreneurial Capacity), marked by personal traits-family-friends interaction dimension represented by the variables,

The questions or affirmations to the ones that he or she was asked were:

ce1 = Do you know what it means to be self employ.

ce2 = Do you believe that your ready to a business.

ce3 = If you have worked , would you be interested in initiating a similar business

ce4 = Those who know you believe that you are ready to work on your own.

ce5 = If you initiated your own business will you have the support of your family .

ce6 = If initiated your own business will you have the support of friends.

ce7 =Have you received training on how to begin a business.

ce8 = Do you have you some relative that own a business.

ce9 =Do you considered yourself someone capable to initiate things.

ce10 =Do you considered yourself someone with leadership capacity.

ce11 = Your family and friends consider you are capable of initiating things

ce12 = Your family and friends consider you are someone with leadership capacity.

ce13 =. Would you invest your own resources to initiate a business.

ce14 = Would you invest your family resources to initiate a business.

ce15 = Do you have sufficient confidence in yourself in moments of crisis

ce16 = Do you like to take your own decisions.

ce17 = Are you willing to reduce your standard of living while the business is consolidated.

ce18 = Are you willing to work many hours, while the business is consolidated.

ce19 =Are you considered a team player.

ce20 = Do family and friends consider you a team player.

The (Fdx) Lacks of or obstacles dimension represented by the variables,

The questions or affirmations to the ones that he or she was asked were:

FD1 = Lack of Technical Know-how.

FD2 = Lack of Innovative Ideas.

FD3 = Lack of business administration Know-how

FD4 = Lack of External Financing.

FD5 = Lack of Know-how about Business Plans

FD6 = Lack of Family Support.

FD7 = Lack of Support from the Government.

FD8 = Lack of Family Tradition.

FD9 = Lack of Personal Vocation.

FD10 = Lack of income.

FD11 = Lack of Support from Networks

FD12 = Lack of Successful entrepreneurs interested in supporting the young entrepreneurs.

FD13 = Lack of Support for the young women entrepreneur

FD14 = Lack of conscience of what signifies to be an owner and to administer a business.

FD15 = Lack of legal expedient legal mechanisms to start a business .

FD16 = Lack of direct technical Support to the enterprising youths.

FD17 = Lack of accessible Information on the entrepreneurship theme .

FD18 = Lack of Good image of the businessman in society.

FD19 = Lack of a business Culture among the young people

FD20 = Lack of national politicizes to specifically support the young entrepreneurs.

**Analytic and Methodological Procedures.****Phase II. Analytical Steps**

The analysis was conducted using Excel as an operational data base and Minitab 15 as a computational statistical program.

**Step one. Analysis of Survey Reliability (Alpha of Cronbach)**

This it was done in two phases one of pre-analysis, (30 students) , with the instrument was applied to one of the sections, and the alpha of Cronbach calculated obtaining a value of 0,85, after such finding the survey was extended to the remainder of the sample. (Cronbach, 1951 and 2004;Schmitt, 1996; Santos, 1999; Cortina,1993).

### Step two; Comparative Analysis for Gap % categories (ANOVA).

This phase evaluated the differences between the two gap % groups those with Gap where the positive gap group was composed by survey results were : ICEx% > IFDx% and the other neutral-negative gap group were; ICEx% = IFEx% and ICEx% < IFDx%.. The purpose of this step was to make sure that enough differences existed to warrant the two groups

### Step three Multivariate analysis.

Given the multidimensionality of the problem and the conceptual construct a review of the literature on the topic was conducted to understand “something” of the work of the psychologists. (Kim and Mueller, 1978 ; Kim, 1978).

#### *Analysis of Ranking of Variables.*

A “likert” scales with seven numerical categories was used and in order to rank we used a semi-standardized forward elimination ordinal logistic regression analysis was utilized according to Pampel and others suggestions. Therefore, since variables had a similar matrix and were standardized only the independent variables and the dependent variable was not subject to standardization, the value of the coefficient was an indicative of the relative importance of each variable in its capacity to explain the variation in the Gap %, dependent variable. (Kachigan 1999 ; Pampel 2000 ;Johnson and Creech, 1983; Gray and Kraenzle, 1998; Winship and Mare, 1984)

To select the final composition of the derived model, we use a forward elimination method, an initial model for each sub-category was estimated using all the variables of that subcategory. Non-significant variables were eliminated and the model recalculated until, all the variables were significant at the 95% level.

#### *Principle Components/ Factor analysis.*

The combination of PC/FA was necessary in order to use the principal components' results, to determine base on the Eigenvalues , the factor to be estimated in the factor analysis. In our case since the hypothesis was that there were going to be three factors given the three dimensions identify in the social interaction previous reported literature, we, in fact, were “confirming” our initial idea using the \method described before.

#### *Site application and Size of the Sample.*

The site was the Universidad Latina (former Interamericana) de Costa Rica, part of Laureate International Universities network, which is one of Costa Rica, largest private universities with 13,000 stu-

dents. Given the interest for identifying the motivational and obstacles as well as the full cooperation of the school of Culinary, thru one of the authors of this research was a census of all the students enrolled in the school during 2009. The total number of interviews was 237.

## Results

### Results for Male Students.

Table 4, indicates that all the variables in the model are significant at the 99.9% probability and the Cronbach Alpha estimated as a test for reliability was 0.8861 , with a pseudo R2 square of 0.792 which indicated a rather consistent survey instrument and therefore questions, that address the issue the construct wants to measure.

The variable with the top ranking was ,FD5 Lack of Know-how about Business Plans, this is consistent with the fact that at this time , students form culinary arts do not received any training in business of any nature and the one with the lowest ranking was FD16 = Lack of direct technical support to the enterprising youths. All the other are very similar in importance.

The results of the factor analysis for males presented in Table 5, indicate that with two factor, 0,637 % of the variance was explain indicating that the “summary” effects of the two variables was rather efficient. The results point out that the obstacles variables of the constructed associated with the first factor along with the GAP% variable, indicating the analytical composition value of the first factor. The CE potential variables associate with the second factor, segregating both perception components of the construct quite clear.

### Results for the Female Student

Table 6, indicates that all the variables in the model are significant at the 99.9% probability and the Cronbach Alpha estimated as a test for reliability was 0.9456 with a pseudo R2 square of 0.815, which indicated a rather consistent survey instrument and therefore questions, that address the issue the construct wants to measure. The variable with the top ranking was , ce6 = If initiated your own business will you have the support of friends and the lowest ranking CE4 = Those who know you believe that you are ready to work on your own.

The results of the factor analysis for males presented in Table 7, indicate that



with two factor, 0,580 % of the variance was explain indicating that the “summary” effects of the two variables was rather efficient. The results point out that the obstacles variables of the constructed associated with the first factor along with the GAP% variable, indicating the analytical composition value of the first factor. The CE potential variables associate with the second factor, segregating both perception compo-

nents of the construct quite clear.

The two variables common to the two processes are : FD13, lack of Support for the young women entrepreneur and CE4, those who know you, believe that you are ready to work on your own, indicating that both groups are very conscious of the importance support for the female segment and the support by friends and peers.

**Table 4. Results of the Derived Model for Males. Ordinal Logistic Regression with a Logit Link (Semi Standardized)**

Predictor	Coef	SE Coef	Z	P	Odds Ratio	95% CI	
						Lower	Upper
Const (70)	10.7375	1.62039	6.63	0.000			
FD16ST	0.748232	0.221624	3.38	0.001	2.11	1.37	3.26
FD5ST	1.14937	0.218014	5.27	0.000	3.16	2.06	4.84
CE15ST	-0.997540	0.195539	-5.10	0.000	0.37	0.25	0.54
FD19ST	1.04677	0.211379	4.95	0.000	2.85	1.88	4.31
CE4ST	-1.09876	0.195881	-5.61	0.000	0.33	0.23	0.49
FD13ST	1.02129	0.221483	4.61	0.000	2.78	1.80	4.29

Log-Likelihood = -391.801  
 Test that all slopes are zero: G = 171.640, DF = 6, P-Value = 0.000

**Goodness-of-Fit Tests**

Method	Chi-Square	DF	P
Pearson	4801.25	7624	1.000
Deviance	758.14	7624	1.000

**Measures of Association:**  
 (Between the Response Variable and Predicted Probabilities)

Pairs	Number	Percent	Summary Measures	
Concordant	5611	83.7	Somers' D	0.68
Discordant	1058	15.8	Goodman-Kruskal Gamma	0.68
Ties	33	0.5	Kendall's Tau-a	0.67
Total	6702	100.0		

**Meaning of the Selected Variables**  
 ce4 = Those who know you believe that you are ready to work on your own.  
 ce15 = Do you have sufficient confidence in yourself in moments of crisis  
 FD5 = Lack of Know-how about Business Plans  
 FD13 = Lack of Support for the young women entrepreneur  
 FD16 = Lack of direct technical Support to the enterprising youths.  
 FD19 = Lack of a business Culture among the young people

**Table 5. Factor Analysis Results for Males.**

**Unrotated Factor Loadings and Communalities**

Variable	Factor1	Factor2	Communality
gap%ST	-0.877	0.364	0.902
FD16ST	0.801	0.040	0.643
FD5ST	0.756	0.129	0.589
CE15ST	-0.065	0.806	0.655
FD19ST	0.711	0.228	0.557
CE4ST	-0.045	0.809	0.657
FD13ST	0.756	0.154	0.595
Variance	3.0658	1.5316	4.5975
% Var	0.438	0.219	0.657

**Rotated Factor Loadings and Communalities**  
 Varimax Rotation

Variable	Factor1	Factor2	Communality
gap%ST	-0.835	0.454	0.902
FD16ST	0.801	-0.044	0.643
FD5ST	0.766	0.050	0.589
CE15ST	0.020	0.809	0.655
FD19ST	0.731	0.152	0.557
CE4ST	0.039	0.810	0.657
FD13ST	0.768	0.074	0.595
Variance	3.0491	1.5484	4.5975
% Var	0.436	0.221	0.657

**Factor Score Coefficients**

Variable	Factor1	Factor2
gap%ST	-0.260	0.266
FD16ST	0.262	-0.001
FD5ST	0.254	0.058
CE15ST	0.034	0.526
FD19ST	0.246	0.124
CE4ST	0.040	0.527
FD13ST	0.256	0.074

Table 6. Results of the Derived Model for Females. Ordinal Logistic Regression with a Logit Link. (Semi Standardized)							
Predictor	Coef	SE Coef	Z	P	Odds Ratio	95% CI	
						Lower	Upper
Const (69)	11.7681	1.63090	7.22	0.000			
fd14 st	1.63656	0.231466	7.07	0.000	5.14	3.26	8.09
ce6st	-1.67693	0.212716	-7.88	0.000	0.19	0.12	0.28
ce3st	-1.23138	0.195564	-6.30	0.000	0.29	0.20	0.43
fd13st	1.38002	0.222060	6.21	0.000	3.97	2.57	6.14
fd8st	1.29135	0.199397	6.48	0.000	3.64	2.46	5.38
ce4st	-1.22112	0.199276	-6.13	0.000	0.29	0.20	0.44
Log-Likelihood = -390.628							
Test that all slopes are zero: G = 201.536, DF = 6, P-Value = 0.000							
Goodness-of-Fit Tests							
Method	Chi-Square	DF	P				
Pearson	5188.13	7515	1.000				
Deviance	752.48	7515	1.000				
Measures of Association:							
(Between the Response Variable and Predicted Probabilities)							
Pairs	Number	Percent	Summary Measures				
Concordant	5981	86.0	Somers' D		0.73		
Discordant	939	13.5	Goodman-Kruskal Gamma		0.73		
Ties	33	0.5	Kendall's Tau-a		0.72		
Total	6953	100.0					
<b>Meaning of the Selected Variables.</b>							
CE3 = If you have worked , would you be interested in initiating a similar business							
CE4 = Those who know you believe that you are ready to work on your own.							
ce6 = If initiated your own business will you have the support of friends.							
FD8 = Lack of Family Tradition.							
FD13 = Lack of Support for the young women entrepreneur							
FD14 = Lack of conscience of what signifies to be an owner and to administer a business.							

## Discussion

The discussion is presented in an aggregate fashion in terms of potentials and obstacles for entrepreneurial developments in culinary arts, in order to see if some general elements can be derived from the findings that could help improve the educational programs, presently being conducted in the culinary arts at the university level.

In terms of the environment (family, peers and personality traits), the four central variables were: ce15 = Do you have sufficient confidence in yourself in moments of crisis, CE3 = If you have worked, would you be interested in initiating a similar business, CE4 = Those who know you believe that you are ready to work on your own and ce6 = If you initiated your own business will you have the support of friends.

The message that those variables seem to send has to do with work experience, self confidence and support from friends and peers. Many of the participants are in fact young, with no work experience and in the formative stage and in a society like the costarricans the role of the family and friends is essential that has been proven many times. (Vega, 1996; Sandoval and Gonzalez, 1992; Ortega Hegg, 2004; and Vega Carballo, 2006). It is very relevant not only to teach culinary arts but the so called

“soft skills” so well known to the business administration schools and so little practice in the region.

In terms of the obstacles or lack off variables, the six central variables are: a) FD5 = Lack of Know-how about Business Plans, b) FD16 = Lack of direct technical Support to the enterprising youths, c) FD19 = Lack of a business Culture among the young people, d) FD8 = Lack of Family Tradition, d) FD13 = Lack of Support for the young women entrepreneur and f) FD14 = Lack of conscience of what signifies to be an owner and to administer a business.

The message that the variables appears to related to lack of tradition (culture and conscience), it seems logical that if you do not have tradition, work experience or anything practical related to the business administration environment, one would like support from experience people, family, peers, friends in order for this supportive environment to serve as a substitute and provide the backing one needs to feel comfortable in facing the crisis.

It is interesting to note that if potentials and obstacles are integrated they seem to complement each other. The potentials seem to express themselves in the obstacles single out to be removed. Removal that is critical when one looks at the factor analysis results. Obstacles are

Table 7. Factor Analysis Results for Females.

Unrotated Factor Loadings and Communalities			
Variable	Factor1	Factor2	Communality
gap st	0.843	-0.475	0.935
fd14 st	-0.776	-0.191	0.638
ce6st	0.013	-0.661	0.438
ce3st	0.002	-0.654	0.428
fd13st	-0.777	-0.207	0.647
fd8st	-0.624	-0.207	0.432
ce4st	0.038	-0.736	0.543
Variance	2.3059	1.7537	4.0596
% Var	0.329	0.251	0.580
Rotated Factor Loadings and Communalities			
Varimax Rotation			
Variable	Factor1	Factor2	Communality
gap st	-0.779	0.573	0.935
fd14 st	0.793	0.096	0.638
ce6st	0.066	0.658	0.438
ce3st	0.077	0.649	0.428
fd13st	0.796	0.112	0.647
fd8st	0.644	0.131	0.432
ce4st	0.050	0.735	0.543
Variance	2.2979	1.7617	4.0596
% Var	0.328	0.252	0.580
Factor Score Coefficients			
Variable	Factor1	Factor2	
gap st	-0.330	0.313	
fd14 st	0.347	0.068	
ce6st	0.040	0.375	
ce3st	0.044	0.370	
fd13st	0.349	0.077	
fd8st	0.283	0.085	
ce4st	0.034	0.418	

associated with the first components and potential with the second. Maybe the message is help me with the problems and my potential will be realized.

The main lesson for academic programming that we feel the study conveys is, that is fine to learn how to become a chef, but they need administrative and technical support in business, something that is not happening in many culinary arts schools were they teach the art of cooking and little about restaurant administration. The question of course is are we in the business as teachers and educators of preparing only employees wouldn't it be better for Costa Rica and the Central American Region to prepare employers with the employment problem the area is facing today.

### Implications of the Findings for the Teaching of Culinary Arts in Costa Rica.

It is very important to understand the meaning of findings as it relates the teaching of culinary arts in Costa Rica today. As the country moves into the 21st century and beyond and culinary arts schools sprout all over the country, the traditional emphasis has been and for the most part still is, to teach the students how to "cook" with the idea that the students once they graduate, go out and "look for a job" instead

of creating jobs, for themselves the family and society.

As we said before in 2010, the restaurant business in Costa Rica is almost a billion dollar business and at that level, there is no question about, that the need for a "full" professionalization of the activities, related to the training of "professional chefs" and the development of a "new class o young chefs entrepreneurs "if we are to meet the challenges of 2010 and beyond". The new breed of chefs is the Chef Entrepreneur.

As one looks at the finding of the study reported in this paper, there is a great need for culinary arts schools to look at the "business side of culinary arts" since all of the big names in the industry are also very successful entrepreneurs chefs.

However if we are to professionalize the restaurants business with "chef entrepreneurs" as the food sector becomes in years to come a "billion dollar industry", the need to know the business side of the culinary arts business, to turn eating in a real life experience as Hemmington would say is a real necessity and will be the only solution to the sustain steady growth of the sector beyond the normal family eatery so prevalent in the country today.

To train "Chefs Entrepreneurs", the most important implication of this preliminary findings relate to the idea, that we as a country, if we are to begin a real pro-

fessionalization of the sector it is very important that we begin thinking about, the idea that great the great chefs of the world are also innovation leaders and savvy businessmen and the later can be facilitate and achieve if those that train the future chefs understand the business side of culinary arts.

The idea of business chefs and culinary arts restaurant professional administrator is without question the next step of the industry and that needs to begin at the university classrooms and the instrumentation of real life restaurants business practices as the logical complement for the culinary arts training. As we write these final considerations, the Business School of the Universidad Latina, Chair for Entrepreneurship is in the process of developing a group of theory-practical courses to cover the business side of the restaurant business, for those professionals, that read this article and share our thoughts we ask them to get in contact to exchange ideas and improve the future training of Costa Rica young university students in culinary arts.

## Conclusions

Entrepreneurial development in students of culinary arts course is base on the results multidimensional problem including, mainly personal traits and obstacles. The central themes outline below seem to be the personality y traits and obstacles in culinary arts students that need to be address as a way to improve training programs in entrepreneurial efforts at the culinary arts schools in Costa Rica

Obstacles as a source of concern seem to be more important the models derived for both groups included four obstacles and two personality traits.

Absence of tradition, culture among the young students and need of family and peers supports appear to be relevant and a source of need by the group.

Lack of general business and entrepreneurship training is recognize by both groups a weakness and as a need. This is important if we are to create the new breed of professional chefs entrepreneurs needs for the industry expansion in the years to come in Costa Rica and the region.

Coaching and support for women entrepreneurs is very relevant in both the administrative and technical aspects of the young students of culinary arts.

Lack of confidence and work experience seem to be areas that need to be address as a way to improve training programs

The results of the Cronbach alphas, indicate that the survey instrument and the

indicators they represent, are relevant and address properly the traits and obstacles that were identify.

The combination of techniques use provided a systematic and multilevel way to look at the issues of the study in a more holistic way and help identify clearly main needs, potential and obstacles for the development of entrepreneurial orientation in young university culinary arts students

Base on the results Hypothesis H:1 and H:2, it is felt can be accepted, subject of course to further testing and verification. In this sense the derived models could serve in future as benchmark findings to be tested in other countries of the region.

The findings seem to indicate that young culinary arts student attending training programs could benefit from a training program that better balance training in culinary arts and business, perhaps no with the idea of turning them into business managers but into chefs that understand the beauty and the beast of the new meal experience.

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