

## **Six Sigma Project in Cyprus**

The Cyprus Association for Quality (CyAQ) participated as a project partner at the project **Six Sigma and the Cyprus Small & Medium Size Enterprises (SMEs)**.

The project demonstrated the capacity of Cyprus SMEs to respond to global practices in company management and to improve the management level and practices by providing 6 sigma as a self-served model which they can apply themselves. The project enabled organizations to develop custom-made process efficiencies and to strengthen the competitiveness in basic sectors of the economy. The methodology of the project included both qualitative and quantitative research in the following five industries: Automobile & Transportation, Banking & Insurance, Construction, Health and Hospitality & Tourism. The project was co-funded by the European Regional Development Fund and the Framework Programme for Research in Cyprus of the Cyprus Research Promotion Foundation.

Six Sigma (6s) is a methodology for minimizing mistakes and maximizing operational significance and making financial savings. Higher product quality is measured by higher « $\sigma$ » ratings. Six sigma represents a statistical unit of measurement used to define the standard deviation of a population. It measures the variability of spread of data with a process operating at 6 sigma level the variation is so small that the resulting products / services are 99.99966% defect free. The higher the sigma score, the more efficient the feature is.

### **The Project's aims:**

- a. Examine the current situation in Cyprus and compare the applicability of Six Sigma with international practice focusing on the European level,
- b. Identify how Six Sigma can be used to benefit SMEs in five key service industries through a series of Focus Group discussions with high-level representatives,
- c. Train top employees in SMEs, with the use of workshops and examples, so as to get them to appreciate the benefits and value of Six Sigma and provide them with the necessary tools and knowledge to apply Six Sigma within their organizations,
- d. Monitor the results of applying Six Sigma in the pilot group of companies, and
- e. Measure the success of the methodology.

## **Survey Findings:**

Utilizing both qualitative and quantitative research some of the findings can be summarized as follows:

### **1. Automotive and Transport**

For years, Six Sigma was viewed simply as a process improvement tool (like Total Quality Management (TQM)) to help companies improve their processes and operations, reduce product defects and a methodology applicable to the manufacturing industry. In small economies, like Cyprus, the automotive industry does not include the manufacturing component but only the retail and after sales service of the automobiles. The Transportation and Logistics industry sector comprises a wide range of service providers, covering all modes of transport - air, road, rail, sea - as well as related services, such as: warehousing, handling, people transport, etc. In addition to these "physical" services, it also includes all kinds of planning, organizational and management services. The problem areas identified for the above sector were:(a) Leadership; (b) Strategy and Planning; (c) People; (d) Partnerships and Resources; (e) Processes; (f) Customer-Oriented Results; (g) People Results; and (h) Key Performance Results.

### **2. Banking and Insurance**

This industry has been heavily affected by international interest rates, the downturn of the construction industry, the effects that tourism has been having on the island and the spending habits of people on luxury items such as cars, holiday homes etc. The present research identified the following issues which need to be addressed by Six Sigma in the banking and insurance industry in Cyprus: (a) Leadership; (b) Strategy and Planning; (c) People; (d) Partnerships and Resources; (e) Processes; (f) Customer-Oriented Results; (g) People Results and (h) Society Results.

### **3. Construction and Real Estate**

Very little research has been conducted on setting definite quantitative goals for performance improvement while considering the defect rate involved in construction operations or external influences which affect their project performance or operational integrity. The three problem areas identified requiring the attention of Six Sigma are: (a) Strategy and Planning; (b) Processes; and (c) Key Performance Results.

### **4. Healthcare**

Despite the fact that generally Six Sigma principles and the healthcare sector are very well matched because of the healthcare nature of zero tolerance for mistakes and potential for reducing medical errors, the present research has shown that these organizations would like to use Six Sigma to address the following areas of concern: (a) Strategy and Planning; (b) Partnerships and Resources; and (c) Processes.

## 5. Hospitality and Tourism

As a holiday resort, Cyprus depends heavily on tourism and other related services. However, in the last two to three years due to exogenous factors this industry has been affected adversely. These exogenous factors are: cheaper destinations, the international economic crisis, swine flu and finally, due to its geographical location, it is frequently found to be close to political unrests. Six Sigma can help to alleviate some of these issues now that the problem areas have been identified. In most cases, the areas which are often highlighted are poor service delivery, high costs, customer dissatisfaction, staff training etc. From the present study the following issues have been identified as the areas requiring attention by Six Sigma: (a) Strategy and Planning; (b) Processes; and (c) Customer-Oriented Results.

**Conclusion:** Enterprises all over the world are forced to do more with less, to trim costs while growing profits and to move quickly in new business directions. Six Sigma's emphasis on data-driven decision making provides a powerful lever to create strong organizational focus, and to forge strong alignment of a Company's leaders and employees around a commonly understood language of metrics and business goals. Local businesses, regardless of size, ought to think of their long term survival and one road to this is through Six Sigma.

### The Six Sigma Research Team Comprises of:

**-Project Coordinator:**

Associate Professor Maria Krambia-Kapardis, Cyprus University of Technology (CUT).

**- Independent Expert:** Dr Adrian Ioannou, Six Sigma Black Belt, PricewaterhouseCoopers (PwC).

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