NEAR EAST UNIVERSITY

BUSINESS ADMINISTRATION

GRADUATION PROJECT

ISO 9000 FAMILY, ITS THEORY AND PRACTICE, CASE OF TURK SIEMENS

SUBMITTED TO :ALİ MALEK
SUBMITTED BY :AHMET KERİM AKSOY
NUMBER :981435

ACKNOWLEDGEMENT

I would like to extend my respect and appreciation to Mr. Ali Malek for his help and support in completion of this project. I would also like to thank to all my lecturers who have been teaching me for all the years at the NEU.

ABSTRACT

Standards are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose.

International Standards contribute to making life simpler, and to increasing the reliability and effectiveness of the goods and services we use.

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from some 130 countries, one from each country.

ISO is a non-governmental organization established in 1947. The mission of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity.

ISO's work results in international agreements which are published as International Standards. ISO 9001, 9002 and 9003 describe three distinct quality system models of varying stringency for use in different applications. Common elements in ISO 9001, 9002, and 9003 include the need for: an effective quality system; ensuring that measurements are valid, that measuring and testing equipment is calibrated regularly; the use of appropriate statistical techniques; having a product identification and traceability system; maintaining an adequate record keeping system; having an adequate product handling, storage, packaging and delivery system; having an adequate inspection and testing system as well as a process for dealing with non-conforming items; and ensuring adequate personnel training and experience.

International standardization is well-established for many technologies in such diverse fields as information processing and communications, textiles, packaging, distribution of goods, energy production and utilization, shipbuilding, banking and financial services. It will continue to grow in importance for all sectors of industrial activity for the foreseeable future.

Today's free-market economies increasingly encourage diverse sources of supply and provide opportunities for expanding markets. On the technology side, fair competition needs to be based on identifiable, clearly defined common references that are recognized from one country to the next, and from one region to the other. An industry-wide standard, internationally recognized, developed by consensus among trading partners, serves as the language of trade.

Industry-wide standardization is a condition existing within a particular industrial sector when the large majority of products or services conform to the same standards. It results from consensus agreements reached between all economic players in that industrial sector - suppliers, users, and often governments. They agree on specifications and criteria to be applied consistently in the choice and classification of materials, the manufacture of products, and the provision of services.

TABLE OF CONTENTS

1. INTRODUCTION

Standards are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose.

For example, the format of the credit cards, phone cards, and "smart" cards that have become commonplace is derived from an ISO International Standard. Adhering to the standard, which defines such features as an optimal thickness (0, 76 mm), means that the cards can be used worldwide.[1]

International Standards thus contribute to making life simpler, and to increasing the reliability and effectiveness of the goods and services we use.

2. WHAT IS ISO?

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from some 130 countries, one from each country.

ISO is a non-governmental organization established in 1947. The mission of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services,

[1] *Beaumont, Leland R.* ISO 9001, the standard interpretation : the international standard system for assuring product and service quality. Middletown, *NJ : ISO Easy, 1994.*

and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity.[2]

ISO's work results in international agreements which are published as International Standards.

3. ISO STANDARDS

In 1987, the ISO published a series of five international standards (ISO 9000, 9001, 9002, 9003, and 9004), developed by ISO Technical Committee (TC) 176 on quality systems. This series, together with the terminology and definitions contained in ISO Standard 8402, provides guidance on the selection of an appropriate quality management program (system) for a supplier's operations.[3]

The ISO 9000 standards were intended to be advisory in nature and were developed primarily for use in two-party contractual situations or for internal auditing. However, the standards are currently being applied under a much broader range of conditions and circumstances.

Conformance to ISO 9000 standards is also being required in purchasing specifications with increasing frequency.

The ISO 9000 Standard Series has been adopted in the United States as the ANSI/American Society for Quality Control (ASQC) Q 90 Series (soon to be changed to the ANSI/ASQC Q 9000 series). In Europe, it has been adopted by the European Committee for Standardization (CEN) and the European Committee

---

[2] Clements, Richard Barrett, 1956- *Quality manager's complete guide to ISO 9000.* 1996 supplement Englewood Cliffs, N.J. : Prentice Hall, 1995

[3] Johnson, Perry L. (Perry Lawrence), 1948- *ISO 9000 : meeting the new international standards* / New York : McGraw-Hill, 1993.

for Electro technical Standardization (CENELEC) as the European Norm (EN) 29000 Series. According to a recent survey by ISO, forty-eight (48) countries have national standards that are identical or equivalent to the ISO 9000 Standard Series. Additional countries are considering their adoption.[4]

4. ISO 9000 STANDARDS

The ISO 9000 Standard Series is generic in scope. Each standard addresses a different aspect of quality assurance, depending on the needs of the user.

ISO 9001, 9002 and 9003 describe three distinct quality system models of varying stringency for use in different applications. Common elements in ISO 9001, 9002, and 9003 include the need for: an effective quality system; ensuring that measurements are valid, that measuring and testing equipment is calibrated regularly; the use of appropriate statistical techniques; having a product identification and traceability system; maintaining an adequate record keeping system; having an adequate product handling, storage, packaging and delivery system; having an adequate inspection and testing system as well as a process for dealing with non-conforming items; and ensuring adequate personnel training and experience.

ISO 9000 (ANSI/ASQC Q 90), Quality Management and Quality Assurance Standards - Guidelines for Selection and Use, explains fundamental quality

---

[4] Cottman, Ronald J., *A Guidebook to ISO 9000 and ANSI / ASQC Q90*, ASQC Quality Press, 1993

concepts; defines key terms; and provides guidance on selecting, using, and tailoring ISO 9001, 9002, and 9003.

ISO 9001 (ANSI/ASQC Q 91), Quality Systems - Model for Quality Assurance in Design/Development, Production, Installation and Servicing, is the most comprehensive standard in the series. ISO 9001 covers all elements listed in ISO 9002 and 9003. In addition, it addresses design, development, and servicing capabilities.

ISO 9002 (ANSI/ASQC Q 92), Quality Systems - Model for Quality Assurance in Production and Installation, addresses the prevention, detection, and correction of problems during production and installation. It is more extensive and more sophisticated than ISO 9003.

ISO 9003 (ANSI/ASQC Q 93), Quality Systems - Model for Quality Assurance in Final Inspection and Test, is the least comprehensive standard. It addresses requirements for the detection and control of problems during final inspection and testing.

ISO 9004 (ANSI/ASQC Q 94), Quality Management and Quality System Elements - Guidelines, provides guidance for a supplier to use in developing and implementing a quality system and in determining the extent to which each quality system element is applicable. ISO 9004 examines each of the quality system elements (cross-referenced in the other ISO 9000 standards) in greater detail and can be used for internal and external auditing purposes.[5]

[5] http://www.isoeasy.org/

5. THE NEED FOR İNTERNATIONAL STANDARDIZATION

The existence of non-harmonized standards for similar technologies in different countries or regions can contribute to so-called "technical barriers to trade". Export-minded industries have long sensed the need to agree on world standards to help rationalize the international trading process. This was the origin of the establishment of ISO.

International standardization is well-established for many technologies in such diverse fields as information processing and communications, textiles, packaging, distribution of goods, energy production and utilization, shipbuilding, banking and financial services. It will continue to grow in importance for all sectors of industrial activity for the foreseeable future.

Today's free-market economies increasingly encourage diverse sources of supply and provide opportunities for expanding markets. On the technology side, fair competition needs to be based on identifiable, clearly defined common references that are recognized from one country to the next, and from one region to the other. An industry-wide standard, internationally recognized, developed by consensus among trading partners, serves as the language of trade.

No industry in today's world can truly claim to be completely independent of components, products, rules of application, etc., that have been developed in other sectors. Bolts are used in aviation and for agricultural machinery; welding plays a role in mechanical and nuclear engineering, and electronic data processing has penetrated all industries. Environmentally friendly products and processes, and recyclable or biodegradable packaging are pervasive concerns.

The computer industry offers a good example of technology that needs quickly and progressively to be standardized at a global level. Full compatibility among open systems fosters healthy competition among producers, and offers real options to users since it is a powerful catalyst for innovation, improved productivity and cost-cutting.

Standardization programmers in completely new fields are now being developed. Such fields include advanced materials, the environment, life sciences, urbanization and construction. In the very early stages of new technology development, applications can be imagined but functional prototypes do not exist. Here, the need for standardization is in defining terminology and accumulating databases of quantitative information.

Development agencies are increasingly recognizing that a standardization infrastructure is a basic condition for the success of economic policies aimed at achieving sustainable development. Creating such an infrastructure in developing countries is essential for improving productivity, market competitiveness, and export capability.

Industry-wide standardization is a condition existing within a particular industrial sector when the large majority of products or services conform to the same standards. It results from consensus agreements reached between all economic players in that industrial sector - suppliers, users, and often governments. They agree on specifications and criteria to be applied consistently in the choice and

classification of materials, the manufacture of products, and the provision of services. The aim is to facilitate trade, exchange and technology transfer through:[6]

- enhanced product quality and reliability at a reasonable price;
- improved health, safety and environmental protection, and reduction of waste;
- greater compatibility and interoperability of goods and services;
- simplification for improved usability;
- reduction in the number of models, and thus reduction in costs;
- Increased distribution efficiency, and ease of maintenance.

Users have more confidence in products and services that conform to International Standards. Assurance of conformity can be provided by manufacturers' declarations, or by audits carried out by independent bodies.

6. ISO'S ACHIEVEMENTS

Below are some examples of ISO standards that have been widely adopted, giving clear benefits to industry, trade and consumers.[7]

The ISO film speed code, among many other photographic equipment standards, has been adopted worldwide making things simpler for the general user.

Standardization of the format of telephone and banking cards means the cards can be used worldwide.

---

[6] Weaver, Miles O. *ISO 9000, a building block for total quality management* 1st ed. Loudonville, Ohio: Mohican Textbook Pub. Co., 1994.

[7] Beaumont, Leland R. *ISO 9001, the standard interpretation : the international standard system for assuring product and service quality Middletown*, NJ : ISO Easy, 1994.

Tens of thousands of businesses are implementing *ISO 9000* which provides a framework for quality management and quality assurance. The *ISO 14000* series provides a similar framework for environmental management.

The internationally standardized freight container enables all components of a transport system - air and seaport facilities, railways, highways, and packages - to interface efficiently. This, combined with standardized documents to identify sensitive or dangerous cargoes makes international trade cheaper, faster and safer.

m, kg, s, A, K, mol, cd are the symbols representing the seven base units of the universal system of measurement known as SI (System international 'unites). The SI system is covered by a series of 14 International Standards. Without these standards shopping and trade would be haphazard and technological development would be handicapped.

Paper sizes. The original standard was published by DIN in 1922. Now used worldwide as ISO 216, standard paper sizes allow economies of scale with cost benefits to both producers and consumers.

A well-designed symbol conveys a clear-cut message in a multilingual world. The same symbols for automobile controls are displayed in cars all over the world, no matter where they are manufactured.

Safety of wire ropes: used on oil rigs, on fishing vessels, in mines, in all types of building operations, for lifts and cable cars, etc. ISO International Standards systematically define basic characteristics such as size, surface finish, type of construction, tensile grade of the wire, minimum breaking load and linear mass. Standardization of performance or safety requirements ensures that user requirements are met while allowing individual manufacturers the freedom to

design their own solutions for meeting these basic needs. Consumers then benefit from the effects of competition among manufacturers.

The ISO international codes for country names, currencies and languages help to eliminate duplication and incompatibilities in the collection, processing and dissemination of information. As resource-saving tools, universally understandable codes play an important role in both automated and manual documentation.

The diversity of screw threads for identical applications used to represent an important technical obstacle to trade. It caused maintenance problems, and lost or damaged nuts or bolts could not easily be replaced. A global solution is supplied in the ISO standards for ISO metric screw threads.

7. DYNAMIC STRUCTURE OF THE ISO 9000 STANDARDS

According to ISO procedures, all ISO standards, including those in the ISO 9000 series, must be reviewed and revised or reaffirmed at least once every five years. ISO has already begun to revise and supplement the ISO 9000 series. Some of these standards/guidelines will supplement ISO 9000 and ISO 9004, while others will be included in the new ISO 10000 series. Both series have been reserved for use by ISO TC 176.[8]

Recently released ISO standards and guidelines in the quality area include: ISO 9000-3, Guidelines for the Application of ISO 9001 to the Development, Supply and Maintenance of Software; ISO 9004-2, Quality Management and Quality

[8] Arnold, Kenneth L., 1957- *The manager's guide to ISO 9000* / New York : Free Press ; Toronto : Maxwell Macmillan Canada ; New York : Maxwell Macmillan International, 1994

System Elements - Part 2: Guidelines for Services; ISO 10011 Part 1, Guidelines for Auditing Quality Systems - Auditing; ISO 10011 Part 2, Guidelines for Auditing Quality Systems - Qualification Criteria for Auditors; ISO 10011 Part 3, Guidelines for Auditing Quality Systems - Managing Audit Programs; and ISO 10012-1, Quality Assurance Requirements for Measuring Equipment - Part 1: Management of Measuring Equipment[9].

In addition, ISO/DIS (Draft International Standard) 8402-1 Quality Systems Terminology; and DIS 9000-2 Addendum to 9000 on Guidelines for Implementing 9001-2-3; DIS 9004-3 Addendum to 9004 on Processed Materials are under review by ISO TC 176. ISO TC 176 is also considering committee draft (CD) 9004-4 Addendum to 90004 on Quality Improvement; guidance documents on project management, quality plans, quality manuals, the economics of quality, and configuration management; documents covering revisions to ISO 9000, 9001-2-3; and 9004; and a working draft (WD) 10012-2: Quality Assurance Requirements for Measuring Equipment.

[9] Özgür Ayşe, TSE Tebliğleri, Değişim-Kalite-Uygunluk, STANDARD, March 1996.

8. ORGANIZATIONAL STRUCTURE OF ISO

ISO is made up of its members which are divided into three categories:

A member body of ISO is the national body "most representative of standardization in its country". Thus, only one body in each country may be admitted to membership of ISO.

A member body takes the responsibility for:

- informing potentially interested parties in their country of relevant international standardization opportunities and initiatives;
- ensuring that a concerted view of the country's interests is presented during international negotiations leading to standards agreements;
- Providing their country's share of financial support for the central operations of ISO, through payment of membership dues.

Member bodies are entitled to participate and exercise full voting rights on any technical committee and policy committee of ISO.

A correspondent member is usually an organization in a country which does not yet have a fully developed national standards activity. Correspondent members do not take an active part in the technical and policy development work, but are entitled to be kept fully informed about the work of interest to them.

ISO has also established a third category, subscriber membership, for countries with very small economies. Subscriber members pay reduced membership fees that nevertheless allow them to maintain contact with international standardization.

8.1 Responsibilities

The technical work of ISO is highly decentralized, carried out in a hierarchy of some 2 850 technical committees, subcommittees and working groups. In these committees, qualified representatives of industry, research institutes, government authorities, consumer bodies, and international organizations from all over the world come together as equal partners in the resolution of global standardization problems. Some 30 000 experts participate in meetings each year.

The major responsibility for administrating a standards committee is accepted by one of the national standards bodies that make up the ISO membership - AFNOR, ANSI, BSI, CSBTS, DIN, SIS, etc. The member body holding the secretariat of a standards committee normally appoints one or two persons to do the technical and administrative work. A committee chairman assists committee members in reaching consensus. Generally, a consensus will mean that a particular solution to the problem at hand is the best possible one for international application at that time.[10]

The Central Secretariat in Geneva acts to ensure the flow of documentation in all directions, to clarify technical points with secretariats and chairmen, and to ensure that the agreements approved by the technical committees are edited, printed, submitted as draft International Standards to ISO member bodies for voting, and published. Meetings of technical committees and subcommittees are convened by the Central Secretariat, which coordinates all such meetings with the committee

---

[10] Cottman, Ronald J., *A Guidebook to ISO 9000 and ANSI / ASQC Q90*, ASQC Quality Press, 1993

secretariats before setting the date and place. Although the greater part of the ISO technical work is done by correspondence, there are, on average, a dozen ISO meetings taking place somewhere in the world every working day of the year.

Each member body interested in a subject has the right to be represented on a committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electro technical Commission (IEC) on all matters of electro technical standardization.

The publication ISO Memento provides information on the scope of responsibility, organizational structure and secretariats for each ISO technical committee. Detailed rules of procedure for the technical work are given in the ISO/IEC Directives. A list of the 500 international organizations in liaison with ISO's technical committees and subcommittees is given in the publication ISO Liaisons.

8.2 What fields are covered

The scope of ISO is not limited to any particular branch; it covers all technical fields except electrical and electronic engineering, which is the responsibility of IEC. The work in the field of information technology is carried out by a joint ISO/IEC technical committee (JTC 1).

9. FINANCING

The financing of ISO closely reflects its decentralized mode of operation with, on the one hand, the financing of the Central Secretariat activities and, on the other hand, the financing of the technical work as such.

The financing of the Central Secretariat derives from member subscriptions (80 %) and revenues from the sale of the Organization's standards and other publications (20 %). The subscriptions required of members for financing the operations of the Central Secretariat are expressed in units and calculated in Swiss francs (CHF). The number of units that each member is invited to pay is calculated on the basis of economic indicators: gross national product (GNP), and value of imports and exports. The value of the subscription unit is set each year by the ISO Council.

The ISO member bodies bear the expenditure necessary for the operation of the individual technical secretariats for which they are responsible. It is generally estimated that the operating expenditure of the Central Secretariat represents about one-fifth of the total cost of financing the ISO administrative operations.

To that, one must also add the value of the voluntary contributions of some 30 000 experts in terms of time and travel. While no precise calculation has ever been made to assess in figures this contribution of fundamental knowledge to the work of ISO, it is nevertheless certain that this expenditure amounts to several hundred million Swiss francs each year.

10. INTERNATIONAL PARTNERS

ISO collaborates with its international standardization partner, the IEC, whose scope of activities complements ISO's. In turn, ISO and the IEC cooperate on a joint basis with the ITU (International Telecommunication Union). Like ISO, the IEC is a non-governmental body, while the ITU is part of the United Nations Organization and its members are governments. The three organizations have a strong collaboration on standardization in the fields of information technology and telecommunications.

ISO is building a strategic partnership with the World Trade Organization (WTO) with the common goal of promoting a free and fair global trading system. The political agreements reached within the framework of the WTO require underpinning by technical agreements. ISO is being recognized as providing a special technical support role in relationship to the new and expanded WTO programmers.

10.1 Regional partners

Many of ISO's members also belong to regional standardization organizations. This makes it easier for ISO to build bridges with regional standardization activities throughout the world. ISO has recognized regional standards organizations representing Africa, the Arab countries, the area covered by the Commonwealth of Independent States, Europe, Latin America, the Pacific area, and the South-East Asia nations. These recognitions are based on a commitment

by the regional bodies to adopt ISO standards — whenever possible without change — as the national standards of their members and to initiate the development of divergent standards only if no appropriate ISO standards are available for direct adoption.

In addition, ISO liaises with some 500 international and regional organizations interested in specific aspects of its standardization work.

11. INTERNATIONAL STANDARDS AND TOTAL QUALITY MANAGEMENT

The expression Total Quality Management (TQM) has been in vogue for some time. While generally accepted, some would prefer to speak of "Total Quality". Whether, the ultimate objectives are the same. It has been said that ISO 9000 provides the route to Total Quality.

There are a number of well known definitions of quality. ISO 8402 (1986) defines quality as "the totality of features and characteristics of a product or service that bears on its ability to meet a stated or implied need". Satisfying the needs and expectations of the customer is the common and main factor in most of the definitions. The ability to accurately define the needs, including design, performance, prices, safety, delivery will place a manufacturer ahead of his competitor s in the market.

ISO 9000 is a means of achieving quality assurance and is defined in ISO 8402 (1986) as "all those planned and systematic actions necessary to provide adequate confidence that a product or is will satisfy given requirements for quality".

Total Quality Management as defined in BS 7850 Part 1 (1992) - Total Quality Management Guide to Management Principles "management philosophy and company practices that aim to harness the human and material resources of an organization in the most effective way to achieve its objectives".

The basic principles of TQM can be classified under ten headings leadership, commitment, total customer satisfaction, continuous improvement, total involvement, training and education, ownership, reward and recognition, error prevention and cooperation and teamwork.

It may be said that ISO 9000 relates to here and now, whereas TQM should provide the means to move forward.

Companies which have already invested resource, effort and time in Total Quality programs and have been successful have really little to learn from ISO 9000. In tact, they should be readily capable of achieving accreditation and certification.

Conversely, companies which have correctly preferred for ISO 9000 assessment can use this as the basis for future development. It provides the means by which the current state of affairs in the organization can be determined. Without this information it is extremely difficult to plan for the future[11].

[11] Willets, Gary G.Quality Control, AmericanMarketing Association, 1989

12. TSE AND THE TURKISH FIRMS IN QUALITY AWORDS

CASE STUDY OF TURK SIMENS

12.1 Background of Siemens

The foundations of co-operation, or rather solidarity, between Turkey and Siemens were laid down in the middle of the 1800's when the rulers of the Ottoman Empire decided on the installation of telegraph facilities. Siemens Halske was appointed for this purpose and established the Telegraph Centre in Istanbul, thus completing Siemens' first project in Turkey.[12]

Following the installation of the first telephone line in Istanbul in 1881, telephone exchanges were built throughout the city. It was now time for electricity, which had initially been confined to the imperial palaces, to enter into urban life. Izmir and Salonica were the first two cities to benefit from the installation of power plants, again by Siemens Halske. These cities were soon followed by many others.

The first power plant was completed in Istanbul in 1914 and supplied electricity firstly to tramcars and later to private property. By 1920, there were 2,055 properties connected to the grid in Istanbul and electricity was used to light the streets for the first time. Although the public benefited greatly from the electricity, telephone, and telegraph services supplied by Siemens they were as yet unaware of the company name.

[12] Siemens Turkey http://www.siemens.com/index.jsp?sdc_p=c186dflmno10674ps3t4u&sdc

Siemens became a household name with the advent of public radio broadcasting in 1927. Siemens radio sets were imported to Turkey in large numbers through the newly founded company of Siemens-Elektrik Türk Anonim Şirketi.

In the 1950's, Turkish industry went through a period of rapid industrialization with the construction and opening of many sugar refineries and cement and iron works factories. Various products, which had previously been imported, started to be produced in locally.

Turkey possessed the potential to develop and Siemens had the technical means and know-how to turn such potential into reality. It was essential for Siemens to produce its own technology in Turkey and on December 18th, 1958 Siemens and the Turkish company Koç established Simko. In 1961, Simko's first factory, in Kartal, Istanbul, began production.

The Türk Siemens Cable Factory in Mudanya, Bursa, which became operational in 1964, was the next major step forward after the formation of Simko. Türk Siemens Cable Company helped to meet the huge demand in Turkey for energy, automotive and telecommunication cables. In 1999 the company was split into three. The energy cable production business of Siemens throughout the world and production of copper insulated communication cables in Turkey was sold to Pirelli.

Since the end of the 1980's there have been many developments and new investments in Siemens in Turkey, some of the most noteworthy of which are listed below.

1989 Establishment of Volkswagen Elektrik Sistemleri A.Ş.

1990 Establishment of Osram Ampul Ticaret A.Ş.

1991 Establishment of Siemens Nixdorf Bilgisayar Sistemleri A.Ş.

1992 Establishment of Siemens Ev Aletleri Tic. A.Ş. (BSHG)

1995 Restructuring of Siemens Ev Aletleri Tic. A.Ş. following the acquisition of 66% of PEG Profilo Company by Siemens and Bosch. Company renamed BSH Household Appliances.

1997 Incorporation of Siemens Business Services Sistem Hizmetleri A.Ş. and Siemens Finansal Kiralama A.Ş.

1999 Three new companies join the Siemens family. Masterguard Güç Kaynakları Ltd. Şti.(transferred to the Chloride Company in the same year), Siemens Fiber Optik Kabloları Ltd. Şti., Siemens Otomotiv San. Tic. Ltd. Şti.

1999 Siemens Nixdorf becomes Fujitsu Siemens Computers Sistemleri Ltd. Şti.

2000 Simegs Yönetim ve Danışmanlık Hizmetleri Tic. A.Ş. established as joint venture by Siemens and EGS.

January 1st 2001 Simko Tic. ve San. A.Ş., which had been under the joint ownership of Siemens and the Koç Group for 42 years, became a 100% Siemens owned company and changed its name to Siemens San. ve Tic. A.Ş.

In 1958, Siemens started to produce distribution switchboards and switch disconnections in a small workshop in Karaköy, Istanbul. Today it is a giant organization, almost an independent industry, developing, and creating numerous innovations in the fields of electric, electronics and electro techniques. It has become a symbol of quality and success. It is an industrial powerhouse. Production facilities in Kartal, Istanbul, cover an area of 90,000 m2 and provide employment for 2,600 highly trained personnel.

When we look at the past and present of Siemens, we see an organization growing in response to Turkey's increasing demands, with an ever-expanding product range and capacity. We produce state-of-the-art technology with state-of-the-art technology, by allocating the necessary resources to research and development and maintaining the highest levels of efficiency by co-ordinations production, marketing and sales.

Not satisfied with just meeting the requirements necessary to obtain the ISO 9001 and AQUAP-110 quality assurance certificates, Siemens sets its own even higher standards of quality. In June 2000 Siemens was also awarded with the NATO Facility Security Clearance Certificate which states that the Company's Kartal premises possess storage capabilities approved for safeguarding classified information up to and including 'NATO SECRET' level. In January 2001 Siemens was granted 'production permission' by the Turkish Ministry of Defense.

12.2 Siemens and the Standards

With the help of the TSE many Turkish companies are now in conformance with many international quality organizations. It is customary news these days to hear a Turkish company win an international quality award. Türk Simens was one of these companies. Türk Siemens is the first cable company in Turkey awarded with the ISO 9001 Quality System Certificate by both the TSE (Turkish Standards Institute) and the DQS (Deutsche Qualitative Standards).

Turk Siemens was also awarded with the ISO 14001 Environmental Management Certificate as first Cable Company in Turkey.

Turk Siemens is the 2nd member of the Turkish Standards Institute.

The Company's laboratories equipped with the latest technology along with the measuring services, accredited by TSE's Laboratory Accreditation Certificate; also renders measuring services to other Companies and institutes.

Turk Siemens has given top priority to quality management since its establishment. The principle of "Quality Control" implemented in the 1970's evolved into "Quality Production" in the 1980's and later into "Quality Planning" in the 1990's. The Quality control Department established in 1986 directly under the General Management adapting TQM (Total Quality Management) as company policy. Turk Siemens has been a member of KAL-DER since 1993 and became a member of the EFQM (European Foundation for Quality Management) in 1997.[13]

Transferring technology from Germany until 1988, our Company created its own R&D Department and evolved into a company that is capable to provide the expertise within the industry. Technical personnel of the fiber optic plants established in Argentina and Romania have been given extensive training in their respective fields, involving the production of XLPE insulated energy cables.

Believing that "human resources are its most precious investments" Turk Siemens gives great importance and emphasis on training; 64 internal and external training courses have been given within PERFORM 2000 training program which started in 1994.

Turk Siemens, which discharges its effluent water to sea after passing through Waste Water Treatment Plants, has been awarded with "Environment Reward" by Gazi University which examines and studies results of flue gas analyses. The

---

[13] "Siemens Ödül için kolları sıvadı" Milliyet, http://www.milliyet.com.tr/1997/01/25/t/yazar/tamer.html

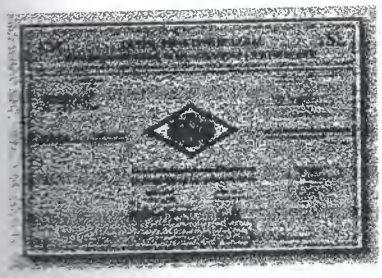
company utilizes water supplied from its own wells in production with closed system, and shows the same sensitivity for copper, PE and PVC scraps. The Company has put recycling units which separate and decompose copper, PE and PVC in order to conserve and protect environment by making approximately 2 millions German Mark investments. Copper separated here is used again in cable production. On the other hand, PE and PVC in granular form are being used in other sub-industrial companies.

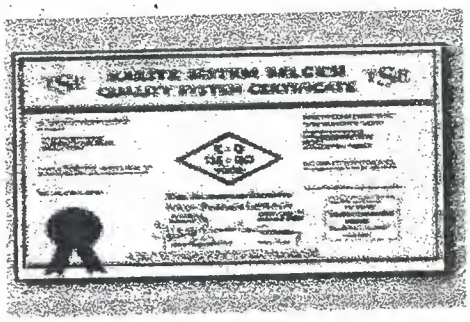
Turk Siemens has also received the Istanbul Chamber of Commerce Environmental Incentive Award in 1997.

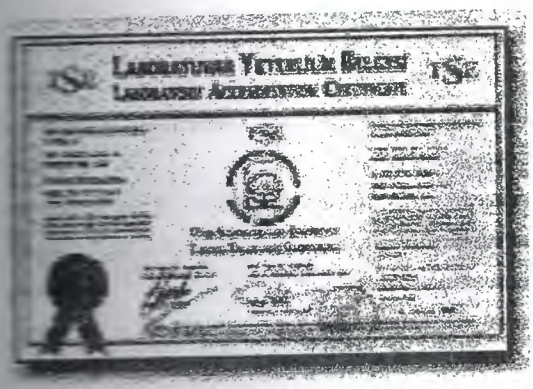
Other Activities to protect the Environment;

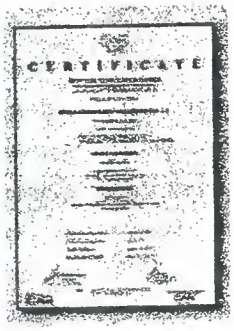
Protection of air quality

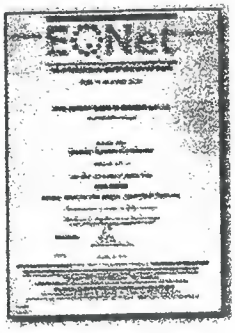
- Emission Control
- Flue gas analyses
- Water Pollution Control
- House waste water Treatment Project
- Utility of waste
- Recycling
- Work for upgrading from wooden rollers to steel rollers
- Following the ISO 14001 Standards
- Making people to pay more attention to environment











Above are the Quality Certifications of Turk Siemens

13. CONCLUSION AND RECOMMENDATION

TSE and ISO's work makes a positive difference to the world we live in. TSE standards add value to all types of business operations. They contribute to making the development, manufacturing and supply of products and services more efficient, safer and cleaner. They make trade between countries easier and fairer. TSE standards also serve to safeguard consumers and users of products and services in general – as well as making their lives simpler. When the large majority of products or services in a particular business or industry sector conform to International Standards, a state of industry-wide standardization can be said to exist. This is achieved through consensus agreements between national delegations representing all the economic stakeholders concerned – suppliers, users and, often, governments. They agree on specifications and criteria to be applied consistently in the classification of materials, the manufacture of products and the provision of services. In this way, International Standards provide a reference framework, or a common technological language, between suppliers and their customers – which facilitates trade and the transfer of technology.

For businesses, the widespread adoption of International Standards means that suppliers can base the development of their products and services on reference documents which have broad market relevance. This, in turn, means that they are increasingly free to compete on many more markets around the world.

For customers, the worldwide compatibility of technology which is achieved when products and services are based on International Standards brings them an

increasingly wide choice of offers, and they also benefit from the effects of competition among suppliers.

TSE is an opening door to the International Organizations such as ISO. TSE helps the Turkish business to become member of the ISO. Not as individuals or as enterprises – although both have a range of opportunities for taking part in ISO's work, or in contributing to the development of standards through the ISO member in their country. Membership of ISO is open to national standards institutes or similar organizations most representative of standardization in their country (one member in each country). Full members each have one vote, whatever the size or strength of the economy of the country concerned. This means that they can all make their voices heard in the development of standards which are important to their country's industry. ISO also has two categories of membership for countries with fewer resources. Although such members do not have a vote, they can remain up to date on standardization developments. Lists of the three categories of ISO members are available on ISO Online.

TSE is a non-governmental organization (NGO). Therefore, unlike the United Nations, the national members of TSE are not delegations of the governments of those countries. As far as those national members are concerned, some are wholly private sector in origin, others are private sector organizations but have a special mandate from their governments on matters related to standardization, while still others are part of the governmental framework of their countries. In addition, government experts often participate in TSE's standards' development work. So, while TSE is an NGO, it receives input from the public sector as it does from the private sector.

TSE has been a valued member of the ISO family since 1956 and has made a substantial contribution over the years. At the strategic and management levels, TSE has served no less than six terms of office on ISO Council and one on the Technical Management Board. At the level of policy development, TSE participates in DEVCO, the ISO Committee on developing country matters. At the technical level, in addition to providing the Secretariat of TC 122, *Packaging*, TSE participates in the standards-development work of 143 of ISO's technical committees or subcommittees and has observer status on another 200.

As well as hosting a number of ISO technical meetings, you were our gracious hosts for the ISO General Assembly here in Ankara in 1970.

The national members of ISO are the interface between the organization and the business and industry sectors they serve. Working through the ISO system, it is the sectors which need the standards that are at the origin of their development. An industry or business sector communicates their requirement to one of ISO's national members. The latter then proposes the new work item to ISO as a whole. In order to use resources most efficiently, ISO only launches the development of new standards for which there is clearly a market requirement.

ISO standards are developed by technical committees comprising experts on loan from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use. These experts may be joined by others with relevant knowledge, such as representatives of government agencies, testing laboratories, consumer associations, environmentalists, and so on. The experts participate as national delegations, chosen by the ISO national

member institute for the country concerned. These delegations are required to represent not just the views of the organizations in which their participating experts work, but of other stakeholders too. According to ISO rules, the member institute is expected to take account of the views of the range of parties interested in the standard under development and to present a consolidated, national consensus position to the technical committee.

The next level of the standardization system is composed of regional standardization organizations. Many of ISO's members also belong to these regional organizations. This makes it easier for ISO to build bridges with regional standardization activities throughout the world. The role of the regional standardization bodies can be considered as building blocks in the construction of the global trading system.

ISO has recognized regional standards organizations representing Africa, the Arab countries, the area covered by the Commonwealth of Independent States, Europe, Latin America, the Pacific area, and the South-East Asia nations. These recognitions are based on a commitment by the regional bodies to adopt ISO standards — whenever possible without change — as the national standards of their members and to initiate the development of divergent standards only if no appropriate ISO standards are available for direct adoption.

ISO also liaises with some 560 international and regional organizations interested in specific aspects of ISO's standardization work. These include the 30 or so international standards-developing bodies outside the ISO/IEC system. Each of these bodies works in a specific area, usually with a United Nations mandate; an example is the World Health Organization. ISO and the IEC together produce

about 85 % of all International Standards, and these other specialized bodies account for the rest.

Only standards developed by international consensus will guarantee that conformity assessment and certifications are accepted internationally. The situation that we all need to work towards is what I call my "1-1-1 dream":

"One standard, one test of conformity, one certification – accepted everywhere."

REFERENCES

Arnold, Kenneth L., 1957- The manager's guide to ISO 9000 / New York : Free Press ; Toronto : Maxwell Macmillan Canada ; New York : Maxwell Macmillan International, 1994

Özgür Ayşe, TSE Tebliğleri, Değişim-Kalite-Uygunluk, STANDARD, March 1996

Beaumont, Leland R. ISO 9001, the standard interpretation : the international standard system for assuring product and service quality Middletown, NJ : ISO Easy, 1994.

Brumm, Eugenia K., Managing Records for ISO 9000 Compliance: ASQC Quality Press, 1995.

Bureau of Business Practice, ISO 9000: Handbook of Quality Standards and Compliance, 1992

Clements, Richard Barrett, 1956- Quality manager's complete guide to ISO 9000. 1996 supplement Englewood Cliffs, N.J. : Prentice Hall, 1995

Clements, Richard Barrett, 1956- Quality manager's complete guide to ISO 9000. Supplement / Englewood Cliffs, N.J. : Prentice Hall, 1994.

Cottman, Ronald J., A Guidebook to ISO 9000 and ANSI / ASQC Q90, ASQC Quality Press, 1993

Dalfonso, Maureen A. ISO 9000 : achieving compliance and certification / New York : Wiley, 1995

Freeman, Richard. Quality assurance in training and education : how to apply BS5750 (ISO 9000) standards / London ; Philadelphia : Kogan Page, 1993.

Gumpp, Gunther B. How to win with ISO 9000 quality assurance and management systems / 1st ed. San Clemente, CA, U.S.A. : QCSS, 1994.

http://www.tse.org.tr/Turkish/Standard/Genel.asp

Hutchins, Greg. ISO 9000 : a comprehensive guide to registration, audit guidelines, and successful certification Essex Junction, VT : Oliver Wight Publications, 1993.

Ince, D. (Darrel) ISO 9001 and software quality assurance London ; New York : McGraw-Hill, 1994.

ISO 14000, environmental management system (EMS) – general guidelines on principles, systems and supporting techniques

ISO 14040, life-cycle assessment (LCA) – general principles and practices

Johnson, Perry L. (Perry Lawrence), 1948- ISO 9000 : meeting the new international standards / New York : McGraw-Hill, 1993.

Lamprecht, James L., 1947- ISO 9000 and the service sector : a critical interpretation of the 1994 revisions / Milwaukee, Wis. : ASQC Quality Press, 1994.

Novack, Janet L. ISO 9000 quality manual developer Englewood Cliffs, N.J. : Prentice Hall PTR, 1995.

Novack, Janet L. The ISO 9000 documentation toolkit / Englewood Cliffs, N.J. : PTR Prentice Hall, 1994.

Rabbitt, John T. The ISO 9000 book : a global competitor's guide to compliance & certification 2nd ed. White Plains, N.Y. : Quality Resources, 1994.

Randall, Richard C., 1959- Randall's practical *guide to ISO 9000 implementation, registration, and beyond* Reading, Mass. : Addison-Wesley Pub. Co., 1995.

Rothery, Brian. *ISO 14000/ISO 9000*: Aldershot Hampshire UK: Brookfield VT USA: Gower 1995

Siemens Turkey http://www.siemens.com/index.jsp?sdc_p=c186dflmno10674 ps3t4u&sdc

Sutter, E., et al., Access to Standards Information, ISO/UNESCO, International Organization for Standardization, 1986.

Voehl, Frank, 1946- *ISO 9000 : an implementation guide for small to mid-sized businesses* Delray Beach, FL : St. Lucie Press, 1994.

Weaver, Miles O. *ISO 9000, a building block for total quality management* 1st ed. Loudonville, Ohio: Mohican Textbook Pub. Co., 1994.

http://www.isoeasy.org/