Review of modern regional satisfaction measurement tools and proposal of a new business excellence barometer: implementation for the Region of Western Greece

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Abstract
Customer satisfaction is consisting of financial as well as qualitative flavour and describes the resulting combination of certain levels of services and products offered to the upcoming customer. Globalization as well as environmental issues, make customers' preferences and expectations change constantly. Therefore, the latter have to be observed and taken into account continuously, as a step towards continuous improvement.
A variety of consumer satisfaction barometers have been proposed over the years. In the current paper, customer satisfaction barometers used either in the United States of America or in Europe are reviewed. A barometer was decided to be created based on them, and avoiding well-proven pitfalls, in order to evaluate and rate small and medium enterprise's (SME) satisfaction from their suppliers. The aim is to encourage enterprises to rate the satisfaction from their suppliers. In order for the barometer to be usable, it has to be practical, functional, flexible and autonomous, giving directly easily evaluated numerical results. Together with the development, the afore-mentioned was used in conducting a pilot survey in the Western Region of Greece. The aim was to get satisfactory conclusions in order to increase the corporate contention and record satisfaction. This barometer could therefore be used as an input amongst others components to measure business excellence.

Keywords: Customer satisfaction, Barometers, Business Excellence Models, European Customer Satisfaction (EPSI), American Customer Satisfaction Index (ACSI).

Introduction

The measurement of customer satisfaction is one of the most important tools in order to evaluate the customer's needs at a specific period of time. By measuring customer satisfaction, valuable information is gathered on the way a company produces products or services.

"Customer satisfaction" as a term is ambiguous, abstract and many times confusing, as it varies among customer's profiles. The degree of satisfaction depends heavily on psychological as well as corporal variables. The research conducted, was based on a pilot project in which the satisfaction of enterprises from their suppliers was recorded. The participating enterprises were chosen as to represent three different sectors of community wealth of Western Greece region: manufacturing, services and trade. Measuring customer satisfaction is done in order to retain existing customers as well as to expand their population. Customer satisfaction is a direct indicator of customer retention and customer loyalty (Eklöf, 1999, SEV, 2007).

Current Methodologies

Measuring the level of satisfaction and building a survey, requires an in depth knowledge of the currently used methodologies. A number of different customer satisfaction barometers have been developed over the years (GMD, 2006, Eklöf, 1995, Fornell, 1992). The most well known and widely used are the American Customer Satisfaction Index (ACSI) and the European Performance Satisfaction Index (EPSI).

American Customer Satisfaction Index

The American Customer Satisfaction Index was introduced in 1994. Like its Swedish predecessor, it is a uniform and independent measure of household consumption experience. ACSI produces a customer satisfaction index based on measures from seven broad economic areas, 39 industrial sectors and more than 200 companies and public agencies. The ACSI survey is funded partly by corporate subscribers, who receive industry benchmarking date and company-specific information. The ACSI model is a set of causal equations that links the latent variables of customer expectations, perceived quality and perceived value to customer satisfaction. In turn, satisfaction is linked to consequences as defined by customer complaints and customer loyalty. Figure 1 depicts the methodology (Fornell, 1996).
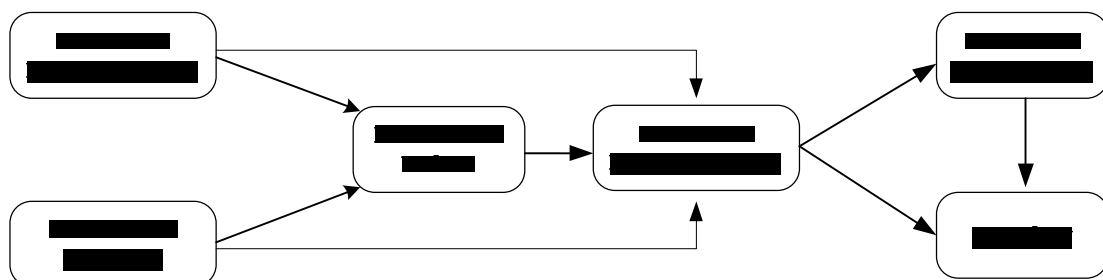

Figure 1: The American Customer Satisfaction Index methodology

The ACSI approach includes a number of features that can also be found in other similar national indexes:

- It is based on an econometric model with measures of an index of satisfaction and measures of related indices for latent variables that are general enough to be comparable across companies, industries and sectors.
- Customer satisfaction itself is measured as a latent variable using several manifest variables (questions).
- Customer satisfaction is embedded in a system of cause-and-effect relationships. This serves to validate the index.

- Finally, a primary objective is to estimate the effect of ACSI on customer loyalty, a construct of universal importance for future business performance.

This model is an evolution of the original Swedish Barometer. It started from the same framework, but became more complex in several issues. It rapidly evolved to include two distinct types of perceived quality – namely the product quality and the service quality, this distinction being used solely for the manufactured products. It is almost identical to ACSI, except from the introduction of a new manifest variable 'corporate image' and its relationships with customer satisfaction and customer loyalty (Fornell, 2007).
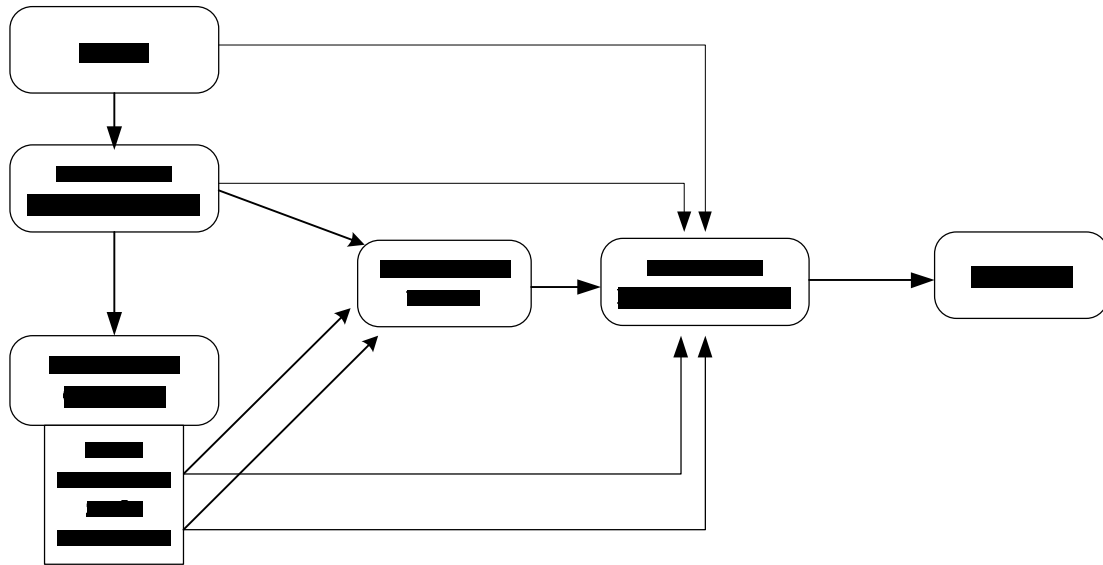
European Performance Satisfaction Index

The EPSI initiative is another variation of the ACSI model (EPSI, 2002, EPSI, 2003, EPSI, 2006, EPSI, 2008). The so-called 'European Customer Satisfaction Programme' was launched by a number of private and non-profit European organisations, complemented by some national platforms. Three objectives were pursued with this initiative:

- Provides companies, public services, consumers, investors, regulators and policy-makers with an annual customer satisfaction index and analysis of companies and public services in Europe.
- Provides companies and public services surveyed with the means to analyse the perceptions of their customers (causes and effects) and to compare them with the perceptions of customers of their companies and public services at different levels (sector, country, Europe, USA, East Asia).
- Introduces the European Consumer Satisfaction Index as a recognised economic macro indicator measuring the performance of the national and European economy.

The initiative started in 1997, with a European feasibility study for coordinated national customer satisfaction indexes. The first result was a model for costumer satisfaction measurement, based on the Swedish and American model (Yang, 2005). EPSI has been modelled in a way that is similar to ACSI (Figure 2). Yet there are some differences:

- The split between 'product quality' (hardware) and 'service quality' (software) has been generalised. Quality is related to the consumer's quality experience with a service.
- The latent variable 'customer loyalty' has been specified in a different way. It includes likelihood of retention, the likelihood of recommending the company or brand, and the likelihood of an increase, in the amount of customers purchasing the product.
- The variable 'customer complaints' was not taken into account.
- The variable 'corporate image', included in the Norwegian index, has become a latent variable, with effects on customer expectations, satisfaction and loyalty.

Figure 2: The European Performance Satisfaction Index methodology

Need of a new costumer satisfaction measurement

Based on the study of the aforementioned methods of measuring satisfaction, the existence of wide variance in the definitions of satisfaction is a serious disadvantage. Furthermore, the involvement of many agencies and organizations creates an extremely bureaucratic and slow in publishing the results mechanism. Furthermore, a number of different countries are involved in order to gather the necessary pieces of information. Both methodologies use CATI (Computer Aided Telephone Interviewing) for data collection. The organization responsible to conduct the survey, sends the questionnaire to specific enterprises. The filled in forms, are returned to the representative EPSI of each country, where an initial evaluation is carried out. The processed results are then sent to the European EPSI, where data processing is finalized. Those results are published for each sector and for each enterprise separately. All the above steps require significant amount of time for data collection, storage and processing. Although a CATI system is used for data collection the cost of the survey is substantially high. In the case of rating small enterprises individually, such barometers are implemented with difficulty mainly for two reasons: a)the cost is relative high and b)there is lack of the right culture and education in order to trust those assessment tools for business excellence.

All the above mentioned disadvantages led to the creation of the newly proposed methodology, which is expected to eradicate them to a significant extent. The proposed methodology is using a website in order to share the questionnaire. The data can then be processed automatically and there is an immediate issue of results; thus the use of Internet eliminates many of the costs associated with traditional marketing research. With the proposed methodology, measuring satisfaction is achieved by minimizing the cost of Regional Satisfaction Barometer, as well as minimizing the cost for the enterprise. In fact, the only cost is the necessary time to complete the on-line questionnaire. The approach used, creates a different culture to small businesses and makes them aware of the available business excellence methodologies.

The proposed Regional Barometer of Satisfaction

The proposed Regional Barometer of Satisfaction includes a number of features, which are essential for the business excellence and continuous improvement, such as:

- Flexibility
- Autonomy
- Definition of strengths and weaknesses
- Ability to use customer satisfaction as a strong motivation aspect during evaluation of suppliers
- Ability to compare among enterprises and various regions
- Increase of competitiveness
- Identification and documentation of current and future customer preferences

Questionnaire Design

The research was implemented on two prefectures of Western Greece (Achaia and Aitoloakarnania). The conducted methodology used an internet based questionnaire through census. The current research took place on the 2nd semester of 2007. The questionnaire delivered, was based on EPSIs' questionnaire. A common scale (Likert-type scale) was used (1- not at all satisfied to 5-very much satisfied). Each latent variable was covered by at least 3 questions.

The questionnaire consisted of three independent variables and four groups of questions deducting four latent variables. Three questions were based on spontaneous response and were given a high merit rating. This is based on the conception that satisfaction is more an emotional than a cognitive reaction. The emotional nature of satisfaction and its high importance was confirmed by the reactions of consumers, since 77.3% of consumers who participated in a group interview, used emotional reactions to describe their satisfaction from the use of a product or a service (Giese, 2000).

Since the Regional Barometer of Satisfaction was based on the instinctive opinion of the customers, a priority board was used on top of the questionnaire. Customers had to rate 4 latent variables (image, expectation, perceived value and perceived quality) according to their sense for a specific period of time.

Each latent variable was identified using three to six questions. Each one of these questions was given a weighting factor, which was statistically estimated. Given this, merit ratings for every latent variable were deducted. The weighting factor was set according to the regression value of each question. Figure 3 depicts the calculation methodology for the company's image.
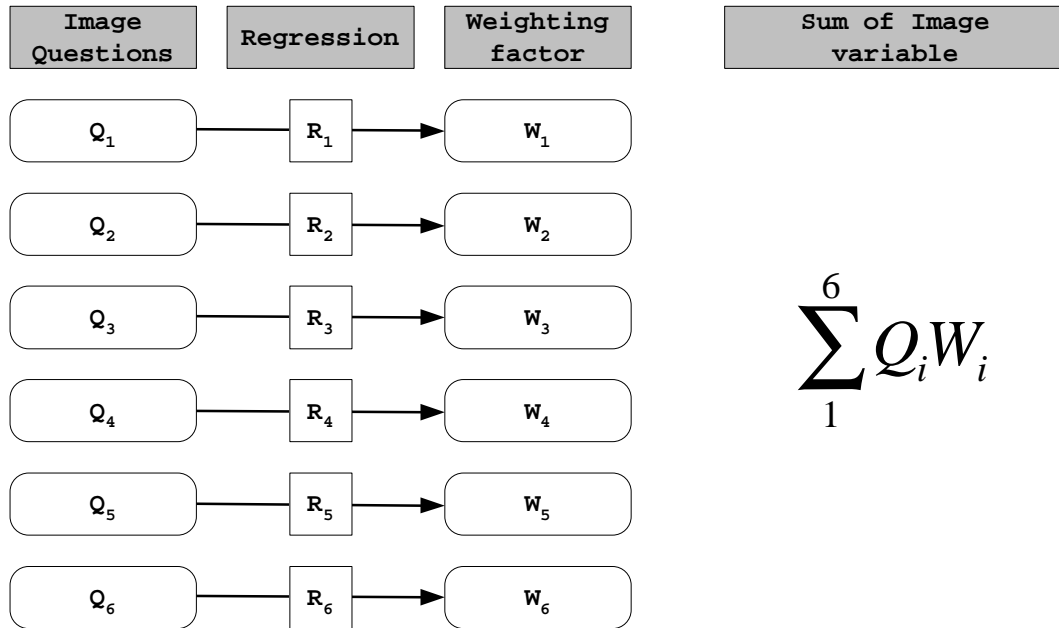
Image Questions	Regression	Weighting factor		Sum of Image variable
Q_1	R_1	W_1		
Q_2	R_2	W_2		
Q_3	R_3	W_3		$\displaystyle\sum_{1}^{6} Q_i W_i$
Q_4	R_4	W_4		
Q_5	R_5	W_5		
Q_6	R_6	W_6		

Figure 3: Board of measuring weighting factors within latent variable of image.

The three direct variables with greater influence on the final customer satisfaction index received a 60% weighting factor (spontaneous responses), while the rest of them received the remaining 40% of the total Customer Satisfaction Index (Figure 4).
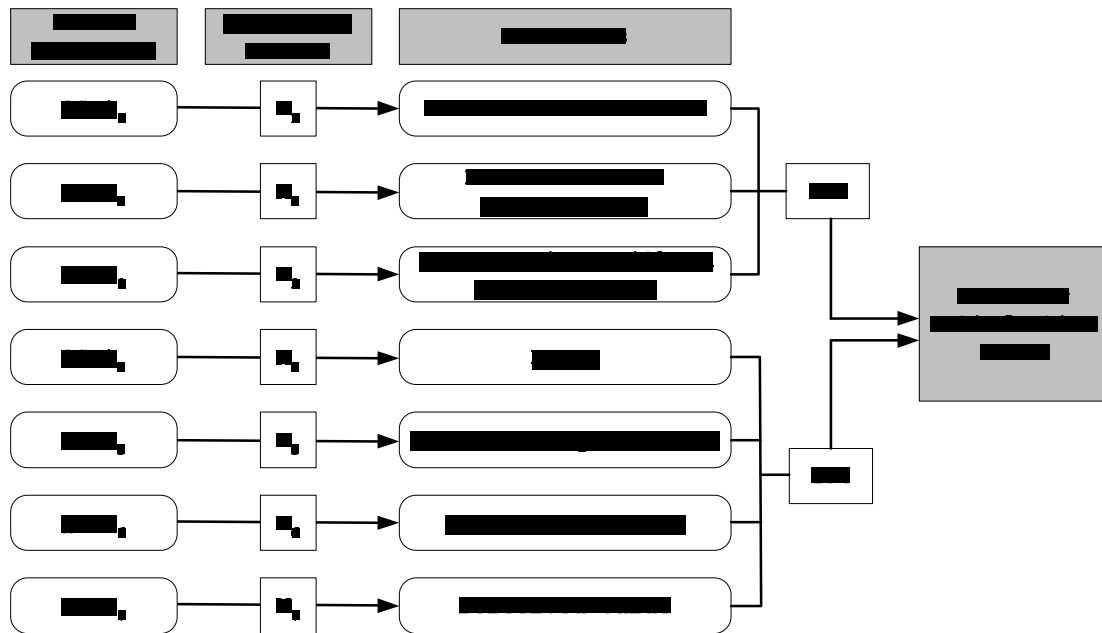

Figure 4: Regional Barometer of Satisfaction.

Results for the Region of Western Greece

The Services Sector

The average score of the services sector was 3.73 units. The highest score was achieved by enterprise No 5 with 4.62 units (small enterprise, 1-3 suppliers, Prefecture of Achaia) and the lowest by enterprise No 6 with 2.46 units (small enterprise, 4-10 suppliers, Prefecture of Achaia). The deviation of this sector from the average value was relatively small.
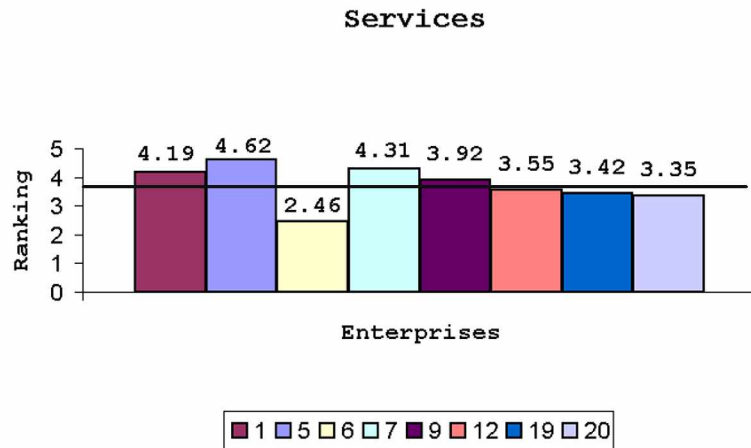
Services

Figure 5: The Services Sector enterprise ranking.

The Manufacturing Sector

The sector of manufacturing gathered pretty well scores. Seven of them were well above average contrary to the rest three. The average in the sector of manufacturing was 3.64 units. Ten enterprises participated in the research of this sector. The highest rank was achieved by enterprise No 8 with a score of 4.15 (medium enterprise, 4-10 suppliers, Prefecture of Achaia). The lowest one was achieved by enterprise No 16 with a score of 2.40 (medium enterprise, 10 and more suppliers, Prefecture of Achaia). There were two enterprises far below average, No 4 (2.89 units) and No 16 (2.4 units). The poor performance of those two resulted in the reduction of the total average of the manufacturing sector (Figure 6).
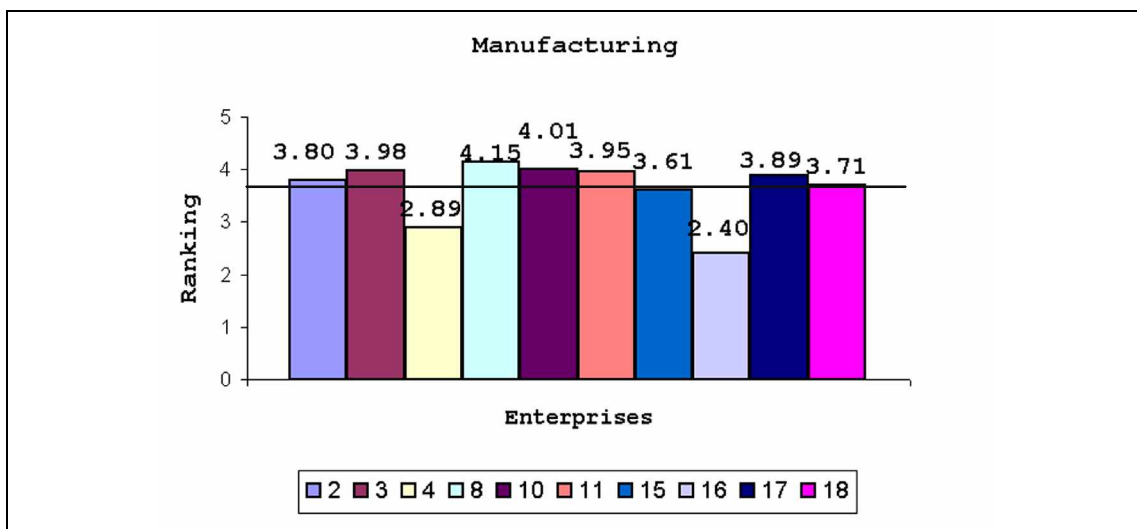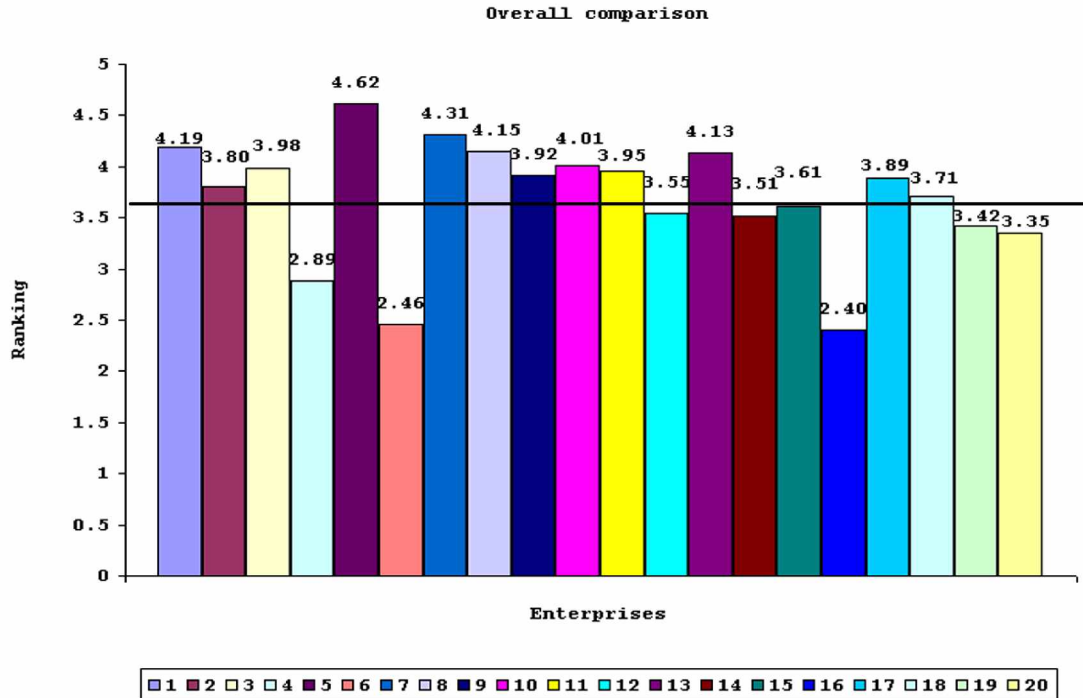

Figure 6: The Manufacturing Sector enterprise ranking

Overall Comparison

The average of all participating enterprises within the research was 3.64. 60% of them were above average and 40% were below average. The majority of enterprises were between 3.70 and 4.20 units when the best score that could be achieved was 5,00 units (Figure 7).


Figure 7: The overall enterprise ranking for the region of Western Greece

The questionnaire includes two more groups of questions which concern loyalty and complaints (Figure 8).

- In the question of "How likely is it that you will buy again from your suppliers" the majority of enterprises answered "Very likely". In the question of "How likely is it that you would recommend your suppliers to others" the majority of enterprises answered "Likely". The conclusion drawn from those answers was that enterprises are used to buying again from their supplier, but they have a doubt on recommending them to others.
- In the question of "How likely is it to express your complaints" the majority of enterprises answered "Likely". In the question of "Do you think that your suppliers take into consideration your complaints" the majority of enterprises answered "Likely", the second higher percentage of enterprises answered "not likely or unlikely". From those two charts is concluded that although the enterprises express their complaints to their suppliers, they do not seem to take serious consideration of their customer complaints. As a result their products/services cannot follow a continuous improvement process.
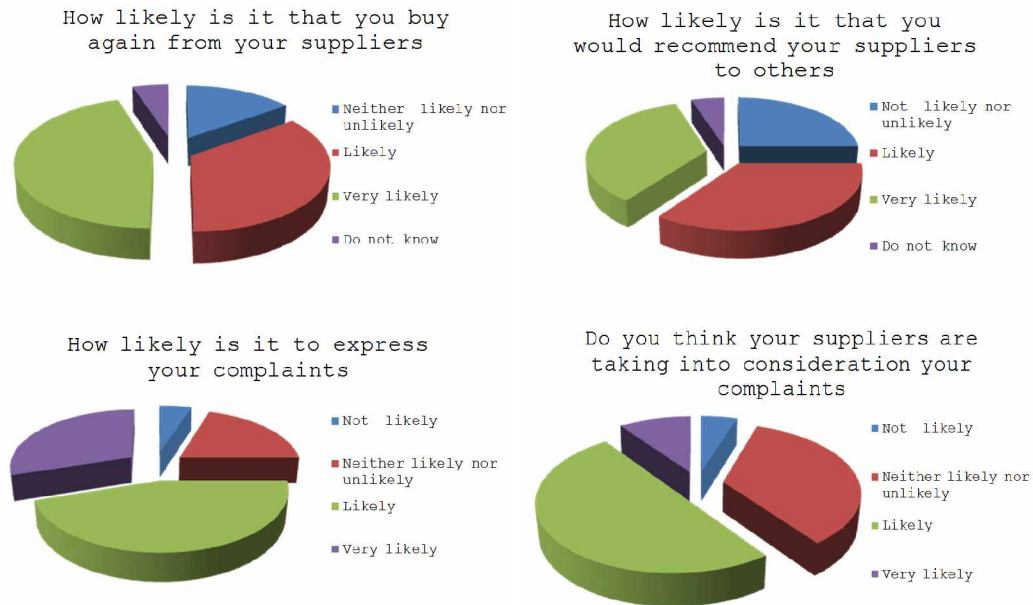
Figure 8: Loyalty and Complaints results

Methodology Conclusions

A number of general conclusions can be deducted from the pilot project of implementing the proposed Regional Barometer of Satisfaction in the region of Western Greece, i.e.

- The best score was achieved usually by small enterprises with 1-3 suppliers, while the lowest score was achieved by small enterprises with more than three suppliers.
- Large enterprises usually achieved scores around average. That proves that they have the same sense of satisfaction with the smaller ones. Moreover satisfaction is not an asset for enterprises with large budgets.
- Enterprises with extreme scores (largest and smallest) were found in prefecture of Achaia. This observation leads to realize that a large number of enterprises are working in this prefecture.
- The enterprises satisfaction from their suppliers varied positively. Very satisfied were the 33,3% of them, while bellow average were only 16,6%.
- The majority of enterprises were achieving scores of 3.70 to 4.20 units, which is a sign that enterprises are satisfied from their suppliers. The small and medium enterprises proved that they have potentials, but satisfied enterprises may not be good enough to compete to regional, national and international level.

Summary

The satisfaction either from the customers or from the suppliers point of view is a very important issue for company strategic planning, especially nowadays, that the economic crisis is putting pressure on the global economy.

A new barometer was proposed for measuring the Regional Customer Satisfaction, avoiding the pitfalls of the widely known European and American methodologies. The new Regional Barometer for Satisfaction was implemented in the region of Western Greece and important results were gathered. In addition, it constitutes an important part of an

oncoming overall indicator, which will be open to receive new measurable features of the enterprises and new applications for measurement, aiming at their subsequent synthesis.

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