QUALITY, SPEED, RELIABILITY, FLEXIBILITY AND COST OF PRODUCTS: THE CYPRUS CASE STUDY IN THE PAST AND TODAY

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Abstract: Cyprus joined the European Union (EU) ten years ago opening the gates to common market. Cyprus citizens and businesses are now living in a highly competitive business environment. There are many benefits of Cyprus joining the EU and removing any barriers from the free movements of goods like larger variety of products and services, more choices, opening into international markets and the increase of antagonism which lead to the reduction, in some cases of prices, and better products. So the main targets of the Cypriot companies were to adapt their way of doing business and to be able to face the challenges of the new antagonistic environment. However, the big question is up to what point they managed to meet the new internationally accepted targets?

So the main purpose of this joined research work is to investigate the importance, within time, the behaviour of the Cyprus enterprises, in Mechanical products and goods in the island of Cyprus. Through a national survey, using an accepted sampling plan, the opinions of the customers/consumers as well importers and manufacturers were investigated. A questionnaire consisting of 22 questions, was used to investigate the importance of the five main targets or business performance targets, quality, speed, reliability, flexibility and cost of products. The two groups of respondents (consumers and suppliers) were asked to evaluate the 5 business performance targets ten years ago (before joining EU) and today in the view of the new data of globalization and Cyprus becoming a member of the EU. In detail there was an attempt to find the degree of changes - improvements or the opposite, in achieving the 5 importance targets in the last decade.

Many conclusions were revealed, such as, in which areas there was improvement and by how much, the agreements or disagreements between the two groups of respondents, which is the most important parameter now according to customers and many others. The methodology adopted is very useful to companies that they decide to follow the road of continuous improvement and identify customer views and expectations.

Key words: National survey, Business targets, Quality, Reliability, Cost, Flexibility, Speed, Customer and Supplier opinion.

1. BACKGROUND AND INTRODUCTION

As it was mentioned in the abstract, it has been decided to investigate the five most important business objectives and targets which are very important to customers/ consumers. In the next paragraphs the definitions and explanations are given to help the readers to better understand what is about and help him to analyse better the results followed. A business to be successful it must have a stable number of loyal customers. This depends on the quality of the company's products, reliability, low product costs and flexibility of the products they provide.

a. Quality

Many definitions were given by quality gurus (Crosby, Juran, Feingebaun, Taquchi, Otto etc) apart the father of quality W.E.Deming who said “Quality is the definition that you give in your organization”. The most common definition according to the author is “Satisfying customers requirements” So each organization should first define who is the customer they targeting, what are its needs and then decide how they can satisfy / delight the customer needs and expectations.

According to Juran (1998) all the other four objectives / parameters are interdependent and strictly speaking are characteristics of Quality. Some of those characteristics are Performance, Reliability, Durability, Functionality, Cost and secondary characteristics are Conformance, Aesthetics, etc

Quality means those characteristics of products that meet the needs of customers so that they can provide their satisfaction. In this sense, the concept of quality is related to the income of consumers. With other words providing more and / or better quality products means increased costs. Highest quality "costs more".

Quality means free from deficiencies, free from errors requiring rework or resulting to failures. Quality means customer satisfaction and so on. In this sense, the concept of quality-oriented cost and higher quality usually "costs less". (Juran & Godfrey 1998)

b. Reliability:

This concept reflects the probability of failure of the product within or outside a specific time period in relation to the product. Specifically, reliability is defined as the mean time to the first failure, the average time between failures and the failure rate per unit time. These measures require a product that can be available
for a certain period of time and are consistent with the expected time of life.

Elements constituting the definition are:

- Probability: probability of success of the indented use
- Intended function: for example, to light, cut, rotate or heat.
- Capability: perform as specified, with an acceptable level of compliance.
- Specific time: minutes, days, months or number of cycles.
- Specific conditions: for example, temperature, velocity or pressure.

In conclusion, the reliability is equal to the probability of success, strength, and quality over time and the availability to perform a function. [Crossley n.d.]

c. Cost:

Quality Costs: These costs include the improvement of the quality and the achievement of targets for achieving the long-term effects of quality products. This cost can be reduced by implementing quality management systems like ISO 9001. (Duffy n.d.) The cost is divided into four categories which are the prevention cost, assessment costs, internal and external failure costs and the cost of quality.

- Prevention Cost: Prevention costs are the costs to prevent and avoid quality problems. Are related to the design, implementation and maintenance of the quality management system. Are performed before the actual operation and include the requirements of the product or service, i.e. the materials and methods, the development and maintenance of quality systems and the development and maintenance of programs.
- Evaluation costs: Related to the measurement and the activities associated with the quality monitoring. These costs are associated with suppliers and customers, evaluation of purchased materials, processes, products and services to ensure compliance with specifications. They include control verification of incoming materials, specifications and the assessment and approval of suppliers.
- Internal Failures cost: These costs are associated with the product defects/defectives. These costs occur when the results of the work/production are unable to reach the quality standards and are detected before the delivery of the product to the customer. It includes defective products or materials which cannot be used or rework.
- External Failures cost: The external costs are associated with repairing the defects identified by consumers. These are costs that occur when the goods or services fail after they reach the customer. They include repairs and maintenance of products, product guarantees and repayments made by consumers and discarded products.

d. Flexibility:

The dimension flexibility is related to the ability of products to address the needs of consumers and customers in a wide range of customers. Flexible product is also considered the product which is designed for multiple uses. It is important for the consumer because a flexible product can be easily upgraded can be processed and improved its operation.

e. Speed:

Another important factor is the speed of customer service. That is how easily customers are served, how easily their complaints are heard and resolved and the correctness and fast delivery of products ordered by customers. When a company completes these criteria then it easily reaches success.

The purpose of this research was to understand the term quality, its various parameters and how it affects the mind and the choice of a consumer to buy a product. That also includes the supplier/seller and even the manufacturer.

The questionnaire is an appropriate methodological option to complete a survey and identify problems that may exist. Generally it is a process during which many persons can participate with minimum expenses and at the end to have valid results with validity and reliability. A questionnaire to be reliable must completely cover the objective of the research. It must be well organized and clear so that the person who is answering has no difficulties with specific questions and questions should not lead to an answer.

First they must identify some key objectives such as:

- Is research of academic content or market research oriented?
- What is the main question?
- What is the population the research is targeting and what is the appropriate sample?
- The size and type of questions should be specified.
- How to conduct the questionnaire

Some methods of collecting data are:

- Registering: For this method all population is used so there are more reliable results, but it is a time consuming process with high cost and it requires a considerable amount of human resources
- Sampling: With this method a representative and adequate subpopulation automatically is selected so the process becomes easier, economical and reliable and at the same time has a high degree of accuracy.

There should be a proper sample-population selection depending on the purpose of research. At the present research the samples were taken from customers, suppliers and some manufacturers. The sample was sufficient to minimize the sampling error, was reliable and accurate. The sample size depends on the way the investigation is made.

According to Komily 2003, there are three methods of sampling: Simple random sampling, Systematic Sampling, Stratified random sampling. Each one has its own advantages and disadvantages. The selection is up to the researcher taking into consideration the
2. METHODOLOGY ADOPTED

2.1 Some statistics and investigations

According to the Statistical Department of Cyprus, the population in the Republic of Cyprus is estimated at 847 thousand at the end of 2014. Compared to 2013 the population of Cyprus reaches 858.0 thousand, i.e. marked decrease of 1.3%.

Based on the results of the Labour Force Survey for 2015, the number of employees amounted to 358175 people and the numbers of unemployed are 62139 people. The employment rate of people aged 20-64 was 67.7%; with 72.8% were male and 62.8% female. The unemployment rate rose to 14.8% of the labour force with 14.1% men and 15.5% women. Also the unemployment rate for young people aged 15-24 was 32.3% of the workforce. Based on the data registered at the District Labour Offices and the number of registered unemployed at the end of January 2016, the unemployed people reached 45969 persons.

2.2 Final decision

Considering the above it was decided to use a stratified questionnaire consisting of closed questions, where participants were asked to answer the questions in accordance with the appropriate scale (1 to 7). The questionnaire was given to each participant in a personal interview, i.e. the questionnaire was given to the respondent and it was returned immediately after completion. The questions of the questionnaire were created after studying other similar questionnaires and it was also based on the knowledge and judgment of the authors. To increase the sample and coverage, final year Mechanical Engineering students were employed to assist.

2.3 The Questionnaire

The questionnaire consisted of two pages (parts A & B). The first page was explaining the purpose of the research and all administrative information/questions related to the respondents: age, sex, district, educational background and the most important if the respondent was customer or supplier. The customers / consumers were from the age of 25 up to 60 because basically those are the people buying mechanical components and products. The suppliers were carefully selected from those that were selling only the products the research was targeting, i.e. products and goods of everyday use such as every kind of tools, small mechanical devices, manufacture products daily used at personal level or in the house like plumbing, tubes, nuts, cutting tools, chairs, tables, small devices etc. The research was not addressing big machines, assemblies like cars, motorcycles, electrical appliances etc.

At the end of the paper (Appendix A) the second part (actual questions), is presented for those wishing to use it for similar research. As is it shown it consists of the five main parameters with 4 to 5 questions under each parameter. The responses/preferences from customers were added for those who want to have a complete view of all numbers. The respondents were asked to place their preferences (scale 1-7) 10 years ago and present. The suppliers were asked to fill the same questionnaire but from their perspective.

2.4 Data collection

The questionnaire was distributed to all districts of Cyprus by the researchers. Due to limitation of funds and to succeed coverage, Mechanical Engineering students were employed to assist with the distribution, but under the supervision and guidance of the researchers. The completed questionnaires were immediately returned to the researchers. The objective was to cover a representative sample from all districts with different ages, gender etc.

After the completion all questionnaires were counted, sorted and some sampling rules were considered. The total number of gathered questionnaires reaches 470. It is a representative figure for the purposes of this research which will provide valuable and valid conclusions for the quality of engineering goods/products in Cyprus throughout time. Some administrative statistics are shown below.

- Consumers: 387, Sellers / suppliers: 83
- Male: 284, Female: 186
- Age 20 to 30: 202, Age 31-40: 98, Age 41-60: 145, Age 61-80: 25
- Primary education: 24, Average education: 167, University education: 228, Postgraduate education: 51
- Nicosia: 120, Limassol: 210, Paphos: 52, Larnaca: 64, Famagusta 24

2.5 Programming and analyzing data

The above data and generally the responses given by the participants for each question were collected by the researchers by hand. Each question was counted and at the end how many people responded to each question was recorded. This procedure was done for consumers and suppliers. Then the results were transferred in MS Excel for analysis and graphs development. First the tables were created with all questions preferences and
how many participants have responded to a specific question.  

After tables’ development for each category, graphics were created for consumers and suppliers, for each question. At the end, aggregate results were presented in graphs for consumers and suppliers for each category. In addition graphs were constructed comparing the answers related to the past 10 years and the present.

3. PRESENTATION OF IMPORTANT RESULTS

In this main chapter the summary and important results are presented for each parameter. As it was mentioned before in the original research the following graphs were developed and separately discussed.

- each question was analysed of each parameter comparing the responses of the customers before and now
- All answers under each parameter were averaged and there was a comparison of customers Vs consumers and past Vs present

It is out of the scope of this paper to present all detail results (more than 40 pages). So only for the first parameter “Quality” all answers will be presented since somehow quality includes in the eyes of the customer all the other parameters. For the next 4 parameters only the aggregated results will be presented.

3.1 Quality

3.1.1 Quality parameter as seen by consumers (figure 1)

![Parameter: Product quality (Consumers)](image)

**Figure 1. Consumer’s responses for the 5 questions of Quality**

**Question 1: How do you judge the quality of the products?**

From the above figure 1, we conclude that the quality of the products according to consumer judgment decreased compared to the quality of the products 10 years ago. That is, the product quality was better before 10 years in relation to today. Therefore there has been a decline in the quality of the order of 3.88%.

**Question 2: How good is the calibration / evaluation of product quality? (Laboratory tests, certifications)**

As we can see from the above figure 1, the majority of consumers felt that the calibration / assessment of product quality (laboratory tests, certifications) before 10 years was poor to moderate (3 out of 7) while at present we have an increase to good (5 -6 out of 7). Therefore there is an increase of 20%. This increase is because consumers are more positive to laboratory testing. Also because of our membership in the EU more laboratory tests are required and mandatory certifications for a product before it comes on the market like CE marking.

**Question 3: The quality was and still is your main criterion for choosing a product?**

From the above results, the product quality was a key criterion for the selection of a product and still remains at the same level today as 10 years ago. At present the answers ranged in grade 5-6 corresponding to very good to excellent.

**Question 4. The recyclable materials improve the quality of products?**

A large percentage of consumers felt that the improvement of product quality due to recycling 10 years ago was medium to poor; while at present consumers feel to be moderate to good. This view is supported by the majority of participants and very little percentage believes that recycling not always brings positive results. This small percentage can justify it, if we make a criticism, if indeed recycling gives higher quality results, if indeed the continuous processing of the same recyclable products at the end, bring positive results. So this small percentage does not believe that the continuous processing of the same recyclable products will make them more qualitative. This question was generally considered moderate since the range of 3.5 to 5 on the scale 7

**Question 5: How informed are consumers about product quality?**

Consumers today are much more informed in relation to the knowledge they had about the quality of products before 10 years. This is because due to the economic crisis and low income, consumers before they make a purchase, do a search on the quality and general characteristics of the various products available. Also different companies increase their communication through relevant ads leading to a result that consumer knowledge was enriched and be able to judge the quality of a product in the right way. This question also generally considered moderate since the range of 3.5 to 5 to 7 scales.
3.1.2 Quality parameter as seen by suppliers (figure 2)

![Figure 2. Supplier’s responses for the 5 questions of Quality](image)

**Question 1: How is it the quality of the products?**

According to the figure 2 in terms of product quality according to the judgment and beliefs of suppliers, it has greatly improved. This view is in contrary terms to customers. This may be because suppliers are even more aware for the quality of products in relation to consumers’ knowledge and they can judge issues concerning quality with more clarity and correctness or they have to say that their products are good. The responses of the suppliers, ranges from 4-5. This, according to the rating scale, is considered moderate quality products at the discretion of the suppliers.

**Question 2: How good are the calibration / evaluation of product quality? (Laboratory tests, certifications)**

Both consumers and suppliers believe that the calibration / assessment of product quality are at satisfactory degree with a rating very good in comparison with the past, that was a moderate degree of evaluation.

**Question 3: The quality was and still is your main criterion for choosing a product?**

As shown in the above figure 2, the product quality was and is the main criterion for selection, at rates that exceed 50% of suppliers. Specifically 10 years ago and the present suppliers believed that the main criterion for choosing a quality product was in grade 5 and 6 respectively.

**Question 4: The recyclable materials improve the quality (of products)?**

Suppliers also support that recyclable materials can improve the quality of products and nowadays even more. That is an increase of quality due to the recycled materials in the order of 19%.

**Question 5: How informed are consumers about product quality?**

Suppliers believe that consumers 10 years ago were not so informed regarding issues concerning the quality of products. So consumer knowledge is evaluated with grade 3-4 out of 7, corresponding to moderate before. Unlike at present, suppliers argue that consumers’ knowledge has increased to such an extent the very good (4-5 out of 7). In general there has been an increase of 22%

3.1.3 General conclusions for parameter Quality

According to the survey figure 4, the following results are applicable to quality of products. Consumers continue to believe that the quality has not improved since the previous decade, and suppliers believe that there has been a slight improvement. Also both consumers and sellers agree that 10 years ago there were not the necessary tests for the evaluation of products, while nowadays such checks are in place.

All companies are doing their best after Cyprus joint the EU competition which is increasing. Product quality was and is the main criterion for consumers and suppliers of choice. As for recyclable materials, the consumers’ group did not think they improve quality while sellers are absolutely sure they improve. It is also for sure that consumers are informed about the quality of products. This is supported by consumers.

3.2 General conclusions for Cost parameter

![Figure 4. Aggregated results for Quality parameter](image)

![Figure 5. Aggregated results for cost parameter](image)

As shown in the above figure 5, product costs affect nowadays consumers and suppliers to a large extent. According to the comparison scale from moderate levels, the costs have increased to the extent corresponding to good levels (grade 5). In conclusion the cost of a product is an important factor as important as product quality for
consumers and sellers. In particular, as mentioned above, due to the economic crisis the cost of a product is very important, because now a part of consumers are not able to pay more for quality products, in spite of the fact that there is a wide variety of cheap goods and services on the market that have come in recent years. The consumer has access to a variety of products and services, benefiting from lower prices, due to competition and the protection through the EU laws and directives [Matsoukas, 2008].

3.3 General conclusions for parameter Reliability

Looking on the figure 6 the product reliability has slightly improved compared to past according to customers and suppliers. More particularly in accordance with customers has increased to an extent of 0.1 while according to suppliers increased to the extent of about 0.4 reaching 5.

This rapid growth, innovative ideas and skilled scientists of today, play an important role in the creation of new, more reliable products, which must withstand over time. However because of the large market in recent years developed in Cyprus, many products do not follow the technological development and are not long-lasting because of their low construction cost and competition. So it can be justified the consumer perspective as the lower product life cycle.

3.4 General conclusions for parameter Speed

It appears from the above Figure 7 showing the aggregated data regarding the speed parameter that the speed and the service time are greatly improved. More specifically, according to consumers there is an increase of 16% and according to the beliefs and opinions of suppliers there is an increase of 19%. Suppliers seem to support a higher level of speed performance and delivery time.

New markets have now joined the market of Cyprus after accession in the EU. They had experiences in speed and service time, so it was not difficult to adapt to the new market of the island. They provide as stronger and faster service as they can, in order to attract more of the existing market. As a result, small and medium companies are in a more difficult position since they have to compete with big giants in speed and service time issues. Therefore, there is an improvement in the speed parameter because of the big business, but small businesses are still in the same levels.

3.5 General conclusions for parameter flexibility

Looking on the above figure 8, for flexibility parameter it is noted a quite significant improvement according to consumers and suppliers. More specifically, according to consumers the flexibility sector shows an improvement of 18%, while according to suppliers flexibility improved by 19%.

3.6 AGGREGATED RESULTS PRESENTATION

3.6.1 Average and standard deviation responses

These results are reasonable since after ascension of Cyprus in the EU, there is flow of new markets and new products that are more specialized and intended to be used by more people and attract and make more comfortable the lives of consumers.
With reference the above figure 9, where all parameters are compared for customers and suppliers, many useful information can be extracted. In the previous paragraphs each parameter was analysed in detail so there is no needs to repeat. Some new information can be said: All five parameters have been improved during the last 10 years approximately one unit out of seven which is approximately 15%. Still no parameter is close to excellent. The maximum is 5.52 i.e. 78%. Quality, Cost and reliability has the lowest improvement with Quality having one of the lowest number (5.2) which is leading to the main conclusion that “Quality of products” in spite of technological advancements, new material etc is not as good as it should be. So globalization and liberalization of the market according to the Cypriots in some cases are acting against quality.

Large standard deviation implies that there is a big spread and quit different views/ opinions of the respondents, while small standard deviation implies that there is a consistency in the participants' answers. According to the above definition and based on figure 10, in the past there were different opinions and views again on product quality and greater consistency of responses was the part concerning the speed and customer service. So the spread of answers in the past was much greater than today. Comparing the spread today is much lower than before with exception of the cost which is a result of the crisis and the income of every respondent.

We are confident now that flexibility has the largest improvement since consumers and suppliers are confident and had supported this view. Even more certain is the flexibility of product nowadays because the percentage of the standard deviation has decreased greatly.

Is that result expected? It is a question that has various answers. Looking at the current products on the market it can be seen that there are many kinds of products. Each of them has different prices which makes consumers happy since everyone has their own amount available for purchases. So, given the wide variety of products on the market and with multiple uses goods, that easily covers any consumer need. The question is whether there are flexible products or not. This can be answered if we consider the intensive market controls due to the accession of Cyprus to the EU and market globalization. So we can say that the result was expected and that consumers and suppliers replied with sincerity and seriousness. But still the big question is there. Do we have better quality products? The answers and statistics are confusing

3.6.2 Aggregated results presentation for consumers and suppliers

Summarising according to figures 11 and 12, it is clear that both suppliers and consumers observe a difference in the parameter quality of products over the years. This view is supported most strongly by the suppliers since according to the evaluation scale rated quality today in grade 5 corresponding to moderate levels, unlike consumers believe that the quality of today is almost moderate. This is because suppliers bring products and sell after better evaluation. But generally, there were improvement of quality on Cyprus products, since the Cypriot businessmen have to compete with foreign companies. So they claim that they began to offer better quality products which can cope with the multiple requirements of consumers. But looking on figure 1 question 1 previously, when there was a specific question “How do you judge the quality of the products?” the answer is negative. So as it was said before the results are confusing and are questionable.
 Concerning the cost of products, consumer opinions and suppliers have some differences but there is a degree of improvement up to 5.3 which corresponds to a moderate level. It can be said that finally the expensive products are the cheap since at the end a higher cost product requires less maintenance or even change, from a cheaper product. This is strongly supported by consumers and suppliers. Constantly we hear the phrase "better to buy something expensive which last for years." Some consumers (not the majority) are well informed about what it means quality products, and they do not hesitate to buy something expensive. There is another category of consumers who do not have the same amount to buy expensive products that is why they look for something cheaper. There are on the market products available for all categories of consumers; Consumers themselves and suppliers support this view, since it is for those one of the main criteria in choosing a product cost. The question is finally buying a non quality product they pay less in long term?

Minimal but significant improvement is observed in the reliability field. It is very important to buy something that can withstand and operate throughout the expected time of life. This minimises further maintenance and replacement costs. Is reasonable a product may need some kind of maintenance during operation. According to consumers and suppliers, service is possible and is easily done. This was showed to be improved nowadays to the extent of about 5, corresponding to good. Reliability is a parameter with the minimum improvement 0.45 points according to suppliers and 0.05 according to customers. So this directly related with the question mentioned on the above paragraph. Quality Vs reliability and time.

A fundamental principle for a successful business is to work for the best of the consumer and the understanding of their needs. The consumer requests and demands quality products and low prices in accordance with the above results, but on the same time require quick service. Customer seeks respect, understanding, friendly attitude, honesty and caring. It is observed that the category of speed according to consumers and suppliers has improved and more specifically is in second place with the greatest degree of improvement. This is directly related the technological advices especially in communication and transportation.

The first place with the largest degree of evaluation and thereby the greatest improvement achieved is the category of flexibility. This is because there is a variety of a product available on the market due to the accession of Cyprus to the EU. So the conditions changed and companies which are now moving to a more competitive environment. So to cope with the competitive environment they either start to sell better quality and improved products as well as products for multiple uses according to consumer demands which are increasing, or, they import chunk, cheap, and unreliable products to cope with costs. With this way they can easily fulfill to any consumer need related to flexibility and nowadays reaches the higher level than any other category.

4. OVERALL CONCLUSIONS

It is now clear that the 5 investigated parameters; quality of products, consistency, availability, speed, and flexibility in Cyprus have been improved compared to 10 years ago. The accession of Cyprus to the European Union has resulted in the inclusion of Cyprus in the Single Market. Citizens and businesses are living in a competitive business environment. What government and EU officials say is that there are many benefits of Cyprus after accession to the EU, such as the largest selection of products and services, national markets are open and the increasing of competition which resulted in lower prices and offer a better product. But what statistics and EU citizens say?

Also, the free movement of goods helped the Cypriot consumer to have more product choices available, due to the significant increase of the variety of goods in the Cyprus market. Businesses are now modernized and upgraded, so that they can cope with the competitive environment in the market. Business does more laboratory tests and they use standards that defining the basic quality management model and requirements to achieve continuous improvement. Taking into account the views of consumers and suppliers in Cyprus there are better flexible products / goods than 10 years ago. But is there adequate market surveillance?

The economic problems that exist now in Cyprus, force consumers to reduce their purchases since prices in Cyprus are still high. The cost of a product is crucial for the consumer’s choice. They all want to buy quality products but also know and believe the phrase "cheap is expensive" because they do not know for how long will last. In parallel there is in the market a variety of products with different prices, so can meet the needs of any consumer.

Every company wants to have its own loyal customers, to keep them and to increase them. So Cypriot enterprises, through the survey, do many things to keep their customers. Their efforts include: the appropriate handling their customers, the prompt resolution of customer problems, respect and listen carefully to the complaints of their clients etc. They are trying to pass the message that "the customer is always right".

Some of the results and discussion were presented in the previous chapter 3. The main summary results are written below:

- Significant improvement has been made in recent years, about the flexibility of products in Cypriot companies
- Less improvement has been recorded in the quality and reliability of products according to consumers and suppliers
- The cost and quality is the most important factor in choosing a product
- There is high cohesion in responses from consumers and suppliers concerning flexibility parameter
- There was a great discrepancy from consumers and suppliers concerning product - quality as regards the past. Even know there is a great variation
• Inconsistent responses were recorded the parameter of product costs

4.1 Suggestions

Through the analysis made in the previous chapters there are some weaknesses that Cyprus businesses and as a nation Cyprus in general, have to be addressed. All parameters that analyzed appear to have improved either largely or poorly. The degree of improvement in reliability and quality is limited. Important in an organization is to meet the standards and targets and reflect those in the production. Failing to meet standards in long term the reliability will drop leading to customer dissatisfaction.

Quality assurance measures and more laboratory tests should be applied to the Cypriot enterprises so that quality is evident and further improvements should be made, since those parameters have the second smallest degree of improvement.

More generally, the plans examined by the Parliamentary Committee on Energy, Trade, Industry and Tourism should be implemented. The regulations relating trade, industry, tourism, Cyprus standards and products quality control, the range and activities of companies, protection of the Cypriot consumer and ensuring fair competition should be of top priority.

4.2 Research benefits

Many are the benefits derived from this research project since this is the first survey conducted in Cyprus that explores the timelessness of the five quality parameters. The survey is unique because it compares the views of customers/ consumers and suppliers.

Through the results of this survey business and suppliers can be benefited and by careful study, they can see where their weaknesses and or opportunities are and considering the consumer opinions they can adapt their actions and strategy. After all; the customer is the boss.

This research which lasted one year and completed last summer (2016), is not only import for the island of Cyprus but is also important to other nations organized bodies, like consumers associations, employers/ employees federations, decision makers, management etc. Interested parties can also follow the same methodology, analysis and approach to run a similar survey to their organization. Of course the questionnaire and sample should be tailored to their survey objectives and targets.

5. A DIFFERENT OPINION AND QUESTIONS

In the above pages the scientific approach and results were presented by the authors who work very hard to present the final results and analysis. It is now time for YOU as a reader or participant to answer some very crucial questions that deals with present and the future of your company, nation and your personal choices. This exercise will put you to think deeply, will ask you to address certain problems and even change your way of thinking:

- Does in the present we have better quality products and services and in extent better quality of life than in the past?
- Do the EU principles and promises to their people still apply and up to what extent, or they are bondage with the interests of the elite countries and malty national enterprises?
- Looking on the statistics and KPI (unemployment, opportunities, SMEs viability, cost of leaving etc) of the EU which are definitely not encouraging, do you still want to remain or joint EU?
- What do you prefer to buy a furniture or component made by a national company where your father , brother is working OR buy an imported and cheaper product made in ...... with less quality and reliability and your relatives losses their job?
- There are thousands of international, European and national standards, but is there any adequate infrastructure and mechanisms to have market surveillance and control to safeguard quality and reliable products, at a reasonable price?
- Does globalisation, internalisation and liberation of markets are for the benefit of small nations and economies especially if natural resources are limited?
- Does antagonism, which sometimes is unfair, where sometimes you have to compete with giants and multinational enterprises works in favour of quality, materials used, reliability, health and safety ?
- Do you like to work for a local small or family business and be the boss or everybody work for multinational companies for limited time and unfair salaries?
- Do you prefer or your friends, to spend your time with your family and friends or work all week, all day even weekends for the sake of “increase jobs” or “customer requests for weekends” with all the repercussions to family, society etc?
- Did you seriously think, where all recycling material goes, how they treat them, but the most important, do they follow international standards and or regulations in the manufacture of new products? Who made the checks?
- Do standardisation and the issue of thousands of standards manage to raise the quality of products and services?
- The technological advancements and all that has been invented and developed by engineers and other disciplines are used for the quality improvement or just to make cheaper and chunk products?
- Definitely the answers are not YES or No, Black or White. The truth is something in-between. Each person has its own experiences, knowledge so is up to each individual to do his own choices, if of course he is given the chance.
### REFERENCES


### APPENDIX A: The questionnaire used for the survey including all customers and suppliers answers

<table>
<thead>
<tr>
<th>Product quality</th>
<th>bad</th>
<th>10 years ago</th>
<th>excellent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tr>
<td>1. How do you rate the quality of the specific product?</td>
<td>4</td>
<td>30</td>
<td>74</td>
<td>119</td>
<td>125</td>
<td>89</td>
<td>29</td>
<td>6</td>
<td>18</td>
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<td>93</td>
<td>121</td>
<td>126</td>
<td>41</td>
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<td></td>
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</tr>
<tr>
<td>2. How do you rate the improvement of the product's quality during the last years?</td>
<td>14</td>
<td>44</td>
<td>128</td>
<td>155</td>
<td>87</td>
<td>33</td>
<td>9</td>
<td>0</td>
<td>8</td>
<td>32</td>
<td>58</td>
<td>148</td>
<td>157</td>
<td>67</td>
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</tr>
<tr>
<td>3. Do you consider quality as a primary criterion for opting to purchase a specific product?</td>
<td>10</td>
<td>26</td>
<td>43</td>
<td>65</td>
<td>82</td>
<td>128</td>
<td>116</td>
<td>1</td>
<td>9</td>
<td>28</td>
<td>56</td>
<td>90</td>
<td>138</td>
<td>148</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Do the customers feel their needs are met after purchasing a specific product?</td>
<td>39</td>
<td>72</td>
<td>117</td>
<td>106</td>
<td>80</td>
<td>31</td>
<td>25</td>
<td>13</td>
<td>35</td>
<td>36</td>
<td>92</td>
<td>111</td>
<td>113</td>
<td>70</td>
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</tr>
<tr>
<td>5. Do you consider quality as a primary criterion for opting to purchase a specific product?</td>
<td>33</td>
<td>82</td>
<td>130</td>
<td>129</td>
<td>67</td>
<td>23</td>
<td>6</td>
<td>7</td>
<td>20</td>
<td>52</td>
<td>100</td>
<td>140</td>
<td>104</td>
<td>47</td>
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<table>
<thead>
<tr>
<th>Product cost</th>
<th>bad</th>
<th>10 years ago</th>
<th>excellent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you consider cost as a primary criterion for opting to purchase a specific product?</td>
<td>12</td>
<td>21</td>
<td>54</td>
<td>67</td>
<td>68</td>
<td>119</td>
<td>129</td>
<td>4</td>
<td>5</td>
<td>21</td>
<td>41</td>
<td>57</td>
<td>131</td>
<td>211</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Does the phrase ‘expensive is good’?</td>
<td>33</td>
<td>28</td>
<td>55</td>
<td>86</td>
<td>93</td>
<td>85</td>
<td>90</td>
<td>25</td>
<td>20</td>
<td>45</td>
<td>73</td>
<td>116</td>
<td>88</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Is the customer always willing to pay extra money in order to purchase every new product that hits the market?</td>
<td>10</td>
<td>33</td>
<td>53</td>
<td>92</td>
<td>108</td>
<td>114</td>
<td>60</td>
<td>10</td>
<td>26</td>
<td>56</td>
<td>97</td>
<td>103</td>
<td>124</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. There satisfactory product options in relation to the amount available to the consumer?</td>
<td>10</td>
<td>50</td>
<td>81</td>
<td>123</td>
<td>111</td>
<td>66</td>
<td>29</td>
<td>5</td>
<td>6</td>
<td>21</td>
<td>57</td>
<td>104</td>
<td>155</td>
<td>122</td>
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<table>
<thead>
<tr>
<th>Reliability</th>
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<th>excellent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are you satisfied with the life time (duration) of product?</td>
<td>4</td>
<td>21</td>
<td>48</td>
<td>87</td>
<td>119</td>
<td>116</td>
<td>75</td>
<td>8</td>
<td>26</td>
<td>75</td>
<td>116</td>
<td>127</td>
<td>85</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The products represent their designated lifetime, according to the manufacturer?</td>
<td>10</td>
<td>18</td>
<td>53</td>
<td>114</td>
<td>116</td>
<td>99</td>
<td>60</td>
<td>9</td>
<td>21</td>
<td>48</td>
<td>101</td>
<td>132</td>
<td>99</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Up to what extent the purpose and function of the products purchased continues over time?</td>
<td>7</td>
<td>20</td>
<td>71</td>
<td>116</td>
<td>135</td>
<td>94</td>
<td>27</td>
<td>6</td>
<td>13</td>
<td>51</td>
<td>119</td>
<td>138</td>
<td>117</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Is maintenance and preservation a product is easy and feasible?</td>
<td>8</td>
<td>42</td>
<td>94</td>
<td>107</td>
<td>104</td>
<td>77</td>
<td>38</td>
<td>7</td>
<td>20</td>
<td>49</td>
<td>71</td>
<td>129</td>
<td>129</td>
<td>65</td>
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<td></td>
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</tr>
<tr>
<td>5. Is maintenance required prior the projected conclusion of the life cycle of a specific product?</td>
<td>9</td>
<td>32</td>
<td>45</td>
<td>87</td>
<td>102</td>
<td>121</td>
<td>74</td>
<td>10</td>
<td>17</td>
<td>36</td>
<td>55</td>
<td>100</td>
<td>137</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed/service time</th>
<th>bad</th>
<th>10 years ago</th>
<th>excellent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How pleased are you with the quality of the delivery of products (correct quantities, packaging, etc)?</td>
<td>12</td>
<td>53</td>
<td>85</td>
<td>123</td>
<td>103</td>
<td>74</td>
<td>20</td>
<td>2</td>
<td>7</td>
<td>30</td>
<td>54</td>
<td>110</td>
<td>179</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Response time, during the time of operation of the product?</td>
<td>15</td>
<td>55</td>
<td>93</td>
<td>132</td>
<td>101</td>
<td>59</td>
<td>15</td>
<td>6</td>
<td>17</td>
<td>34</td>
<td>62</td>
<td>158</td>
<td>137</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The consumer / customer complaints are heard and resolved directly?</td>
<td>38</td>
<td>83</td>
<td>82</td>
<td>115</td>
<td>87</td>
<td>50</td>
<td>15</td>
<td>23</td>
<td>32</td>
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<td>82</td>
<td>124</td>
<td>104</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. How satisfied are you with what you received in connection with what you ordered?</td>
<td>9</td>
<td>37</td>
<td>67</td>
<td>99</td>
<td>136</td>
<td>88</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>bad</th>
<th>10 years ago</th>
<th>excellent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The product is made for a particular category or to an extended number of customers?</td>
<td>5</td>
<td>34</td>
<td>94</td>
<td>119</td>
<td>125</td>
<td>63</td>
<td>30</td>
<td>3</td>
<td>15</td>
<td>31</td>
<td>80</td>
<td>146</td>
<td>140</td>
<td>55</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. The availability of products on the market is covers any need of the consumer?</td>
<td>12</td>
<td>36</td>
<td>93</td>
<td>132</td>
<td>11</td>
<td>57</td>
<td>27</td>
<td>4</td>
<td>7</td>
<td>21</td>
<td>53</td>
<td>86</td>
<td>170</td>
<td>129</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. In your opinion, are there improved products currently in the market?</td>
<td>12</td>
<td>35</td>
<td>80</td>
<td>117</td>
<td>143</td>
<td>60</td>
<td>23</td>
<td>0</td>
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<td>11</td>
<td>47</td>
<td>90</td>
<td>163</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The products designed for multiple uses?</td>
<td>11</td>
<td>53</td>
<td>85</td>
<td>139</td>
<td>107</td>
<td>52</td>
<td>23</td>
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<td>110</td>
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