Tourist Classification in gastronomy of Santiago de Compostela: based on the data collected from Santiago(e)Tapas contest, 2010.

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Abstract:

The paper proposes a classification of tourist of Santiago de Compostela city in the domain of gastronomy. In order to satisfy tourist's needs, it is important to know their preferences about the offerings provided by the hosting location, thus a precise classification could be a valuable tool for demand analysis and product management. The classification was derived from the data gathered from the Santiago(e)Tapas contest, an event which is launched in Santiago de Compostela on a yearly basis. The 63 participants in our study should fill in a questionnaire as well as participate in an experiment aimed at testing a recommender system. After applying different clustering methods the results were compared with related classifications proposed in the literature. Our classification provides a clear idea of the typology and characteristics of each group. The tourist classification will be useful to improve the value of the tapas suggested by our recommendation system, and to develop personalized marketing strategies. Furthermore, this classification can be applied in future analysis and studies in the gastronomy tourism domain.

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1. Introduction

Traveling is an interesting opportunity to experience the local gastronomy of the hosting place. Since food is an essential part of the culture, it has become a major conduit for tourists to experience the local culture of a destination. Early studies suggest that based on 'strangeness' and 'familiarity' concepts and tourist's personality attributes such as 'attitude' and 'motivation', they can be classified as institutionalized and non-institutionalized tourists (Cohen, 1972). Institutionalized tourists prefer to seek a unique and novel travel experience from a familiar base, so that their travel is comfortable and non-threatening. Institutionalized tourists often travel in tour groups, and many mass tourists belong to this category. Unlike, non-institutionalized tourists attempt to escape from the ordinary.

In a similar way, Fischler distinguished 'neophobic' and 'neophylic' tendencies. According to Fischler, both tendencies maybe found among individuals, while being closed to foreign food, tourists can be interested in trying at least ones the unknown food.

Later Cohen (1979) extended his classification into five groups of: Recreational tourists, Diversionary tourists, Experiential tourists, Experimental tourists and Existential tourists.

In a wider range, Plog (1974) using the population curve of psychographic groups classified tourist types to self-inhibited psychocentric tourists, near psychocentric, mid-centric, near-allocentric and allocentric tourists. This classification bases on the relationship of destinations and tourists, having the relationship with the income level of the tourists. Allocentric tourists are those who travel to new destinations, which are not popular, while psychocentric tourists are

those who travel to destinations that have reached and passed their pick points in relation to the tourism, and that are commonly well-known.

2. Goal of the Paper

The paper is intended to make a classification of tourists in Santiago de Compostela, in the gastronomy sphere, precisely in consumption of tapas. This classification is proposed to make identical groups, using the given data of annual tapas contest, the questionnaire data of 63 users, and as well the evaluations of recommendations of 20 users who have tasted the system recommendations.

This classification will give a clear idea of the demand market for the gastronomic tourism of Santiago de Compostela related with the tapas. From these groups, it will be clear the typology and characteristics of each group. Using these characteristics, it will be useful to improve the recommendation system which is based on recommending tapas, restaurants/bars and routs for the tourists basing on their profile (that is basing on, from which group or classification).

As well, this classification can be used for further analysis and further studies in gastronomy tourism sphere.

3. Experimental Setup

3.1. Santiago(é)Tapas experiment

The Santiago(e)Tapas contest is held annually in order to promote the tapas, and attract the demand by prizes for certain group of consumption of tapas and drinks shown in Tapasporte. As well, it is a marketing of gastronomy in Santiago, and development tool in gastronomy of tapas, that is, each year new types of tapas participate in the contest.

Figure 1. Tapasporte of Santiago(e)Tapas contest

For knowing the best tapa in this contest, users while eating tapas within the contest make their voting. These voting information of users are saved into database for grouping purposes.

As well, 63 users were selected to participate in the experiment of tapa recommendation system. These users first had to register in our Santiago(e)Tapas experiment (see figure 2) web-site filling in basic information, afterwards filling in the extended profile information, where they had to extend the profile information in order to get a precise recommendation for their user profile.

Figure 2. Santiago(e)Tapas experiment web-site (http://gsi.dec.usc.es/santiagoetapas/).

3.2. Santiago(e)Tapas Dataset

The dataset of Santiago(e)Tapas includes the information about 56 restaurants/pubs which

participated in the contest, as well information about 109 tapas these restaurants/pubs presented

for the contest. And the number of votes for the contest made up 13324. Within each vote, the

Pearson's Correlation Matrix[1] has been used for finding out the relationship of different attributes

user has stated with the global experience of the user. As well, those 63 users who were

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[1] http://en.wikipedia.org/wiki/Pearson%27s_correlation

registered in the web-site of Santiago(e)Tapas experiment were given extended questionnaires from where the main attributes for the classification has been taken. The extended questionnaire for selected users consisted of main three attributes used for the classification, which they had to fill-in before getting the recommended free tapas from the system (see figure 3).

Figure 3. Extended questionnaire for the selected users of Santiago(e)Tapas experiment.

3.3. Classification Techniques

Clustering methods like K-means, X-means, and Expectation-maximization (EM) algorithm were used for grouping, using the data of the 63 selected users. After what they were compared with the classification of the gastronomic tourists by different authors.

Table 1. Main attributes taken from questionnaire of 63 users used for clustering methods

Attributes	Questionnaire form elements	Values
Restaurant/bar style	Your preferred restaurant/bar style in Santiago when going out for tapas?	Traditional; Modern; Other
Restaurant/bar atmosphere	Your preferred restaurant/bar atmosphere in Santiago when going out for tapas?	Young; Adult; Other
Restaurant/bar zone	Your preferred restaurant/bar zone in Santiago when going out for tapas?	Old zone; New zone; Outlying areas

3.3.1. K-means clustering

K-means clustering is a method of cluster analysis which aims to partition n observations into k-clusters in which each observation belongs to the cluster with the nearest mean.[2] Given a set of observations $(x_1, x_2, \ldots, x_n)$, where each observation is a d-dimensional real vector, k-means clustering aims to partition the n observations into k sets $(k \leq n)$ $S = \{S_1, S_2, \ldots, S_k\}$ so as to minimize the within-cluster sum of squares (WCSS):

$$arg_S min \sum_{i=1}^{k} \sum_{x_j \in S_i} \|x_j - \mu_i\|^2$$

where μ_i is the mean points in S_i.

3.3.2. X-means clustering

In general, X-means clustering is extension of the K-means clustering. K-means clustering method suffers three major shortcomings: it scales poorly computationally, the number of clusters K has to be supplied by the user, and the search is prone to local minima.[3] X-means

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[2] http://en.wikipedia.org/wiki/K-means_clustering
[3] Dan P. Andrew M. X-MEANS. School of Computer Science, Carnegie Mellon University, Pittsburgh, 2000.

clustering method, which is extending K-means with efficient estimation of the number of clusters, exploits cached sufficient statistics and tests that in one K-means sweep selects the most promising subset of classes for refinement. This gives rise to a fast, statistically founded algorithm that outputs both the number of classes and their parameters.

3.3.3. EM algorithm

Expectation-maximization (EM) algorithm is a method for finding maximum likelihood or maximum a posteriori (MAP) estimates of parameters.[4] It is an iterative method which alternates between performing an expectation (E) step, which computes the expectation of the log-likelihood evaluated using the current estimate for the latent variables, and maximization (M) step, which computes parameters maximizing the expected log-likelihood found on the E step. Given a statistical model consisting of a set X of observed data, a set of unobserved latent data or missing values Z, and a vector of unknown parameters θ, along with a likelihood function L(θ; X, Z) = p(X, Z|θ), the maximum likelihood estimate (MLE) of the unknown parameters is determined by the marginal likelihood of the observed data

$$L(\theta; X) = p(X|\theta) = \sum_{Z} p(X, Z|\theta)$$

4. Results

In the contest of Santiago(e)Tapas, there were participating more than 50 restaurant/pubs with more than 100 tapas. All these voting of each tapa by different users have been input into the

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[4] http://en.wikipedia.org/wiki/Expectation-maximization_algorithm

database for producing the recommendation of tapas, restaurants for the selected users of 63 in the Santiago(e)Tapas experiment.

In overall, there were 13,324 data input for all the tapas in the restaurants. Each data included the rating of tapa, rating of service provided, rating of the restaurant/pub itself, and as well the global experience rating. By introducing the above mentioned data, the following correlation outcome has been encountered.

Table 2. Correlation Matrix (Pearson) of 4 ratings for the tapas contest.

Ratings	Global	Tapa	Service	Rest/Pub
Global	1.000000	0.708017	0.753478	0.726137
Tapa	0.708017	1.000000	0.536847	0.510552
Service	0.753478	0.536847	1.000000	0.644329
Rest/Pub	0.726137	0.510552	0.644329	1.000000

From the above table, it is easily seen that the mentioned attributes are co-related and have high influence on each other, which implies that each attribute has significance in the overall rating of the tapa.

In the contest, the global rating was set in order to see how much related are the mentioned ratings (tapa, service and restaurant/pub). As we have seen, each of the attribute has enough influence on the overall rating of the experience. Thus these attributes could be used in the tourist classification when evaluating the gastronomic experience.

Further, we try to use the above mentioned three attributes, which have enough significance in the global experience of the tourist in the gastronomy, for the classification of the tourists into different groups according to their preferences of these attributes relating them to the previous studies in this sphere.

From the questionnaire of 63 selected users in the Santiago(e)Tapas experiment, three main attributes were taken as grouping keys, that is: the style of the restaurant/bar that user prefers; the atmosphere of the restaurant/bar that user prefers; and the preferred zone of the experience(see table 1).

The data related with the three attributes of the 63 users mentioned above, have been clustered according to k-means clustering method and as well by the x-means clustering method.

Table 3. Clustering of user data by k-means and x-means.

	Attributes	**K-means (Method 1)**	**X-means (Method 2)**
		Values (mean)	**Values**
Group 1	Restaurant/bar style	Modern (0.51); Traditional (0.58)	Modern (0.37); Traditional (0.48)
	Restaurant/bar atmosphere	Adult (0.76)	Adult (0.76)
	Restaurant/bar zone	Old zone (0.51); New zone (0.41)	Old zone (0.74)
Group 2	Restaurant/bar style	Modern (0.4); Traditional (0.3)	Modern (0.7); Traditional (0.5)
	Restaurant/bar atmosphere	Young (0.45)	Young (0.85)
	Restaurant/bar zone	Old zone (1)	Old zone (0.45); New zone (0.5)

As it has been described above, the primary classification has been made in two groups of institutionalized and non-institutionalized tourists. In the same manner, using both methods of clustering our group can be divided into two groups, which can be coherent to the previous grouping.

And ultimately, the same data has been clustered into five groups using the EM-algorithm.

According to this clustering, the groups represent the different parts of the total: group 1 – 6 (9.5 %); group 2 – 6 (9.5 %); group 3 – 23 (36.5 %); group 4 – 10 (16 %) and group 5 – 18 (28.5 %) (further, each group is called as **Group number of Method 3**).

Accordingly, we can identify each group by the given attributes and define the type of the users in these groups. These can be seen by the means of each group by the corresponding attributes and values (see table 4).

First group, consisting of 6 users, prefers modern and traditional style bar/restaurants. As well, they seek the young environment in these bars/restaurants. As ultimate, they prefer the old zone bars/restaurants. It is clear that the users are searching for leisure, and that they are of young age, and could be assumed that they seek the cultural tourism in general, not in certain because they still seek the modern style, which defines that they carry their environmental bubble.

Group two, as well consists of 6 users, and prefers both traditional and modern, but for them traditional style bar/restaurants have more weight, then modern. They as well seek the young environment, but in the new zone. This group is more or less the same as previous group but they are certainly not interested in the culture, but are interested in leisure.

The third group, which makes the biggest part of the total, prefers modern style bar/restaurants. And seek adult environment in these bars/restaurants. But they prefer both old and new zone bars/restaurants. From here, we can clearly see that these users are not seeking culture, but in hence searching for leisure and as well, taking into account that they prefer the adult environment, can be told that these users are escaping from boredom, from their everyday work.

Group four, consisting of 10 users, prefers other type of bar/restaurants, that is to say, a mixture of both. As well, they prefer other environment then either young or adult. As of the zone, they prefer the old zone.

The last and second big group that consists of 18 users prefers traditional style bar/restaurants and as well prefers the adult environment. As of the zone, they prefer mostly the old zone, and partly the new zone. This group consists of users who are in search of culture, that is to say they prefer to be inside the culture, which can be seen from their preference of zone and type of the establishment. As well, as they prefer the adult audience, they are escaping from boredom of everyday work, and as well, they can be defined as group tourists.

Table 4. Clusters according to the attributes taken from questionnaire of 63 users, by EM algorithm

	Attributes	**Values (mean)**
Group 1	Restaurant/bar style	Modern (0.6); Traditional (0.5)
	Restaurant/bar atmosphere	Young (1)
	Restaurant/bar zone	Old zone (1)
Group 2	Restaurant/bar style	Modern (0.69); Traditional (0.84)
	Restaurant/bar atmosphere	Young (0.66)
	Restaurant/bar zone	New zone (0.66)
Group 3	Restaurant/bar style	Modern (0.85)
	Restaurant/bar atmosphere	Adult (0.66)
	Restaurant/bar zone	New zone (0.43); Old zone (0.56)
Group 4	Restaurant/bar style	Other (0.55)
	Restaurant/bar atmosphere	Other (0.82)
	Restaurant/bar zone	Old zone (0.99)
Group 5	Restaurant/bar style	Traditional (1)
	Restaurant/bar atmosphere	Adult (1)
	Restaurant/bar zone	Old zone (0.68)

In fact the group one and two can be grouped into one group, because they have only one attribute differentiating them, which is the zone. The zone difference might be because of mainly three factors in Santiago de Compostela: the first factor is the closeness factor, that is to say, the users in group 1 and 2 are closer to the according zones thus prefer the bars/restaurants of these zones; secondly, it might be the time factor, that is, in the new zone bars/restaurants are open more hours, until late then in the old zone, and users in group 2, for example, prefer going out until late; and as the ultimate, the tranquility factor, that is, old zone is more quite at night then the new zone, so, for example, the users in group 1 might prefer quietness after eating out in the evening.

In the figure 4, we can see each group classified and their preferences. Each group can be attended according to their preferences. Of course there are other small attributes influencing and the percentage of error of each group can influence on changing the preference of user inside the group of one attribute and in some cases two attributes, but in general they can be served according to the preferences we have defined in our hierarchy.
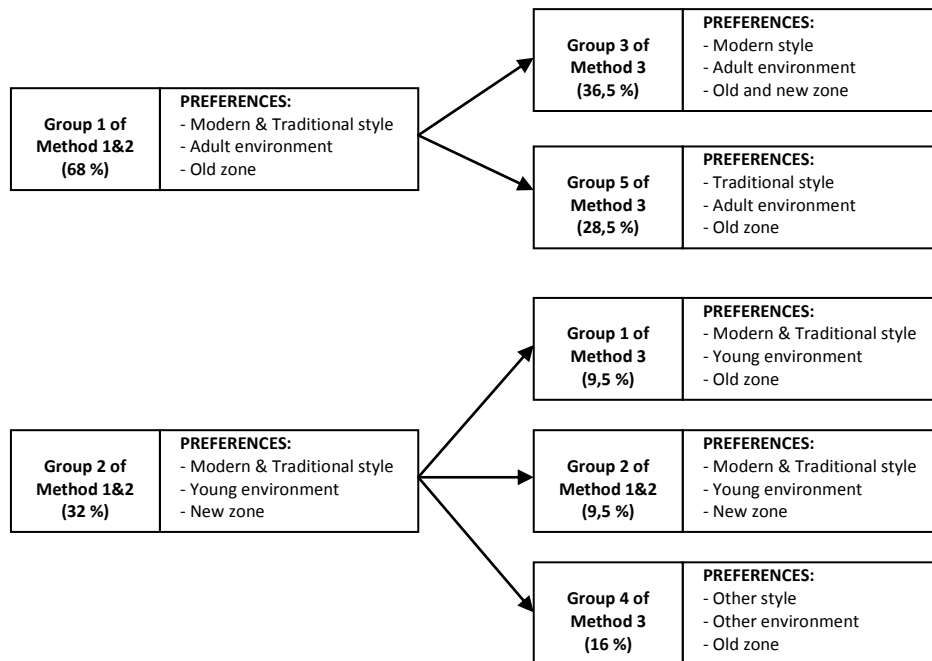
Figure 4. Santiago de Compostela Gastronomy Tourists classification by their preferences from the classification results of Santiago(e)Tapas experiment.

The hierarchy of preferences above is grouped according to the made classifications.

5. Discussion

To sum up, we can make a hierarchy of each above analyzed groups under the first classification of Method 1 and Method 2 and as well compare them with the classification of gastronomy tourists of Cohen.

In general, this third grouping of five can be categorized under the first two groups of method 1 and 2. In fact the coherent five typology of Cohen is categorized under the institutionalized and non-institutionalized. That is the institutionalized can be divided into two groups of Recreational tourists and Diversionary tourists, thus these tourists are risk avoiders, and non-institutionalized tourists can be divided into three groups of Existential tourists, Experimental tourists and Experiential tourists, thus these tourist seek new food.

Tourists of Santiago de Compostela (63 users)
··
Gastronomy tourists

Group 1 of Method 1 and Method 2
··
Institutionalized

Group 2 of Method 1 and Method 2
··
Non-institutionalized

Group 3 of Method 3
··
Diversionary

Group 5 of Method 3
··
Recreational

Group 1 of Method 3
··
Experiential

Group 2 of Method 3
··
Experimental

Group 4 of Method 3
··
Existential
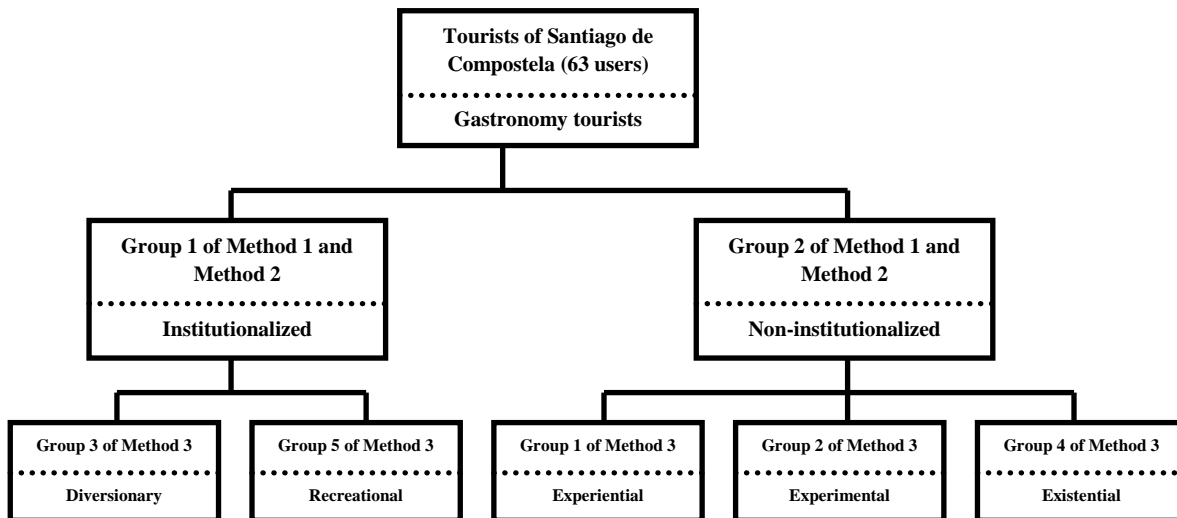
Figure 5. Detailed Tourist Typology of Gastronomy Tourists in Santiago compared with the Cohen Gastronomy Tourist Typology.

In our case, the same concept can be applied. The Group 3 of Method 3 and Group 5 of Method 3 make up the 65% of all tourists, and the Group 1 of Method 2, which is coherent to Institutionalized, makes up the 68% of all tourists. From here, we can make a Hierarchical division of tourist typologies, which shows the detailed classification of tourists.

As has been described primarily, the intention of the paper was initially to make classification of gastronomy tourists in Santiago de Compostela. In general, we have defined the three main factors which had big influence on the overall experience of the users: food (tapa), service, and the restaurant/pub in general. Each factor can be divided into many detailed factors. For example, the food factor includes the taste of the food, the view of the food, the smell of the food, as well the service includes the factors as how was the food served, how fast was it served, how polite was the waiter/waitress and etc.

That's why the three above attributes needed more information in order to make a precise classification, and as well in order to analyze and use the data of these attributes for the classification purposes we need more detailed information about each tapa evaluated and in

addition check the different attributes of each tapa that influences on positive, negative or neutral rating of the user for that exact tapa. In order to make it easier for the tourist classification we have selected 63 users, who were analyzed using the questionnaire method. These users have tasted different tapas at different restaurant/bars and have been asked to fill-in the questionnaires. Accordingly, the three main attributes were taken for the classification purposes: the style preference of restaurant/bar of the user; the environment preference at the restaurant/bar and the zone preference of the user when going out for gastronomy.

As a result, using different clustering methods, there were obtained two main groups, which are coherent with the Cohen's typology of Gastronomy Tourists: institutionalized and non-institutionalized.

As well, there were obtained five groups using the same data which are coherent to detailed tourist typology of Cohen. Of course, there are many more different attributes which user takes into account when experiencing the cuisine of the destination, but of all, in Santiago de Compostela case, the three mentioned attributes are the main attributes. Using this classification, we can define the preference of each group and thus use this data for the recommendation giving purposes.

Both clustering methods of k-means and x-means can be in some content coherent with the Cohen's typology of institutionalized and non-institutionalized tourists. In the first clustering method, group 1 can be described as institutionalized, thus these people are those who make tours in groups, more likely the mass tourism. Which means that these people would more likely to prefer adult environment, thus in both clustering methods the group 1 prefers the adult environment in the restaurants/bars. While being close to the host environment, these tourists should have neophylic tendency, which tells that they should prefer restaurants/bars with the traditional style, as well the modern style, which is similar in both clustering methods of group 1.

Thus having the environmental bubble, these tourists should prefer old zone for having a look at the culture, including the cuisine, but thus having the bubble, they are intended to prefer new zone, to have the familiarity attribute. So, in group 1 of method 1, tourists prefer both new zone and old zone, but in group 1 of method 2, tourists prefer old zone. According to this attribute, we can say that group 1 of method 1 is more institutionalized rather than the group 1 of method 2. Non-institutionalized tourists are those who are escaping from mundane, who travel alone or in pairs. Usually these tourists are of younger ages, thus openness to the host environment makes it clear. From this concept we can see how coherent group 2 of both methods is, that is, they prefer the young environment in the restaurants/bars. This group should prefer both environments in general, that is to say, seeking the culture, they prefer the traditional style in the restaurants/bars, but as well, being young, they seek the modern style. It can be seen in the group 2 of both methods. About the zone, it is clear that they should seek the old zone in general, but from aside we can say that some could prefer the new zone taking into account other attributes as closeness, openness and etc. as has been described previously.

Table 5. Different Classifications by attributes compared with the Santiago(e)Tapas experiment

Name	Attributes	Gastronomy Tourist Classification	Coincidence with SET experiment
Cohen E.	1.Strangeness/familiarity	a.1.Institutionalized a.2.Non-institutionalized	a.1. Group 1 a.2. Group 2

		b.1. Diversionary	b.1. Group 1
	1.Strangeness/familiarity 2. Tourist preferences	b.2. Recreational b.3. Experiential b.4. Experimental b.5. Existential	b.2. Group 2 b.3. Group 3 b.4. Group 4 b.5. Group 5
Fischler	1. Tendency for familiar/ strange food	1. Neophobic 2. Neophylic	
Plog	1. Level of search for new destination 2. Openness/ closeness to host destination	1. Allocentric 2. Near allocentric 3. Mid-centric 4. Near psychocentric 5. Psychocentric	
SET (Santiago (é)Tapas) Experiment	1. Restaurant Style 2. Restaurant Atmosphere 3. Restaurant Placement, zone	a.1. Group 1 a.2. Group 2 (by X-means)	
		b.1. Group 1 b.2. Group 2 b.3. Group 3 b.4. Group 4 b. 5 Group 5 (by EM method)	

Apart from similarities, the Santiago(e)Tapas experiment is different from other classification first of all because of its attributes. Secondly, the scale of the market is taken as Santiago de Compostela city.

As has been described, for the tourist classification different attributes have been taken as means of grouping. In the table 5, we can see different typologies with different attributes, which have been described previously, and will be discussed further. The table includes the coincidence of our Santiago(é)Tapas Experiment with other classification, as well, it includes the distinction, that is shows the individuality of the Experiment from other classifications.

The five groups obtained from EM-algorithm clustering can be more or less classified by the Cohen's tourist typology that was introduced in 1979. According to Cohen, the tourists can be classified into five groups as has been discussed previously: Recreational tourists, Diversionary tourists, Experiential tourists, Experimental tourists and Existential tourists.

The group one of our clustering can be described as the experiential tourists, thus they seek for new experiences, they are tended to prefer the traditional environment in bars/restaurants and as well in the old zone, thus they are searching for culture. As well, thus these people are more open to new cultures, and are tending to search for nuances, we can assume that they prefer young environment, because these people prefer to interact with the people of the destination.

The group two can be described as experimental tourists, because this type of tourist is more or less the same as the previous, but searches for things that suit his/her particular needs and desires, thus we can assume that in new zone, they might find more alternatives in sense of needs then in old zone.

Group one and two could be described as non-institutionalized and the explorer tourists according to Cohen's first typology.

The third group can be described as diversionary tourists, thus these tourists are seeking for leisure, not the culture, and want to escape from the boredom at work. Accordingly they prefer modern style bars/restaurants and as well are in the age of more or less adult, because of the fact of the work. And as well, they would prefer both the new and the old zone, in the sense of leisure. This group as well can be described as non-institutionalized and the drifter tourist type according to the Cohen's first typology.

Group four can be described as the existential tourist type, because these tourists don't select the center of the culture of origin, but elect the center, and the elective center maybe completely extraneous to their culture of origin or it may be a centre that their people had been attached to. That is to say, they would prefer both the traditional and modern type bars/restaurants, or we could say even the mixed type as in the group four; as well with the preference of the adult or young environment, they would prefer both or mixed; as of the zone, probably would be the old zone, thus the culture seek is in the old zone. As well, this group can be defined as institutionalized and the individual mass tourists, according to Cohen's first tourist typology.

And lastly, the fifth group can be described as recreational tourists, thus they are searching for the culture; we could assume that they would prefer the traditional type of bars/restaurants. As well, the zone is as of old zone, because of the culture search. As they are searching for advice from the advertisement industry, we can assume that these tourists prefer the adult environment when they are going out for bars/restaurants. As well this group can be described as institutionalized, organized mass tourist according to Cohen's first typology.

In addition to above all, the hierarchy of preferences from the graph 4, gives clear idea about the tourist typology in Santiago de Compostela city gastronomy and as we have identified is essentially coherent to the gastronomy typology that has been established by the previous studies.

Using this hierarchy of group preferences we can define the tourist to which group he/she belongs to and then have a clear idea about his/her preferences. This data is useful for different purposes, as we have clarified, it can be used for the recommendation system that has been established in Santiago, and as well it can be used for the purposes of clarifying the offer in gastronomy of Santiago de Compostela according to the demand.

In further studies, we find it useful to extend the attributes and make them more detailed which in hence will give more detailed classification of the tourists in gastronomy.

6. Conclusion

In general tourist classification is very important, thus it is the basis for the analysis and understanding of the demand for the target market of tourism product. In our case, the product is Tourism in general and gastronomy in particular. In order to sell the gastronomy as a tourism product, first, one should know about the demand, and the offer. Tourists (international and national) are the demand of this product (including direct gastronomy tourists and indirect gastronomy tourists). For it to better know the demand, we should be able to classify them into groups by different factors, which will enable us to better analyze and direct the offer.

In the article, different methodologies were used in order to classify the gastronomy tourists of Santiago de Compostela city. First of all, according to tourism expert, the gastronomy tourists could be classified into two, according to the experience of the tourist in general, that is to say gourmets who travel for gastronomy, and novels, which experience gastronomy while traveling, as well this concept was compared with Fischler's neophobic and neophylic tendencies. In the same concept they were classified into two groups by the knowledge that tourist has about the gastronomy of Santiago city: those who already have knowledge and those who have no

knowledge or partial knowledge, which is obtained while traveling in the destination. Other attributes included the price and the quality of the tapas.

Later, the classification has been done according to the questionnaire basis, where key factors of the gastronomy has been taken, which include the zone, style and atmosphere of the restaurant/bar that user appreciates when going out for dining in Santiago city. The questionnaire gave a clear idea that tourist could be classified into different groups according to different key aspects, after which they could be easily analyzed, and interpreted the overall position of the demand in the gastronomy of the destination.

Before making clustering analysis, we have evaluated the correlation of the three main attributes to the overall rating of the experience of the user, from where we have obtained that the three attributes have much significance in the overall experience rating of the user.

Later, by using clustering method, there were obtained two main groups of tourists which coincide with the classification of Cohen. As well, using another clustering method, there was obtained five different groups, which as well coincides with the detailed classification of Cohen. The second grouping was grouped inside the first grouping, which specifies that each grouping has great significance in the classification.

As the ultimate classification methodology the overall data of evaluations of the tapas of Santiago(e)Tapas contest has been taken. The classification has been done according to the tourist preference while evaluation of the different tapas of the Santiago city, which includes the three key attributes: Tapa (the food offered), Service (quality of the service), Restaurant/Bar (the atmosphere, the style and etc.), and additionally the overall Evaluation of the experience. In the expert view, only one attribute has been mentioned, which is the tapa (local food), but as we have seen in the analysis, the correlation of the three key attributes to the overall evaluation is

significant, which means they as well have the influence in the evaluation of the experience by the user, tourist.

As it has been obtained, the three main attributes have big influence in gastronomy tourist classification of Santiago de Compostela city, and as well, groups which were obtained by clustering methods have their preference within these three attributes, and by using these preferences we can direct the offer according to the demand.

As to conclude, different key aspects that influence the evaluation of the tourist experience could be used as a classification means. These attributes help to interpret the tourist desires, help to understand the demand, thus basing on it, forward the offer accordingly.

Acknowledgement

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