

THE RELATIONSHIP BETWEEN ORGANIZATION CULTURE, COMMITMENT
AND MANAGERS' ATTITUDES TOWARD ISO 9000: A STUDY OF
SELECTED FIRMS IN THAILAND

by

PIYACHART WORAKITKARNKUL

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok Thailand

March 2003

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Examination Committee :

1. Dr. Patricia Arttachariya (Advisor)
2. Dr. Theerachote Pongtaveewould (Member)
3. Dr. Thongdee Kijboonchoo (Member)
4. Assoc. Prof. Poonsak Sangsunt (MUA Representative)

Patricia A.
Theerachote Pongtaveewould
Thongdee Kijboonchoo
Poonsak Sangsunt

Examined on : 17 March 2003

Approved for Graduation on :

Graduate School of Business
Assumption University
Bangkok Thailand
March
2003

ABSTRACT

The overall objective of this study was to examine the relationship between organizational culture, organizational commitment, and managers' attitudes toward the ISO 9000 system. In order to understand the relationship of these variables, relevant theories and concepts were reviewed and synthesized to form the theoretical and conceptual frameworks. Organizational Culture consisted of four main constructs namely power orientation, role orientation, task orientation, and support (or people) orientation culture. Organizational Commitment consisted of three main constructs which are affective commitment, continuance commitment, and normative commitment.

Three large organizations in the electrical manufacturing industry were selected for this study. All three were organizations that had employed the ISO 9000 for over two years and were located in Bangkok and the surrounding provinces. Questionnaires were distributed to managers, at all levels, employed in these three organizations, 243 questionnaires were returned.

The study found that both Organizational Culture and Organizational Commitment have positive relationships with managers' attitude toward ISO 9000. Nevertheless, the findings showed that Organizational Culture had a stronger impact on managers' attitude than Organizational Commitment. In terms of demographic factors, the study found only two - education levels, and lengths of service within the company, were factors that had relationships with managers' attitude.

The study concluded with suggestions for further research. These included studying further the commitment of senior Thai managers, the financial impact of ISO 9000 on firms, and understanding the purpose and benefits of ISO 9000 on Thai firms.

ACKNOWLEDGMENTS

I would like to take this opportunity to thank the many people and organizations who have supported my project. I would like to express my sincerest gratitude to Dr. Patricia Arttachariya, my thesis advisor, for her contribution to this work. Without her guidance, friendly advice, encouragement, patience, valuable comments and every support, this thesis would not have been possible.

I extend thanks Dr. Theerachote Pongtaveewould, Dr. Thongdee Kijboonchoo, and Assoc. Prof. Poonsak Sangsunt for serving as members of the thesis committee and for their interest, support, and the many helpful comments and suggestions. I would also like to thank A. Frank for reviewing and editing this dissertation.

The three companies generously provided office space and support to me during the latter stages of this project. I would like to thank the Human Resource Departments of those three companies in this regard.

Finally, I am eternally grateful to my parents, Phanu and Somrak Worakitkarnkul, for giving me their wholehearted and unquestioning support during the past year while I was conducting the fieldwork for my thesis. I would especially like to thank the other members of my family and my friends for their understanding, support, and their encouragement in getting this thesis done.

Any mistakes that remain despite the wise counsel of my colleagues are solely the responsibility of the author.

Piyachart Worakitkarnkul.

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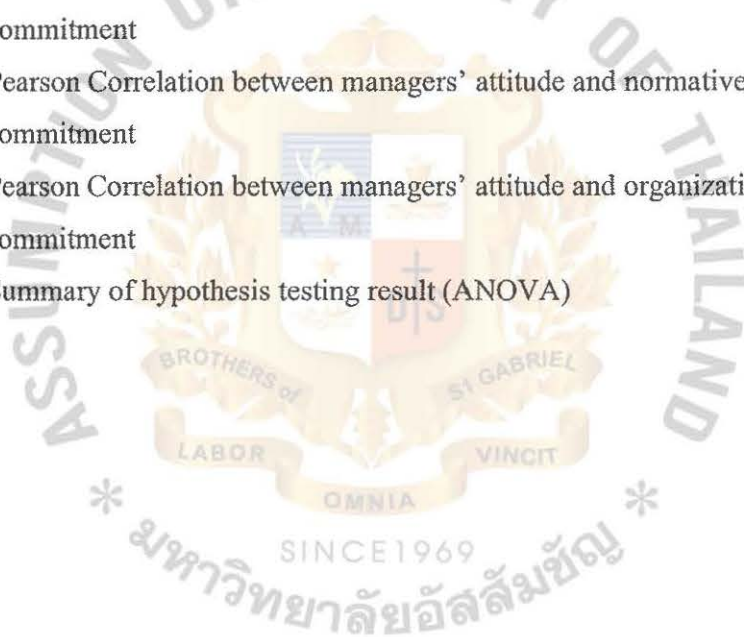
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Chapter I

Introduction

1.1 Introduction of the Study

Companies around the world strive to produce quality products in order to become viable contenders in the marketplace. The emphasis on quality is not surprising, because achieving, enhancing and sustaining competitiveness is primarily dependent on delivering superior quality products to customers (Garvin, 1993; Nuland, 1990). One way firms seek to ensure quality is through the establishment of some form of quality management, a quality assurance system for all the activities of the organization including production, marketing, finance, and human resources (Crosby, 1979; Eicher, 1992; Takeuchi & Quelch, 1983). One such quality assurance system is the ISO 9000 that includes ISO 9000; ISO 9001; ISO 9002; ISO 9003; and ISO 9004. It has been used more and more throughout the world while at the same time has become a subject of focus in many countries.

ISO 9000 is primarily concerned with "quality management". The standardized definition of "quality" in ISO 9000 refers to all those features of a product (or service), which are required by the customer. "Quality management" means what an organization does to ensure that its products conform to the customer's requirements (Allen & Meyer, 1996). The electrical machinery industry used as the subject in this study are organizations that design, develop and manufacture electrical product such as electric fans, micro, lamps, power transformers, and electric motors.

1.2 Research Objectives

In particular, this study investigated how manager characteristics, organizational culture and organizational commitment influence and affect their attitude toward ISO 9000. The following were the objectives of this study:

- a) To study the difference between managers' attitudes toward ISO 9000 and demographic factors
- b) To study the significant relationship between organizational culture and managers' attitude toward ISO 9000

- c) To study the significant relationship between organizational commitment and managers' attitude toward ISO 9000.

1.3 Statement of the Problem

At present, owing to the diversification of the ways of doing business in Thailand, quality has become an important alternative for organizations, which emphasize customers. There are many kinds of quality standards but the most acceptable are those set up by the International Organization for Standardization (ISO) known as "ISO 9000" that includes the ISO 9000, ISO 9001, ISO 9002, ISO 9003, and ISO 9004, used worldwide in businesses.

This study was conducted to gain greater understanding of the relationship among organizational culture, organizational commitment, and managers' attitude toward ISO 9000. The research questions in this study were set as follows:

- a) Are there difference between managers' attitudes toward ISO 9000 and demographic factors?
- b) Is there a significant relationship between organizational culture and managers' attitude toward ISO 9000?
- c) Is there a significant relationship between organizational commitment and managers' attitude toward ISO 9000?

1.4 Scope of the Research

This research studied the factors, which are managers' characteristics, organizational culture factors, and organizational commitment, influencing managers' attitude toward ISO 9000 in selected companies in the electrical machinery industry. The conceptual framework of this study consisted of independent and dependent variables. The independent variables consisted of demographic factors (age, gender, education level, length of service with organization, position level, and department), organizational culture, and organizational commitment. The dependent variable was managers' attitude toward ISO 9000.

The research was conducted by survey method using a questionnaire to collect the information related to managers' attitude toward ISO 9000. The target population

of the study was managers who work in the electrical machinery industry. The setting of the study was Bangkok and surrounding provinces.

1.5 Limitations of the Study

This research was limited to examining the factors, which are demographic characteristics and organizational culture, and organizational commitment and managers' attitude toward ISO 9000. As a result, it cannot be generalized to cover other factors that might affect managers' attitude toward ISO 9000. Furthermore, the research was limited to a particular time frame, thus its results cannot be generalized for all time. Moreover, the research was conducted on respondents located only in the Bangkok and Samutprakarn area; hence the findings cannot be generated to respondents in firms located in other regions of Thailand. Otherwise, this research was intended to the managers' attitudes toward ISO 9000 as general.

1.6 Significance of the Study

Nowadays, rapid changes in business processes and standards become have critical, hence, a sound understanding of managers' attitudes, organizational culture, and organizational commitment helps entrepreneurs gain a greater understanding of the applications of ISO 9000 to ensure successful organizations.

Successful organizations that have adopted ISO 9000 have become good examples for other companies. Hence research studies that investigate manager's attitudes especially affective component toward ISO 9000 should be useful in providing insights into successful application. This study also contributes to the understanding of how internal factors, such as, organizational culture and organizational commitment, affect managers' attitude toward the implementation of ISO 9000, specifically in the electrical machinery industry, as well as other industries which have adopted ISO 9000.

1.7 Definition of Terms

While there are many definitions of the term "ISO 9000", "attitude", "organizational culture", and "organizational commitment", the definitions below

were used for the purpose of this study. An understanding of these meanings is essential to the assessment of the nature and value of this study.

Electrical machinery industry: firms that design, develop and manufacture electric fans, micro, lamps, power transformers, electric motors, and electric accessories.

Respondents: all managers including supervisors, middle, and senior managers who work in the electrical machinery industry that have adopted ISO 9000 at all levels for over 2 years and were employed in firms located in Bangkok and Samutprakarn area.

ISO 9000 Standards: ISO 9000 is one of the international quality standards developed by the International Organization for Standardization – ISO (Fister & Jazaitis, 1992, p33.). ISO 9000 consists of a generic system of standards from 9001 to 9003 and the relative requirements and documents (Goetsch & Davis, 1997).

Organizational Culture or Corporate Culture: is the patterns of thoughts, feelings, behaviors, symbols, and so forth that recur throughout an organization, give meaning to actions and behaviors, and provide interpretations of situations for people (Handy, 1993). Culture is publicly shared and accepted by a given group at a given time, binding members together and defining or separating one group from other groups (Jason, 2001).

Power Orientation: is the extent to which members of an organization accept that power in organizations is distributed unequally (Harrison, 1972a). It refers to cultures which expect and accept an unequal distribution of power in the organization.

Support Orientation: is people's orientation for quality of life, modesty and caring, intuition and emotions (Handy, 1976). It refers to cultures which are concerned about human development, concentrate on quality elements and accept equality between individual and institutions.

Role Orientation: is defined as roles held by members in the organization (Handy, 1976). It refers to cultures which respect roles and functions, follow rules and regulations and where job titles represent responsibilities.

Task Orientation: is concentrated on goals and achievements (Harrison, 1972b). It refers to cultures which concentrate on goals and achievement, performance based on results, and concern quantity elements.

Organizational Commitment: The relative strength of an individual's identification with, and involvement in, a particular organization (Mowday et al., 1982). It is linked with having a strong belief in an organization's values and goals.

Affective commitment: is a person's emotional attachment to, identification with, and involvement in the organization (Malloy, 1996). Employees with strong affective commitment stay with their organizations because they want to do so.

Continuance commitment: refers to an awareness of the costs associated with leaving an organization (Meyer & Allen, 1997). People who have continuance commitment stay connected with an organization because they need to.

Normative commitment: a feeling of obligation to continue employment. People who have strong normative commitment feel that they ought to stay with the organization (Jason, 2001)

Attitudes: are consistent inclinations – whether favorable or unfavorable – that people hold toward products, services, people, places, or events. They can be more formally defined as learned predisposition to respond in a consistent manner in respect to a given object. Attitudes are thus mental states and part of our psychological makeup (Nessim & Richard, 2001).

Cognitive Component: consists of the person's perceptions, opinions, and beliefs. It refers to the thought processes with special emphasis on rationality and logic (Ivancevich & Matteson, 1999).

Affective Component: is emotions and feeling that are frequently treated by respondents as primarily evaluative in nature. It is an individual's direct or global assessment of the attitude object or the extent to which to individual rates that attitude object as "favorable" or "unfavorable", "good" or "bad".

Behavioral Component: is defined as the intentions of people to behave in a particular way with regard to an object (Fishbein & Ajzen, 1975).



CHAPTER II

LITERATURE REVIEW

This chapter reviews the literature related to this study. The first section will discuss ISO in general as a generic management system. The researcher will clear up some misunderstandings about what ISO does and does not do. This review will also focus on ISO 9000 and discuss literature on what the respective standards are all about, why a company might want to use them, how ISO works and what are its benefits to businesses if it decides to go ahead and implement them. The second section will discuss Organizational Culture. This section will cover the definition, as well as its impact in relation to the use of ISO. The third section will focus on data related to Organizational Commitment, and its components. The final section will discuss attitude in general, components of attitude, as well as research on managers' attitudes toward ISO 9000.

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 thus contribute to making life simpler, and to increase the reliability and effectiveness of the goods and services used (Taylor, 1995a).

Perry (1993) explained that ISO 9000, based in Geneva, Switzerland, is a consortium of virtually all the world's industrialized nations – from Albania to Zimbabwe. The group's mission is to develop industrial standards that facilitate international trade. ISO 9000 is not a product standard, but a *quality system standard*. It applies not to products or services, but to the process, which creates them. It is designed and intended to apply to virtually any product or service made by any process anywhere in the world. It refrains, to the greatest extent possible, from mandating specific methods, practices, and techniques. It emphasizes principles, goals, and objectives. All of these focus on one objective, the same objective that drives every business: *meeting customer expectations and requirements*.

2.1 ISO Standards

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from some 140 countries, one from each country. ISO is a non-governmental organization established in 1947 and is made up of 182 Technical Committees and 633 subcommittees, covering many industries sectors, and products. Each committee is assigned and responsible for one standardization project. 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 develop cooperation in the spheres of intellectual, scientific, technological and economic activity. Its work results in the publishing of international standards, which are voluntary with regard to organizational acceptance and applications.

With the exception of ISO 9000, the vast majority of ISO standards are highly specific. They 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.

According to Charles et al. (1996), ISO 9000 is *not* a certification of quality, but an international protocol for organizing and documenting processes and procedures used to establish a quality system. It is not meant to replace or displace programs such as TQM (Total Quality Management) or six sigma (Motorola's award-winning quality management program) (Taylor, 1995b). Specific product standards are defined by individual companies and their customers, not by ISO (Mallak et al., 1997). The ISO guidelines provide the *structure* for developing and maintaining a quality system for manufacturing and services. This structure includes procedures, documentation, controls, and employee training. The structure is general and can be applied to any industry, regardless of the product or the service offered (Hutchins, 1994). ISO 9000 certification means that a company has invested the time to organize a quality system, has prepared the documentation, uses the documentation as demonstrated by quality records, has trained its employees, and has passed the scrutiny of a team of third-party registrars (Dagnino, 1989).

2.1.1 The ISO's "Quality" Definitions

Defining quality and its related terminology (quality management, quality assurance, etc.) has been problematic during the past quarter century, and has caused a great deal of debate on the international level and confusion among firms and users of the ISO 9000 standards (Taylor, 1995a, 1995b). The ISO's definitions, themselves standards, were crafted to be used as the common understanding of these concepts. But in reality, the fixing of concrete definitions for them has been difficult and illustrates the politics that enter into standard setting, on the international level or otherwise (Taylor, 1995a).

The first thing one must note is that "quality" cannot be equated with "luxury". In many advertising instances this is indeed the case, but in every day parlance, quality has more to do with the product's characteristics, specifically whether the product meets the customer's requirement. In this way, quality can be either good or bad.

The ISO's own definition of quality included in the ISO 9000 is found in the standard ISO 8402. Quality here is defined as "the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs" (Rayner & Porter, 1991:41).

2.1.2 Generic management system standards

According to Taylor (1995a) the vast majority of ISO standards are highly specific to a particular product, material, or process. However, ISO 9000 is known as *generic management system standards*.

Generic means that the same standards can be applied to any organization, large or small, whatever its product – including whether its "product" is actually a service – in any sector of activity, and whether it is a business enterprise, a public administration, or a government department (Taylor, 1995b).

Management system refers to what the organization does to manage its processes, or activities. In a very small organization, there is probably no "system", as such, just "our way of doing things", and "our way" is probably not written down, but

all in the manager's or owner's head. The larger the organization, and the more people involved, the more the likelihood that there are some written procedures, instructions, forms or records. These help ensure that everyone is not just "doing his or her thing", and that there is a minimum of order in the way the organization goes about its business, so that time, money and other resources are utilized efficiently (Taylor, 1995b). To be really efficient and effective, the organization can manage its way of doing things by systemizing it. This ensures that nothing important is left out and that everyone is clear about who is responsible for doing what, when, how, why, and where (Taylor, 1995a).

Management system standards provide the organization with a model to follow in setting up and operating the management system. This model incorporates the features which experts in the field have agreed upon as representing the state of the art. A management system which follows the model – or "conforms to the standard" – is built on a firm foundation of state-of-the-art practices (Taylor, 1995a).

2.1.3 Needs of International Standardization

To keep customers – and to keep them satisfied – a product (which may, in fact, be a service) needs to meet their requirements. ISO 9000 provides a tried and tested framework for taking a systematic approach to managing business processes (organization's activities) so that they consistently turn out products conforming to the customer's expectations. 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 (Bhuian, 1998).

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 in the foreseeable future.

The major reasons for International Standards are as follows:

➤ ***Strengthened Customer Confidence***

Customers are more receptive to implementing a supplier partnering relationship with companies with whom they have developed well-defined and mutually agreed-upon requirements. This can result in a significant competitive advantage to the registered supplier of products or services.

➤ ***Worldwide progress in trade liberalization***

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 (Taylor, 1995a). An industry-wide standard, internationally recognized, developed by consensus among trading partners, serves as the language of trade (Mallak et al., 1997).

➤ ***Consistency Throughout the Company***

A prevention attitude can be implemented throughout the company accompanied by early detection and corrective action systems, providing evidence not only of a quality management system, but also of positive quality attitudes and management's commitment to continuous improvement.

➤ ***Competitive Advantage***

Registration enhances the ability to compete in world markets. The market has become less and less friendly to unregistered companies as the number of registration increases. There is enhanced marketability through the use of a recognizable logo and inclusion in a registered supplier listing.

➤ ***Reduced Operating Costs***

The British Standards Institution estimates that registered firms reduce operating costs by 10 percent on average (BSI, 2000).

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 (Perry, 1993; Quazi & Padibjo, 1997). 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 (Rayner & Porter, 1991). The aim is to facilitate trade, exchange and technology transferred through:

- 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 (British Standards Institution, 2000).

2.1.4 The ISO 9000 series

The ISO 9000 family of standards represents an international consensus on good management practices with the aim of ensuring that the organization can time and time again deliver the product or services that meet the client's quality requirements. These good practices have been distilled into a set of standardized requirements for a quality management system, regardless of what the organization does, its size, or whether it's in the private, or public sector.

According to Tricker (1997) the ISO 9000 identifies the basic disciplines of a quality management system that can be used by manufacturers, suppliers, distributors and end users. It specifies the national, regional and internationally accepted procedures and criteria that are required to ensure that products and services meet *the*

customers' requirements. These disciplines, procedures and criteria can be applied to any firm, no matter its size, and manufacturers, suppliers or service industries can use the ISO 9000 alike to set up their own quality management system. It can also be used by customers as a basis for assessing a manufacturer's quality management system and to see that a supplier or service industry has the ability to provide satisfactory goods or service. ISO is divided into a number of different parts, which provide details of all the essential requirements for quality assurance during the design, manufacture and acceptance stages of a product.

Hutchins (1994) in a book titled ISO 9000 – “Quality Management and Quality Assurance Standards – Guidelines for Selection and Use” described it as a set of five international standards on quality management and assurance. They consist of ISO 9000, ISO 9001, ISO 9003, and ISO 9004. They are a written set of standards created and published by International Organization for Standardization (ISO).

The British Standard Institution (2000), ISO 9001 – “Quality Systems Model, for Design, Development, Production, Installation, and Servicing” – is used by companies to certify their quality systems throughout the product development cycle, from design to service. It includes the product design element, which is becoming more critical to customers that rely on error-free products. ISO 9002 – “Quality Systems – Model for Quality Assurance in Production and Installation” – is used by companies for whom the focus is on production and installation. This quality standard may be used by a company whose products have already been marketed, tested, improved, and approved. These companies focus their quality efforts on maintaining and improving existing quality systems, instead of developing quality system for a new product. ISO 9003 – “Quality Systems Model for Quality Assurance in Final Inspection and Test” – is for companies in which comprehensive quality systems may not be important or necessary, such as commodity suppliers. In these cases, final product inspection and testing would suffice. ISO 9004 – “Quality Management and Quality System Guidelines” – provides guidelines by which quality management systems can be developed and implemented utilizing a basic set of quality system elements. ISO 9004 is a document for internal use by companies and does not apply to any contractual requirements (British Standards Institution, 2000).

2.1.5 Maintaining the benefits and continual improvement

Over the past several years, ISO 9000 has become very important. Companies are realizing that ISO 9000 not only provides some of the preceding benefits, but also establishes a single, internationally-accepted standard that can be determined and measured. Hutchins (1993) explained that ISO 9000 is becoming the most common standard in industries throughout the world. Organizations are obtaining compliance to the ISO 9000 quality standards to remain competitive or distinguish themselves from their competitors.

Mallak et al. (1997) pointed out that it is useful to review the reasons why organizations apply for ISO certification. The key objectives of acquiring ISO 9000 are:

- to achieve and sustain the quality of the product or service;
- to give management confidence that quality is being met; and
- to give the customer confidence that consistency is being delivered in the product or service.

Mo & Chan (1997) classified the ISO benefits into quantitative benefits (expand market share; reduce scrap and rework; increase productivity; and reduce product defects) and non-quantitative benefits (increase employee morale; minimize role ambiguity; better control of suppliers; improve existing system; and improve customer satisfaction). Ho (1994) quoted Bulled's (1987) categorization of ISO benefits as follows:

- advantages of having the system; and
- additional advantages accruing from the result of having an independently assessed quality system.

As most of the ISO benefits are diverse and yet similar, it is interesting to see how they can be classified. Ho (1994), Dale (1994), Adanur & Allen (1995), Buttle (1997), Quazi & Padibjo (1997), Yung (1997) identified the benefits of ISO 9000 certification as:

- (a) reduction of audit time taken by customers;

- (b) buyer acceptance as proof of quality and technical expertise;
- (c) better management control;
- (d) improvement in control, discipline, procedure, documentation, communication, customer satisfaction, problem handling, sales, competitiveness and profitability, quality performance, morale, and quality awareness among staff;
- (e) facilitating elimination of procedural problems;
- (f) reduction of cost of quality;
- (g) identification of ineffective and surplus procedures;
- (h) more motivated employees;
- (i) more efficient operations; and
- (j) keeping existing and gaining new customers.

According to Charles et al. (1996) the benefits of ISO 9000 fall into 3 perspectives that are benefits to the customer, benefits to the subcontractor, and benefits to the supplier.

- ***Benefits to the Customer*** – Customers are the only authorities on company quality. Today, customers are better informed than they have ever been in the past, and well aware of their right to demand both quality and value. Quality of product and services is essential, but all areas of customer relationships are important. A happy customer is a repeat customer, one who will provide referrals and free advertising for the company that made him/her happy.
- ***Benefits to the Subcontractor*** – The subcontractors also look for ways to reduce their costs and are forced, in some cases, to reduce quality. They also pass cost pressures on to *their* subcontractors and a chain reaction of quality reduction sometimes occurs. Often subcontractors are dumped, without warning, after years of doing business with an important client. This produces a mindset that replaces loyalty and trust with cynicism and gray ethics.

- **Benefits to the Supplier** – the supplier is the company or organization that had achieved, or is working toward, ISO 9000 registration. In one sense, it is not outlandish to state that the benefit to the supplier is that *the supplier can hope to stay in business*. This is a rather strong statement, but it does represent a future possibility.

2.2 Organizational Culture

Organizational, or corporate, culture has been a popular issue in the management literature since the early 1980s. Culture is a characteristic of the organization, not of individuals, but it is manifested in and measured from the verbal and/or nonverbal behaviour of individuals -- aggregated to the level of their organizational unit. Traditionally, organizational culture has mostly been studied by case-study description, often involving participant observation (Hofstede, 1994). These methods can provide profound insight, but they are subjective and not reliable in the sense of different researchers necessarily arriving at the same conclusions (Hofstede, 1991).

Organizational culture as a concept has existed since the mid-twentieth century but has only recently become a prominent term in organizations themselves. O'Reilly et al. (1991) define culture as that "set of cognitions shared by members of a social unit" (pp. 491) and "fundamental assumptions, values, behavioral norms and expectations, and larger patterns of behavior" (pp. 491). Moreover, Gardner (1999) defined culture as "shared philosophies, ideologies, values, beliefs, assumptions and norms. These are seldom written down or discussed, but they are learned by living in the organization and becoming a part of it." Gardner (1999) also mentions that culture can be thought of as the invisible force behind the tangibles and observable in any organization, a social energy that moves people to act and a unifying theme that measures meaning, direction, and mobilization. Schein (1996) also believes that culture is one of the most powerful and stable forces operating in organizations.

2.2.1 Definition of Organizational Culture

Organizational culture or corporate culture is the essence of the organization as it often affects the success or failure of the business (Harvey & Brown, 1996). Some

define it as systems of shared meanings, assumptions, and underlying values of different groups of people (Rousseay, 1990). Others define it as a combination of assumptions, feelings, beliefs, attitudes, values and behavior (Rousseay, 1990; Ward, 1995; Trompenaars & Hampden-Turner, 1998). Still others define it as a collection of norms and values that help guide behavior in an organization by clarifying what and how things should be done; basic assumptions held by organization members (Sathe, 1983; Schein, 1984; Lewis, 1992). However, most authors generally agree that corporate culture is referring to the whole organization; reflecting the history of the organization; relating to the things that anthropologists studied such as rituals and symbols; created and preserved by the group of people who form the organization; is soft; and difficult to change (Hofstede, 1997).

Culture is a pattern of basic assumptions-invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration-that has worked well enough to be considered valid and therefore is taught to new members as the correct way to perceive, to think, and to feel in relation to those problems (Schein, 1992). Although the concepts of group norms and climate have been a part of psychological vocabulary for many years (Lewin et al., 1939), the concept of culture has only been recently used. At the working level it can be defined as "why we do what we do." Developing a strong organizational culture and high levels of employee commitment may enhance worker productivity and morale during their organizational tenure (Cude & Jablin, 1992). Culture includes the perceptions, language, and thought processes that a group comes to share that determines employee feelings, attitudes, espoused values, and overt behavior. Therefore, the process in which the group comes to share certain values, beliefs, and assumptions is through socialization; this process occurs as a result of, and in accordance with, the organizational culture.

2.2.2 Organizational Culture Categorization

Harrison (1995) has developed four organizational culture types: power culture, role culture, task culture, and support culture:

The first is a *power culture* where it is essentially an entrepreneur or an owner-manager who is at the center of a huge web, and who expects others to be extensions

of him or herself. The power culture defined by Hofstede (1980) explained clearly that power distance refers to the extent to which members of an organization accept that power in organizations is distributed unequally. It is a situation in which the culture is driven by a set of behavioral and structural values, which are centrally driven; built upon and controlled by coercive power and decisively implemented, from the center. Handy (1993) explained power culture or club culture as the culture that revolves around the leader. Harrison (1972a) and Handy (1976) also explained the power culture, in which orders emanate from the organizational center and are obeyed without question. Trompenaars & Hampden-Turner (1993) represent the culture which is a hierarchical in that a father-figure has experience and authority over the young and the subordinates. On the other hand, the centralization of power often rests with a single individual or a small nucleus of key individuals. Individuals are motivated by personal loyalty to the employer or out of a fear of punishment. A sense of history and tradition prevails.

The second is a *role culture* in which function is more defining than the individual, which relies on hierarchies and that depends on certain predictabilities. In a role culture, individuals are accustomed to a degree of stability and predictability. In fact, role cultures are remarkably well suited to stable economic environments. Handy (1976) also mentions that role culture is position, dominated by rules and regulations as in classic bureaucracies. Otherwise, Handy (1993) also mentioned that it considers roles held by members in the organization as crucial. It is also prominent in employees' perception of the "reality" suggesting behavioral and structural values were also functionally driven, bureaucratically controlled and top-down and functionally implemented. In short, role orientation focuses on the rational and orderly. Trompenaars & Hampden-Turner (1993) described role culture as Eiffel Tower Culture, which focus on roles, functions and responsibilities. Moreover, its principles of logic and rationality are followed in order to achieve maximum efficiency. The focus is on the role rather than the individual. Role requirements, authority and processes are clearly defined together with formal procedures and regulations concerning the ways in which the work is to be completed. A good employee is one who recognizes protocol and always sticks to the rules. Power is hierarchical and stems from the role in the organization. Individuals may see themselves as a small cog in a large organizational wheel.

The third culture is a *task culture*, and it resembles what we know of today in matrix structures where teams form, based on the task at hand. There is motivation to achieve the task and a great deal more respect for leadership based on capability than on status. Harrison (1972a) and Handy (1976) also explained task culture is getting a specific job done within a strict deadline which is all important and clearly task-oriented. Task orientation describes achievement of goals as the highest value and characterized by a team philosophy and approach. Quinn (1989) mentioned task culture as productivity and accomplishment which can be interpreted that this is task oriented. The emphasis is on accomplishing the task and specifics of the task dictates the ways in which work is organized rather than the individual or formal rules and regulations. Hofstede (1997) and Trompenaars & Hampden-Turner (1993) are also concentrated on goals and achievement, which can be considered as task oriented, it means that what is achieved is more important than how it is achieved. Expertise is highly valued. The task culture lacks formal authority. There is a high level of worker autonomy.

Finally, consider the needs and expectations of the individuals are at the center in a *support culture*. The organization is there to support them in their ambitions which mean that managers are equal to the employee and the organization is at the service of the employees who contributes their expertise to the organization. Other writers defined support or people culture as the development of human potential and well-being as paramount (Harrison, 1972a; Handy, 1976). Person orientation describes the organization's commitment to the needs of its members and decision making is done by consensus (Harrison, 1972b). Quinn (1989) argued that people culture focuses on commitment, morale and human development. Hofstede (1997) also considered support orientation culture because it is related to quality of life, modesty and caring, is intuitive and emotional. On the other hand, a support culture is characterized by egalitarianism. Internal authority structure is minimal. The culture exists to nurture the personal growth and development of the individual. Information, influence and decision making are shared collectively. The organization is subordinate to the individual.

Each of Harrison's cultural models (1995) is compatible with, and corresponds to, a particular structural design. In the case, for example, of a task organization, it

would be a team or matrix structure. A role culture corresponds quite well to a bureaucracy or hierarchy. In the case of a person culture, the most appropriate model is what could be called a fishnet organization (Swigart, 1995). It describes an organization, which is formed by fluid teams and interdependent structures. Once in a while, the net pokes itself out and there is a semblance of a hierarchy; at other times it is completely flat and very fluid. The connections are as in a net, that is four corners of a square, and like most nets this can be combined in many different ways. It is a chaotic structure. Therefore, if we consider modern organizations to be fishnet in structure, that is fluid without any particular shape and where various functions assume importance, depending on the point in time and where leadership is variable, it becomes very sensible to focus on Harrison's description of a person culture as the most appropriate model for an organization which supports career ownership.

This compatibility is not perfect, however. Person and task cultures combined make a fifth type of culture, much more compatible with the fishnet than pure person culture. As long as the motivation to achieve remains within the organization and there is a need to identify with organization successes, task and person cultures combine to define a new arrangement.

Other categorization represented in the book "The Reengineering Alternative" (Schneidser, 1994) classifies organizational culture into four major cultures: the control culture, the collaborative culture, the competence culture, and the cultivation culture.

The control culture is an impersonal culture where the emphasis is placed on tangible realities, practical and utilitarian matters, and actual experiences (Cooke & Rousseau, 1988; Schneider, 1994). Corporate decisions are based on impersonal, detached analysis and in general, decision making throughout the company follows a formula or prescriptive method (Aycan et al., 1999). Rationale decisions are believed to be the key to a successful management process in control cultures (Chatman & Jehn, 1994). In this type of culture, though, it is not uncommon to encounter those who have found ways to "beat the system" but still remain employed within the organization.

The second culture type explained by Schneider (1994) is the collaborative culture. Like the control culture, the collaborative culture also emphasizes tangible realities, practical and utilitarian matters and actual experiences. The decision-making processes in collaborative cultures, however, focus more on people in the organization and are more informal and organic (Aycan et al., 1999). Elements that are key to the collaborative culture are involvement and interaction; it's a can-do culture that emphasizes harmony and cooperation (Edgar, 1985). Team leadership and followership skill are essential in this type of culture and employees are motivated by encouraging them to do their best as part of a collaborative team (Schneider, 1994).

The competence culture as described by Schneider (1994) is one that is intense, but impersonal in nature. Employees who fit this culture tend to focus on potentiality, imagined alternatives, and creative options. The culture tends to push employees to reach for excellence and go beyond; the norms are superiority and being challenged. Because of the push of excellence, competition between top performers or specialist teams can be intense, particularly for scarce resources, status, power, and prestige.

The final culture explained by Schneider (1994) is the cultivation culture. The cultivation culture is generally led by a charismatic leader who focuses on inspiring employees to fulfill their potential. These leaders create cultures where growth and development for employees at all levels are cultivated. Decision-making in the cultivation culture is similar to that in the collaborative culture. The decision-making tends to rest with the employees and is generally more organic, emotional, and evolutionary. Employees in the cultivation culture are encouraged to focus on the aspirations and higher-level purposes (Cooke & Rousseau, 1988).

A culture's locus of control impacts the degree to which employees believe they control the outcomes of their actions, and malleability (O'Reilly, 1991). When organizational cultures are high in futuristic orientation, the employees take a futuristic stance and long-term outlook when planning their actions (Edgar, 1992). Proactive versus reactive organization culture are ones in which employees take initiative to accomplish tasks rather than simply reacting to external demands while trying to complete their job tasks (Gardner, 1999). Responsibility seeking refers to the degree to which employees seek out and accept responsibility, participation refers to the how

much employee prefer delegation and consultation, and obligation toward others refers to how obliged employees in the organization feel toward their co-workers to fulfill responsibilities (Aycan et al., 1999).

According to Jason (2001) organizational culture focuses on the employee's interpretation and understanding of their environment. Thus, to measure culture appropriately, a culture scale needs to include the underlying assumptions and unconscious process (i.e., the thoughts, feelings, and hidden practices) of its people. Such intangible concepts could not and have not been measured on any organizational climate scale (Cooke & Rousseau, 1988; Schneider, 1994).

Corporate culture, however, projects a different picture. It is a common term used by consultants as a means to help managers describe their business practices. The term, although specific for corporations, falls under the larger category of organizational culture and is measured under the same construct (Edgar, 1992). Four validated measures of organizational culture – the Organizational Culture Inventory, the Culture Gap Survey, the Organizational Beliefs Questionnaire, and the Corporate Culture Survey – have been examined through factor analysis (Vandenberghe, 1999). It was proven that these measures displayed significant convergent validity in measuring the same theoretical construct (Xenikou & Furnham, 1996).

To operationalize the concept of organizational culture, some researchers have focused on measuring the values present in the workplace, others have focused on the observable behavioral norms and expectations, others regard the rule for getting along the workplace, and still others have measured the philosophies that guide corporate policies (Nwachukwu & Vitell, 1997; Vanderberghe, 1999). Despite the fact that most organizational culture research centers on values and assumptions, researchers continue to debate issues such as appropriate methods for operationalizing and investigating culture and the proper level of analysis of organizational culture research (Kazanas, 1978; O'Reilly et al., 1991).

2.3 Organizational Commitment

Organizational Commitment occurs when an employee identifies with and is involved in the organization. It became more interesting for organizational

practitioners, and management after numerous studies reported that it can predict job performance, turnover and absenteeism of employees better than job satisfaction does (Malloy, 1996; Porter et al., 1974).

2.3.1 Definition of Organizational Commitment

Organizational Commitment is used to explain two different concepts, attitudinal commitment and behavioral commitment (Malloy, 1996; Meyer & Allen, 1991; Porter et al., 1974). Attitudinal commitment emphasizes managers' relationships with the organization and the extent to which their feelings of belongingness and their belief in the organization lead them to identify with the organization and the degree to which they wish to maintain memberships in it (Alpander, 1990; Mowday et al., 1982). Behavioral commitment emphasizes the state of being bound to the organization by personal investment (Alphader, 1990; Mowday et al., 1982).

Moreover, much research has examined the concept of organizational commitment, and many conceptualizations and measures have been proposed and tested (Meyer & Allen, 1991; Porter et al., 1974; Becker, 1960). Organizational commitment has been defined and measured in several ways. The various definitions share a common theme in that Organizational Commitment is considered to be a bond of commonality between the individual and the organization as the thread of commonality amongst different authors (Mathieu & Zajac, 1990).

Renewed emphasis is being placed on organizational commitment in the context of quality initiatives. Several authors cite commitment as a necessary prerequisite for effective implementation of any quality initiative (Oakland, 1989; Roth, 1989; Wickens, 1987) and ISO 9000 refers specifically to the need for commitment from all organizational members (BS 5750, 1987). However, the organizational commitment construct is more complex than might be inferred from the common interpretation of the term. Commitment is more than accepting responsibility for an activity, or even being engaged in pursuit of an objective. Organizational commitment involves both attitudes and behaviors.

While many definitions of the construct exist, one of the most frequently cited is by Mowday et al. (1982) who define attitudinal commitment in terms of three components:

- (1) strong belief in, and internalization of, the organization's goals and values;
- (2) preparedness to exert considerable effort on behalf of the organization; and
- (3) strong desire to maintain organizational membership.

Curry et al. (1981) proposed three components of Organizational Commitment:

- (1) strong beliefs in the organization's value and goals,
- (2) willingness to extend considerable efforts for the organization, and
- (3) a strong intent or desire to remain in the organization.

These three components of Organizational Commitment are similar to concepts proposed by Williams & Anderson (1991). They specify that Organizational Commitment is responsible for behavior that includes personal sacrifice made for the sake of the organization, primary dependence on reinforcement or punishment, and indication of a personal preoccupation with the organization.

To expand on this definition, two quite differing definitions of organizational commitment have become popular in the academic empirical literature. Probably the most frequently used definition is the one provided by Porter and his associates, cited in (Mowday et al., 1982) where they suggest that organizational commitment is the strength of an individual's identification with and involvement in a particular organization. The employee possesses an affective or emotional attachment to the organization such that the strongly committed individual identifies with, is involved in, and enjoys membership in, the organization. This type of psychological commitment as been dubbed affective or value commitment (Meyer & Allen, 1984; Mayer & Schoorman, 1992; and McGee & Ford, 1987).

Becker (1960), on the other hand, defined commitment as a tendency to engage in consistent lines of activity based on recognition of the cost associated with discontinuing the activity. As this definition relates to organizational activities, the perceived costs of discontinuity of the activity or work i.e. leaving, might include the loss of attractive benefits, perks and seniority; the disruption of personal relations

created by moving to another location; the effort of seeking a new job; and so on. Meyer & Allen (1984) along with other theorists (O'Reilly & Chatman, 1986) have used the term *continuance commitment* to describe this construct.

2.3.2 Organizational Commitment Components

Meyer & Allen (1991) mention that organizational commitment reflects three broad themes: an affective orientation to the organization; recognition of costs associated with leaving the organization; and a moral obligation to remain with the organization. Meyer & Allen (1997) used three labels to describe the three components of organizational commitment:

- a. *Affective commitment* – refers to person's emotional attachment to, identification with, and involvement in the organization (Malloy, 1996). It specifies that employees with strong affective commitment stay with their organization because they want to do so (Jason, 2001).
- b. *Continuance commitment* – refers to an awareness of the costs associated with leaving an organization (Mathieu & Zajac, 1990; Meyer & Allen, 1997). It indicates that people who have continuance commitment stay connected with an organization because they need to (Mayer & Schoorman, 1992).
- c. *Normative commitment* – refers to a feeling of obligation to continue employment (Mayer & Schoorman, 1992). This means that people who have strong normative commitment feel that they ought to stay with the organization (Jason, 2001; Meyer & Allen, 1997).

A broader approach to studying the impact of organizational issues was undertaken by Ostroff (1992). She looked at the relationship between satisfaction, attitudes and performance. Correlation studies indicated consistent relationships between job satisfaction, attitudes and performance. While she did not look specifically at organizational commitment, she does suggest that this relationship also exists and is a positive one. The organizational climate can interact with the personal orientations on an individual's attitudes and behaviors in organizations.

2.3.3 Assessment and Measurement of Organizational Commitment

The fifteen-item Organizational Commitment Questionnaire (OCQ) by Mowday et al. (1979) is the most frequently used and most highly regarded measure of affective organizational commitment (Chartrand & Camp, 1991). A shorter version of the OCQ includes only the nine OCQ items that are worded positively. The short version has been utilized in recent validation studies including Morris, Steers, and Koch (as cited in Mowday et al., 1979). In this study the OCQ short version is paired with Blau's seven-item Career Commitment measure. Precedent for pairing the two measures was set by Blau (1989) in validation studies for the Career Commitment measure. Smart (1998) also used the short version in her career stage and job attitude study as Lynn et al. (1996).

Affective, normative, and continuance components of organizational commitment were measured using Meyer & Allen's (1990) twenty-four-item scale. Eight items assessed each component of the three components of organizational commitment.

2.4 Attitude

Attitude is a common term in English language; everybody has a notion of its meaning. Originally, attitude means the posture or position of a person showing or meant to show a mental state, emotion, or mood. Fishbein & Ajzen (1975) define attitude as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object.

2.4.1 Definitions of Attitude

Churchill (1995) discusses that attitude is used to refer to an individual's preference, inclination, views or feelings toward some phenomenon. Attitude is one of the more important notions in marketing literature, because it is generally thought that attitudes are related to behavior. Leon & Leslie (1987) discuss that attitudes are learned predisposition to respond to an object or class of objects in a consistently favorable or unfavorable way.

According to Schermerhorn et al. (2000) attitudes are influenced by values and are acquired from the same sources as values: friends, parents, and role models. Attitudes focus on specific people or objects, whereas values have a more general focus and are more stable than attitudes. Informally defined, an attitude is a predisposition to respond in a positive or negative way to someone or something in one's environment. It's important to remember that an attitude, like a value, is a hypothetical construct; that is, one never sees, touches, or actually isolates an attitude.

Engel et al. (1993) refers to attitude as an overall evaluation that enables one to respond in a consistently favorable or unfavorable manner with respect to a given object or alternative. Attitudes are the core of our likes and dislikes for certain people, groups, situation, object, and intangible ideas.

Ivancevich & Matteson (1999) mention that attitudes are determinants of behavior because they are linked with perception, personality, and motivation. It is a mental state of readiness, learned and organized through experience, exerting specific influence on a person's response to people, objects and situations which it is related.

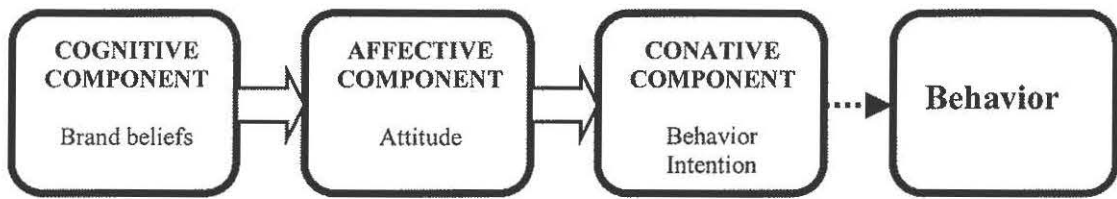
Mowen (1993) discussed that attitude has been defined in numerous ways and viewed an attitude as the amount of affect or feeling for, or against a stimulus. The idea that attitudes refer to affect or a general evaluative reaction has been expressed by many researchers, and the trend in recent years has been to link the concept to feeling rather than beliefs.

2.4.2 Components of Attitudes

Spencer (1862) was the first to employ this concept to distinguish between thoughts, feelings, and actions as a separate but interrelated part of an attitude; and the theory is referred to as the *tri-componential model*. Later this was expanded to 4 components as follows:

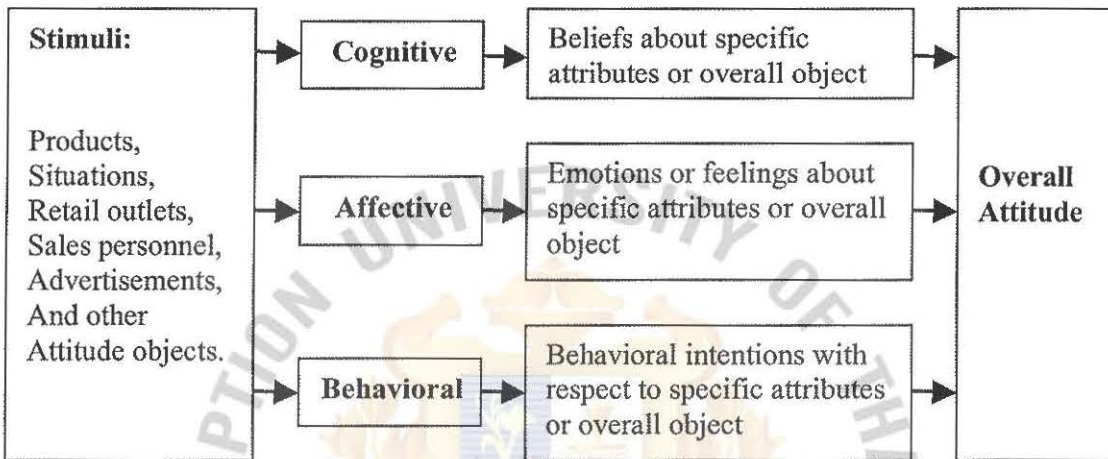
1. Cognitive component (Beliefs)
2. Affective component (Attitudes)
3. Conative component (Behavior Intentions)
4. Behavior

Figure 2.1: Three components of Attitudes



Source: Fishbein & Ajzen (1975). *Belief, attitude, intention and behavior*.

Figure 2.2: The Components of Attitude



Source: Adapted from Hawkins et al. (1994). *Consumer Behaviour* (6th ed.)

Assael (1995) demonstrated that these three components, separated from one another, may or may not be related depending on the particular situation. Brand beliefs are the cognitive (or thinking) component of attitudes; brand evaluation, the affective (or feeling) component; and intention to buy, the conative (or action) component. The link among these three components illustrates the high involvement hierarchy of effects: brand beliefs influence brand evaluations, which influence intention to buy. The assumption in this hierarchy is that these components are then related to behavior.

James et al. (1993) discussed that attitudes have traditionally been viewed as consisting of three components: cognitive, affective, and conative. A person's beliefs about some attitude object reside within the cognitive component. The affective component represents a person's like or dislike of the attitude object. The conative component refers to the person's action or behavioral tendencies toward the attitude object.

According to Schiffman & Kanuk (2000) it is useful to consider attitudes as having three components: cognitive, affective, and behavioral. Each of these attitude components is discussed in more detail below. All three components tend to be consistent. This means that a change in one attitude component tends to produce related changes in the other components. This tendency is the basis for a substantial amount of marketing strategy.

A. Cognitive Component (Beliefs or thinking)

The cognitive component consists of a person's cognitions, that is, knowledge and perceptions that are acquired by a combination of direct experience with the attitude object and related information from various sources. This knowledge and resulting perceptions commonly take the form of beliefs, that is, the consumer believes that the attitude object possesses various attitudes and that specific behavior will lead to specific outcomes (Schiffman & Kanuk, 2000).

According to Ivancevich & Matteson (1999) the cognitive component of an attitude consists of the person's perceptions, opinion, and beliefs. It refers to the thought processes with special emphasis on rationality and logic. An important element of cognition is the evaluative beliefs held by a person. Evaluative beliefs are manifested in the form of favorable or unfavorable impressions that a person holds toward an object or person.

Cognitive or beliefs refer to a person's subjective probability judgments concerning some discriminable aspect of his or her environment (Fishbein & Ajzen, 1975). It involves the establishment of a link between any two aspects of an individual's world. One apparent source of information is direct observation. A person may observe that a given object has a certain attribute. Rather than direct observation, interaction with another person may lead to the formation of beliefs about unobservable characteristics as person's honesty, introversion, or intelligence. A person's beliefs are formed neither on the basis of direct experience with the object of the belief nor by way of some inference process (Fishbein & Ajzen, 1975).

Cognitive is knowledge and perceptions that are acquired by a combination of direct experience with the attitude-object and related information from various

sources. This knowledge are resulting perceptions commonly take the form of *beliefs*; that is the consumer believes that the attitude object possesses various attributes and that specific behavior will lead to specific outcomes by Schiffman (1994).

People often accept information about some object provided by an outside source, the sources are newspapers, books, magazines, radio, television, friends, coworkers, etc. Ducan & Olshavsky (1982) implied that the factors involve with consumer beliefs can be classified usefully as environmental and consumer.

- Environment factors include information availability and number of alternatives present.
- Consumer factors include perceived benefits, perceived differences in alternatives, perceived risk, knowledge, experience, time and financial pressures, personality variables, intelligence, social class, education, income, occupation and age.

Based on information received from outside sources or by way of various inference processes, people learn or form a number of beliefs about an object. It means, he or she associates the object with various attributes. Thereafter, consumer identifies the positive outcomes (benefits) that attributes provide to the consumer. Product attribute beliefs had a major mediating effect on brand attitudes; whereas attitudes substantially mediated behavioral intentions (Mitchell & Olson, 1981).

The cognitive component consists of a consumer's beliefs about an object. The beliefs need not be correct or true; they only need to exist. Hawkins et al. (1994) showed that many beliefs about attributes are evaluative in nature. That is, attractive styling, and reliable performance are generally viewed as positive beliefs. The more positive beliefs there are associated with a brand and more positive each belief is, the more favorable the overall cognitive component is presumed, and the more favorable the overall attitudes.

B. Affective Component (Attitudes or feelings)

A consumer's emotions or feelings about a particular product or brand constitute the affective component of an attitude. These emotions and feeling are frequently treated by consumer researchers as primarily evaluative in nature; that is,

they capture an individual's direct or global assessment of the attitude object or the extent to which to individual rates that attitude object as "favorable" or "unfavorable", "good" or "bad".

Ivancevich (1999) explained the affect is the emotional component of an attitude and is often learned from parents, teachers, and peer group members. It is the part of an attitude that is associated with "feeling" a certain way about a person, group, or situation.

The affective or attitude represents consumers' overall evaluation and a person's general feeling of favorableness or unfavorableness toward some stimulus object. As a person forms beliefs about an object, he or she automatically obtains an attitude toward that object. Fishbein & Ajzen (1975) describe that each belief links the object to some attribute; the person's attitude toward the object is a function of his or her evaluations of these attributes.

Fishbein & Ajzen (1975) pointed out that an individual's attitude toward one object is a function of his or her beliefs about a specific object. If those beliefs associate the object with primarily favorable attributes, his or her attitude will tend to be positive. Conversely, a negative attitude will occur if the person associates the object with primarily unfavorable attributes. As a result, person's attitude toward some object is determined by his or her beliefs that the object has certain attributes and by his or her evaluations of these attributes. On the other hand, objective beliefs influence attitudes, and attitudes influence intention.

C. Behavioral Component (Behavioral Intention or intending)

Ivancevich (1999) explained that the behavioral component of an attitude refers to the tendency of a person to act in a certain way toward someone or something. A person may act in a warm, friendly, aggressive, hostile, teasing, or apathetic way, or in any number of other ways. Such actions could be measured to examine the behavioral component of attitudes.

Intentions are produced when beliefs about the behavioral consequences of the action and social normative beliefs are considered and integrated to evaluate

alternative behaviors and select among them. On the other hand, the behavioral component of an attitude is one's tendency to respond in a certain manner toward an object or activity. (Dale, 1994).

Before consumers take action, people often develop behavioral intentions regarding the likelihood of their taking that action. The behavioral intentions may be defined as the intentions of people to behave in a particular way with regard to the acquisition, disposition (Fishbein & Ajzen, 1975). One such attempt is the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), which posits that behaviors are a direct result of behavioral intentions. Behavioral intentions, in turn, are hypothesized to be a function of attitude toward performing the act (an evaluative reaction toward performing the behavior) and subjective norm (perceptions of general social pressures to perform the behavior). In theory, behavioral intention is determined by a weighted combination of attitude and subjective norm.

Conation is concerned with the likelihood or tendency that an individual will undertake a specific action or behave in a particular way with regard to the attitude object. According to some interpretations, the cognitive component may include the actual behavior itself.

Although an empirical approach is one way to gain an understanding of how attitude and subjective norm determine behavioral intentions, such an understanding would be enhanced if it were possible to identify the conditions under which differential contributions of attitude and subjective norm are likely. If different conditions could be specified, the roles played by attitude and subjective norm in determining behavioral intentions could be understood in the larger context of the theoretical orientation from which the conditions were derived.

According to Snyder & Ickes, (1985) one way to ascertain when attitude and subjective norm should be differentially related to behavioral intentions would be to identify two contrasting categories of people:

- A set of people for whom attitude would be a more important factor in behavioral choice
- A set of people for whom the subjective norm would be more important.

Ivancevich (1999) also mentions the implications of the three components on the attitudes of managers. First, attitudes are learned. Second, attitudes define one's predispositions toward given aspects of the world. Third, attitudes provide the emotional basis of one's interpersonal relations and identification with others. And fourth, attitudes are organized and are close to the core of personality. Some attitudes are persistent and enduring. Yet, like each of the psychological variables, attitudes are subject to change.

The theory of cognitive, affective, and behavioral components as determinants of attitudes has a significant implication for managers. The theory implies that the manager must be able to demonstrate that the positive aspects of contributing to the organization outweigh the negative aspects. It is through attempts to develop generally favorable attitudes toward the organization and the job, that many managers achieve effectiveness (Ivancevich, 1999).

2.4.3 Assessment and Measurement of Attitude

Attitude has been defined as an "organized predisposition to think, feel, perceive, and behave toward a referent or cognitive object" (Kerlinger, 1973, pp. 495). It is characterized by an enduring pattern of thought about an entity based on individual beliefs and values. Using attitude scales, measuring attitude as a predictor of behavior, and measuring changes in behavior as a method of measuring changes in attitude are all methods of measuring attitudes.

There are generally three types of attitude scales: summated rating scales, equal appearing interval scales, and cumulative (or Guttman) scales (Kerlinger, 1973). In a summated rating scale, items or concepts are considered of equal attitude value. Theoretically, it is the respondent that is different. The Likert scale, is designed to measure intensity of agreement or disagreement with an item or concept. Unlike summated rating scales, an equal-appearing interval scale assumes that items differ in value and assigns a scale value of equal interval to each item. A cumulative or Guttman scale theoretically measures only one variable. The scale is designed so that responses to some items are predictors of responses to other items (cumulative) and can therefore predict overall outcomes. According to Kerlinger (1973) summated rating scales appear to be the most useful in behavioral research.

Measuring changes in attitude may be accomplished by measuring changes in behavior. Meader (1998) found that learning organizations, involvement with organizations concerned with diversity issues, and having culturally diverse friends impacted positively on white employee' attitudes toward race-based policies and support for diversity. Choice of involvement in these activities may have been precipitated by an existing positive attitude toward ISO 9000, organizational culture and organizational commitment. However this study suggests that the involvement changed the participants' attitudes.

Some of these concerns seem to stem from a basic disagreement on how service-learning outcomes should be measured. Some researchers have preferred qualitative methods of assessment (narratives, case studies, focus groups, journals, and open ended surveys) to determine the presence of certain employee perceptions and attitudes, and how they change over time (Stewart, 1990).

2.5 Other Concepts Related to the Study

This section contributes several theories to the conceptual framework of the study. It includes the relationship of commitment to behavior, managers' attitude to ISO 9000, and the relationship between organizational culture, organizational commitment and attitudes of managers toward ISO 9000.

2.5.1 Commitment and behavior

This definition includes the notion of loyalty to the organization, together with actions directed at specific goals and objectives. Thus, attitudes should be manifest in associated behaviors. Miner (1992) discusses the related concept of behavioral commitment, describing its defining characteristic as:

“The tendency to escalate commitment above and beyond what is warranted, in an effort to somehow justify the original decision... A person may devote increasing time and effort to attaining a performance goal that may be unreachable.”

This seems to be a narrow interpretation of behavioral commitment, based on the premise that individuals will choose to act in open-loop mode, in ignorance of, or in the absence of feedback on their performance. Nevertheless, it is one manifestation of behavior which, according to some researchers, is based on underlying attitudes which are regarded as behavioral determinants.

From the organizational behavior perspective, commitment can be defined as an individual's felt attachment to, identification with, and/or involvement in an organization. In essence, commitment is viewed as a positive attitude the individual holds toward the organization and this attitude is seen as influencing his or her willingness to engage in behaviors desired by the organization. A number of authors have pointed to the multidimensional nature of organizational commitment (e.g., O'Reilly & Chatman, 1986).

Tang (1994) concerns credible commitment among operators working in teams, that is, whether each is committed to contributing his or her fair share to team efforts. The source of behavior control for this form emerges from interactions among the operators themselves. By interacting on a continuous basis (i.e., in formal and informal groups), operators can develop shared norms regarding which outcome are important, how to perform their jobs, what approaches to use, and so on. These norms foster credible commitment among operators through a system of informal incentives and sanctions, for example, the processes groups use to reduce the possibility of deviant behavior.

In contrast, Oliver (1990) refers to the works of Kiesler (1971) and Salancik (1977) who have advanced other ideas about how people develop a sense of commitment or obligation to act in certain ways. Central to these arguments is the context or "ecology" of situations, which according to Salancik (1977) is a crucial determinant of how one feels compelled to behave. Oliver (1990) further argues that:

"Unlike the approach which typically assumes that a change in attitude must precede a change in behaviour, this view regards behaviour as largely governed by the social context within which people are operating."

Under this model, changes in attitude are assumed to be consequences of changes in behaviour, rather than the reverse. This view is supported by the findings of others (DeCotiis, & Summers, 1987; Zahra, 1984) and has implications for the organization of work, particularly with regard to quality initiatives.

Thus, as with many organizational constructs, a variety of views and theories, sometimes conflicting, exist about the commitment construct. The literature still seems to be some distance from making this construct sufficiently clear to managers so as to influence and inform management practice. Certainly much has been written on the subject of organizational and employee commitment and its relationship to things like job satisfaction, job involvement, absenteeism and labour turnover. Most of the literature tries to inform managers, enabling them to increase employee commitment by influencing its key antecedents. However, there is comparatively little published work on the commitment of managers themselves, even though the absence of management commitment is often cited as a prime cause of problems with implementation of change.

2.5.2 Manager's commitment to ISO 9000

Taylor (1995a) explored manager's commitment to ISO 9000 implementation more fully, particularly since very little empirical data existed to back up the claims for its importance as a key issue. The approach adopted was to compare articulated attitudes to quality with the actual behaviors of managers, something which has been explained more fully by Argyris (1990) in terms of espoused behaviors (those actions managers believe they are using) and behavior in use (those actions actually used). In Argyris's terms, management at all levels in many organizations, create a world that is contrary to what they say they prefer and contrary to the managerial stewardship they espouse.

Managers are often unable to see these inconsistencies between words and actions because their behaviors have become so ingrained that they no longer question their appropriateness to specific situations (Kaufman, 1992). This is a widespread problem and one which has implications for research methods. In fact, Allen & Oakland (1988) specifically recognized these difficulties in relation to research methods for the study of quality assurance practices. Their subsequent studies

underlined this very point, concluding that management behavior was not consistent with articulated commitment to quality. They also suggest that “....in spite of a general increase in the awareness of the importance of quality to competitiveness, the actual management practices have not changed greatly” (Allen & Oakland, 1988, p. 30).

2.5.3 Managers and ISO 9000

Given this range of concerns about ISO 9000 and the lack of detailed implementation studies, Taylor was decided to conduct a regional investigation of managers in Northern Ireland to explore some of these issues more fully (Taylor, 1995b). In particular, it was decided to examine whether or not responsibility for ISO 9000 was delegated to the extent that managers were effectively detached from it. If this were true, then there might be grounds for believing that they treated it as an add-on to the business, not central to a strategic quality thrust. If, on the other hand, managers were fully committed to the principles of ISO 9000, it was postulated that they would also:

- commit the time to understand its purpose correctly;
- have motivations for pursuing assessment and registration which were based on sound business reasons and not just a response to customer demand;
- be more inclined to subject the whole of the enterprise to the scope of assessment, rather than confine registration to ISO 9002 or to selective product lines;
- be actively measuring the financial impact of ISO 9000 on the business and be in a position to comment on the nature of this impact;
- demonstrate close involvement with quality consultants whenever these had been engaged; and
- be more inclined to view ISO 9000 as part of a strategic quality plan, associated with other activities such as implementation of TQM.

Building on Ernst & Young's (1990) commitment model, he decided to explore the understanding of the managers, to see if there was any evidence to support the notion that they viewed ISO 9000 in a longer-term context and that they had been

closely involved in its implementation. In this study no attempt was being made to measure correlations between manager's commitment and its antecedents.

2.5.4 Organizational Commitment and Managers' Attitudes

Taylor (1995a) studied the relationship between organizational commitment and manager's attitude toward ISO 9000 because several studies shown that management systems can significantly influence the degree of their commitment to organizational values and goals. Previous studies that have attempted to examine relationships between management system and organizational commitment have tended to either concentrate on the notion of "leadership style" at the individual level (Koopman, 1991; Savery, 1991) or focus on the broader notion of "corporate culture" (Odom et al., 1990; O'Reilly, 1989). Studies attempting to examine this linkage by considering employee perceptions of the overall management/organizational system in the traditional Burns & Stalker's (1961) approach, remain few. Daley (1988) examined the effect of employee attitudes toward commitment to the organization, and found that workers' commitment was affected by favorable perceptions of work group and management (i.e., supervisory) relationships. The results of Marchington et al. (1994) study, obtained from attitude surveys, can be related to studies of employee involvement and participation, and can aid our understanding of its potential impact on employee commitment to the organization.

2.5.5 Organizational Culture and Managers' Attitudes

Ritchie (2000) argued that organizational culture has a positive effect on employee attitudes. A strong culture creates a feeling of belonging and increases job satisfaction and commitment. The central focus of this research maintains that organizations can have a positive effect on the creation and internalization of the organizational culture. One of the most effective ways for companies to accomplish this is through their employee. Other claims that increased levels of employees' attitude lead to cultural change and improved levels of employee commitment to the organization. Nevertheless the employee is as much affected by the prevailing organizational culture, as it is a source of change (Marchington et al., 1994).

2.5.6 Managers' Attitudes and Organizational Commitment

It may well be that some of the factors related to employee commitment are equally valid for managers. There can be no guarantee that managers necessarily believe or accept the organization's goals and values, even though they may have been involved in producing them (Taylor, 1995a). They may not be very willing to exert considerable energy on behalf of the organization, neither need they automatically possess a desire to maintain organizational membership (Taylor, 1995b).

Indeed Miner (1992) alludes indirectly to the possibility of managers not being fully committed to the organization, suggesting that they may even undermine employee commitment by using their positions for personal purposes, such as the advancement of their own careers by making external connections.

This related issue, of continuity of organizational membership of management, has been raised recently in the context of implementing change in British manufacturing businesses (Ingersoll, 1991). The survey ($n = 500$) covered "a wide range of manufacturing companies from retail goods, transport and engineering to plastics, paper and food" (Ingersoll, 1991, p16) and the response rate was 29 percent. The author highlights the relatively short terms of Managing Directors where "a quarter have been in the job less than two years, and nearly three-quarters less than five years" (Ingersoll, 1991, p17). The reasons for such short periods of tenure are unclear but it is certainly difficult to implement major organizational and cultural changes against such a fluid background.

Manager's commitment may change over time, increasing, for example, because of the advantages of seniority and because of decreased salability with age. Managers can be committed to many aspects of their organizations, so it is also important to define the objects of their commitment. In other words, commitment to the goals and values of the organization can be subdivided into specific activities. For example, managers may have a strong commitment to increase the organization's profitability or sales volume, yet be unconvinced about the contribution which quality initiatives can make in this regard. Of particular interest here is the commitment of managers to the effective implementation and operation of a quality management

system meeting the requirements of ISO 9000.

Ernst & Young (1990) provide further refinement of the concept of management commitment to quality, albeit in relation to TQM. They describe commitment as moving sequentially through several stages:

- (1) vague awareness of the concept but absence of personal involvement;
- (2) commitment of time to gain understanding;
- (3) intellectual understanding with no desire to change culture;
- (4) willingness to change culture and work on personal behavior;
- (5) prioritization of quality ahead of quantity; and
- (6) manager's behavior which reflects complete internalization of the new situation.

This progression is also accompanied by a decrease in the need for significant short-term results to justify further investments in quality initiatives. Thus, they suggest that management commitment to quality is accompanied by understanding of the concepts, philosophy and specific context, a longer-term perspective and close visible involvement during implementation. Of course, this Ernst & Young (1990) model does not have the support of a study of this kind to sustain its claims, being based largely on anecdotal evidence and the experience of its consultancy staff.

Attitudes to ISO 9000 vary considerably. Internationally, it has been observed that there are significant differences across Europe. For example, in the UK there are reportedly over 22,000 registered organizations, but this is by no means typical. Rock (1992) comments that:

“...the scale of the contrast is extraordinary. According to the BSI's German equivalent, the Deutsche Institut für Normung, Norway and Austria each have only 17 companies with ISO 9000 registration. Even Europe's industrial giants are lagging far behind. Germany has only 240 registered companies; France has 480.”

Views differ as to the suitability of ISO 9000 for European enterprises. On the one hand, it is argued, quality management systems are a necessary foundation for

other quality initiatives such as total quality management. Conversely, critics cite the growing body of business opinion, which finds little benefit in adoption of the standard.

2.5.7 Sex role Stereotype and Attitude

Sex role stereotypes have powerfully influenced the behavior of people as sex role stereotypes have a profound influence on managerial perceptions and are socialized very early in life.

2.5.8 Empirical Studies of ISO 9000

Laosuksri (2001) investigated demographic factors and managers' attitudes toward ISO 9000. The study found that there are no significant differences in attitudes toward ISO 9000 when segmented by age, income level, and time of working. However, education levels demonstrated statistically significant differences in attitudes toward ISO 9000. This meant that most of demographic factors did not have an effect on the attitude toward ISO 9000, except for education levels.

Yongrupraphan (2001) studied the perception of the people toward ISO 9002 in Thailand. The questionnaires were distributed to the operating departments of many organizations which implemented ISO 9002 around Bangkok. The study showed that many personnel, even those with high education levels, did not really know what ISO 9002 was. Many people misunderstood the implications of ISO 9002 on a firm's performance. Despite widespread misunderstanding of the concept of ISO 9002, many respondents felt that ISO companies are excellent and can provide the specialized services to consumers.

Kerdkarn (1997) conducted a study on Organizational Communication and Acceptance of the Quality Management System (ISO 9000). The study showed that education levels are significantly related to the acceptance of the ISO 9000. Those employees with Bachelor's degree and higher, showed a higher level of willingness to accept the system. She also found that attitude is significantly correlated with the high level of acceptance of the quality management system. However, the employees at different age levels did not show any difference in their acceptance of ISO 9000.

Kuwasarn (1999) in a study of ISO 9002, found that there is no relationship between age of the employees and their participation in implementing ISO 9002. The levels of education did not influence the participation rate of the employees. In addition, there was also no relationship between levels of income of the employees, and their participation in implementing ISO 9002.

Praditteera (1985) conducted a study on ISO 9000 implementation in Thai academic libraries. The study showed that the most important reasons for choosing ISO as the quality assurance model were to standardize and to improve service quality. The findings showed that a high level of commitment, and the attitude of administrators were perceived as critical factor affecting the success of ISO 9002 implementation, whereas high costs, documentation work, excessive time demands, and a lack of ISO 9002 training, were perceived as major obstacles. Increased accountability, promoting a good image, improving services, and increasing quality awareness, were important benefits from ISO 9002 certification. On the other hand, the perceived challenge in addition to the obstacles to implementation was the difficulty in adapting the generic ISO 9000 system requirements to each level of work.

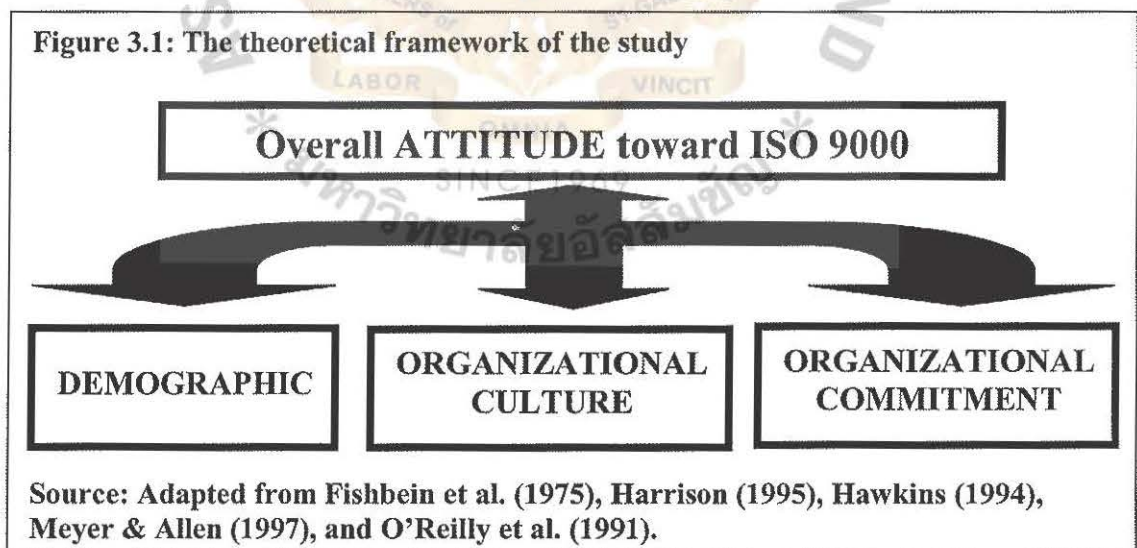
Chapter 3

Research Framework

This chapter describes the theoretical and conceptual framework, definition of variables, research design, and research hypotheses, in order to create clear understanding. All the variables selected are identified by source.

3.1 Theoretical Framework

The model proposed in this study was composed of four principal variables, which are demographic variables, organizational culture, organizational commitment, and managers' attitude toward ISO 9000. The study was designed to explore such demographic measures as gender, age, education levels, length of service, position, and department, relative to attitudes of managers toward ISO 9000. The study explored the relationship between organizational culture orientations: power, support, role, and task, and relates these components to the attitudes of managers toward ISO 9000. In addition, it measured the relationship between organizational commitment components: affective continuance, and normative, and related these to the attitude of managers toward ISO 9000. All these relationships are shown in Figure 3.1 below:



The *ISO 9000* identifies the basic disciplines of a quality management system that can be used by manufacturers, suppliers, distributors and end users (Tricker,

1997). ISO is divided into a number of different parts, which provide details of all the essential requirements for quality assurance during the design, manufacture and acceptance stages of a product. ISO 9000 is not a product standard, but a *quality system standard* (Perry, 1993). It applies not to products or services, but to the process, which creates them. It is designed and intended to apply to virtually any product or service, made by any process, anywhere in the world.

Demographics play an important role, and have a strong impact on attitude (Hawkins et al., 1983). The most widely used demographic factors are age, sex, family size, family lifecycle, income, occupation, education, and social class (Engel et al., 1993). In this study, the researcher emphasized variables i.e age, sex, education level, length of service, department, and position.

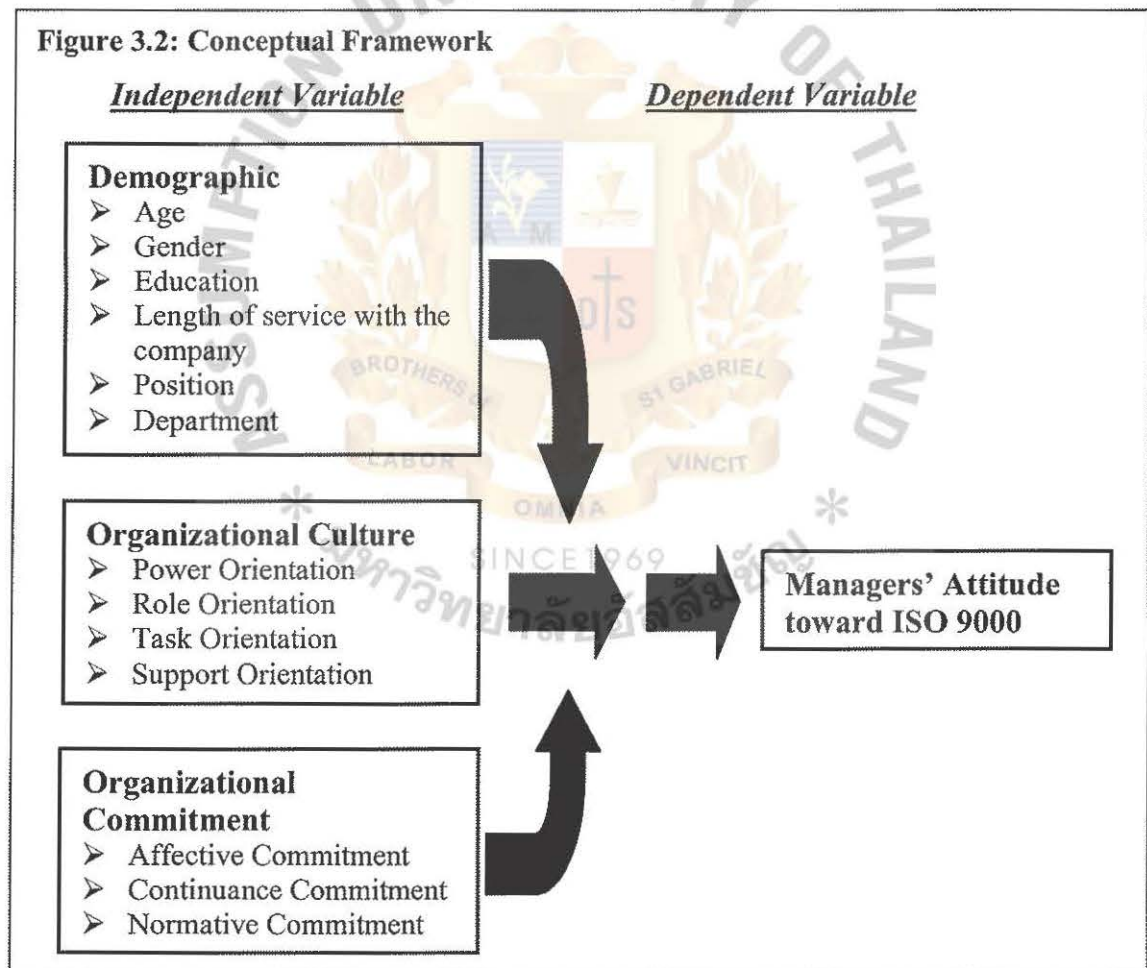
Organizational Culture or Corporate Culture is composed of shared philosophies, ideologies, values, beliefs, assumptions and norms. These are seldom written, shown, or discussed, but they are learned by living in the organization and becoming a part of it (Gardner, 1999). Harrison (1995) has developed four organizational culture types: power, support, role, and task. **Power** culture is the extent to which members of an organization accept that power in organizations is distributed unequally. **Support** culture is considered as people's orientation for quality of life, modesty and caring, intuition and emotion. The **Role** culture encompasses legitimate roles held by members in the organization. Lastly, **Task** culture concentrates on goals and achievements.

Organizational Commitment is the strength of an individual's identification with, and involvement in a particular organization. The employee possesses an affective or emotional attachment to the organization such that the strongly committed individual identifies with, is involved in, and enjoys membership in the organization. Meyer & Allen (1997) used three labels to describe the three components of organizational commitment: affective, continuance, and normative. **Affective** commitment refers to a person's emotional attachment to, identification with, and involvement in the organization. Next, **Continuance** commitment refers to an awareness of the costs associated with leaving an organization. Finally, **Normative** commitment refers to a feeling of obligation to continue employment.

Attitudes are the core of our likes and dislikes for certain people, groups, situation, object, and intangible ideas (Mowen, 1998). Informally defined, attitudes are a predisposition to respond in a positive or negative way to someone or something in one's environment. (Fishbein & Ajzen, 1975; Kassarian & Robertson, 1991; Schiffman, 1994).

3.2 Conceptual Framework

In this section, the researcher has drawn on relevant theories necessary to develop the conceptual framework of the study. The conceptual model explores the relationship between attitude of managers toward ISO 9000, and influencing factors based on previous empirical studies.



3.3 Research Hypotheses

The hypotheses statements as shown below are explanations for certain factors that occur in this research. The researcher classified items in 3 groups. The first group comprises six hypotheses that are intended to measure the differences in managers' attitude toward ISO 9000 when segmented by demographic factors – age, gender, education, length of service with the company, position level, and department. The second group consists of 5 hypotheses that examine the significant relationship between managers' attitude and organizational culture. The third group consists of 4 hypotheses that study the relationship between managers' attitude and organizational commitment.

Group A: Demographic Factors vs. Managers' attitude

Research Question 1. Is there a difference between managers' attitudes toward ISO 9000 and demographic factors?

- H1_o: There is no difference between managers' attitudes components toward ISO 9000 and gender factor.
- H1_a: There is a difference between managers' attitudes components toward ISO 9000 and gender factor.
- H2_o: There is no difference between managers' attitudes components toward ISO 9000 and age levels.
- H2_a: There is a difference between managers' attitudes components toward ISO 9000 and age levels.
- H3_o: There is no difference between managers' attitudes components toward ISO 9000 and education levels.
- H3_a: There is a difference between managers' attitudes components toward ISO 9000 and education levels.
- H4_o: There is no difference between managers' attitudes components toward ISO 9000 and lengths of service.
- H4_a: There is a difference between managers' attitudes components toward ISO 9000 and lengths of service.
- H5_o: There is no difference between managers' attitudes components toward ISO 9000 and position.
- H5_a: There is a difference between managers' attitudes components toward ISO 9000 and position.

H6_o: There is no difference between managers' attitudes components toward ISO 9000 and department.

H6_a: There is a difference between managers' attitudes components toward ISO 9000 and department.

Group B: Organizational Culture vs. Managers' attitude

Research Question 2. Is there a significant relationship between organizational culture and managers' attitude toward ISO 9000?

H7_o: There is no significant relationship between power orientation and managers' attitude toward ISO 9000.

H7_a: There is a significant relationship between power orientation and managers' attitude toward ISO 9000.

H8_o: There is no significant relationship between role orientation and managers' attitude toward ISO 9000.

H8_a: There is a significant relationship between role orientation and managers' attitude toward ISO 9000.

H9_o: There is no significant relationship between task orientation and managers' attitude toward ISO 9000.

H9_a: There is a significant relationship between task orientation and managers' attitude toward ISO 9000.

H10_o: There is no significant relationship between support orientation and managers' attitude toward ISO 9000.

H10_a: There is a significant relationship between support orientation and managers' attitude toward ISO 9000.

H11_o: There is no significant relationship between organizational culture and managers' attitude toward ISO 9000.

H11_a: There is a significant relationship between organizational culture and managers' attitude toward ISO 9000.

Group C: Organizational Commitment vs. Managers' attitude

Research Question 3. Is there significant relationship between organizational commitment and managers' attitude toward ISO 9000?

- H12_o: There is no significant relationship between the affective commitment component and managers' attitude toward ISO 9000.
- H12_a: There is a significant relationship between the affective commitment component and managers' attitude toward ISO 9000.
- H13_o: There is no significant relationship between the continuance commitment component and managers' attitude toward ISO 9000.
- H13_a: There is a significant relationship between the continuance commitment component and managers' attitude toward ISO 9000.
- H14_o: There is no significant relationship between the normative commitment component and managers' attitude toward ISO 9000.
- H14_a: There is a significant relationship between the normative commitment component and managers' attitude toward ISO 9000.
- H15_o: There is no significant relationship between the organizational commitment and managers' attitude toward ISO 9000.
- H15_a: There is a significant relationship between the organizational commitment and managers' attitude toward ISO 9000.

3.4 Operationalization of the Independent and Dependent Variables

The operational definition specifies what must be done to measure the concepts under investigation. Operational definitions help the researcher specify the rules for assigning numbers. The values assigned in the measuring process can be manipulated according to certain mathematical rules. Once the variables of interest have been identified and defined conceptually, a specific type of scale must be selected. In this research, the study applies three types of scales: nominal, ordinal scales, and interval scale. The measurements of each variable are shown in the following table:

Table 3.1: Operational Definition of Influencing Variables

Concept	Conceptual Definition	Operational Component	Level of Measurement
Demographic Factors	The respondent is divided into groups on the basis of variables such as age, sex, income, education, etc.	<ul style="list-style-type: none">➤ Age➤ Gender➤ Educational Level➤ Length of service with the company➤ Position➤ Department	Ordinal Scale Nominal Scale Ordinal Scale Ordinal Scale Nominal Scale Nominal Scale
Organizational Culture Factor: Power Orientation	Power to make the majority of decisions, personal loyalty or a fear of punishment, and decentralization in the organization	<ul style="list-style-type: none">➤ Superior is followed without question➤ Power to make the majority of decisions➤ Fear of punishment rather than loyalty➤ Degree of decentralization	Likert scale (1-5) <ul style="list-style-type: none">➤ Strongly Disagree➤ Disagree➤ Neutral➤ Agree➤ Strongly Agree
Organizational Culture Factor: Role Orientation	Roles held by members in the organization	<ul style="list-style-type: none">➤ Degree of bureaucracy➤ Fixed way of doing things➤ Roles are of major importance➤ Everyone has a clear idea of his/her role.	Likert scale (1-5) <ul style="list-style-type: none">➤ Strongly Disagree➤ Disagree➤ Neutral➤ Agree➤ Strongly Agree
Organizational Culture Factor: Task Orientation	Getting a specific job done, goals, and achievement within a strict deadline.	<ul style="list-style-type: none">➤ Emphasis on achieving goals➤ High task orientation➤ Achievement itself is more important than how a goal is achieved➤ Job done within specific deadlines	Likert scale (1-5) <ul style="list-style-type: none">➤ Strongly Disagree➤ Disagree➤ Neutral➤ Agree➤ Strongly Agree

Table 3.1: Operational Definition of Influencing Variables (Cont.)

Concept	Conceptual Definition	Operational Component	Level of Measurement
Organizational Culture Factor: Support Orientation	People's orientation for quality of life, modesty and caring, intuition, and emotion.	<ul style="list-style-type: none"> ➤ Needs and expectations are at the center of everything ➤ Supports employee's ambition ➤ Decision making is done by consensus ➤ Growth and development is most important 	Likert scale (1-5) <ul style="list-style-type: none"> ➤ Strongly Disagree ➤ Disagree ➤ Neutral ➤ Agree ➤ Strongly Agree
Organizational Commitment: Affective	Person's emotional attachment to the organization	<ul style="list-style-type: none"> ➤ Willing to put a great deal of effort ➤ Will accept any job in order to keep working for organization ➤ Inspires the very best in people ➤ Cares about fate of organization ➤ Feels great loyalty 	Likert scale (1-5) <ul style="list-style-type: none"> ➤ Strongly Disagree ➤ Disagree ➤ Neutral ➤ Agree ➤ Strongly Agree
Organizational Commitment: Continuance	An awareness of the costs and benefits associated with leaving an organization	<ul style="list-style-type: none"> ➤ Talking up an organization to friends ➤ Proud to be a part of the organization ➤ A lot is gained by sticking with the organization ➤ Working for the organization is perceived as a definite benefit. 	Likert scale (1-5) <ul style="list-style-type: none"> ➤ Strongly Disagree ➤ Disagree ➤ Neutral ➤ Agree ➤ Strongly Agree
Organizational Commitment: Normative	Feeling of obligation to continue employment	<ul style="list-style-type: none"> ➤ Difficulty in agreeing with an organization's policies ➤ Manager's values and the organization's are very similar ➤ Employee is extremely glad to choose the organization ➤ The organization is perceived as the best of all possible organizations 	Likert scale (1-5) <ul style="list-style-type: none"> ➤ Strongly Disagree ➤ Disagree ➤ Neutral ➤ Agree ➤ Strongly Agree

Table 3.1: Operational Definition of Influencing Variables (Cont.)

Concept	Conceptual Definition	Operational Component	Level of Measurement
Attitude toward ISO 9000	Person's like/dislike, feelings, beliefs, or intent to help the organization in managing ISO standards for success	<ul style="list-style-type: none">➤ I believe ISO is good to adopt➤ I believe ISO enhances the management standards➤ I believe ISO enhances image and goodwill➤ I believe ISO makes my work easier➤ I believe ISO will help to develop a better working quality➤ I like the system used➤ I feel programs are effective➤ I intend to participate in managing the ISO system➤ I intend to support the system➤ I intend to do my best to assist the implementation of the ISO program	<p>Likert scale (1-5)</p> <ul style="list-style-type: none">➤ Strongly Disagree➤ Disagree➤ Neutral➤ Agree➤ Strongly Agree

Chapter 4

Methodology

This chapter outlined the methodology that was used in this research. The researcher chose a survey method for collecting data for this research. The sections of this chapter include the research method used, respondents, data collection procedures, research instruments, collection of data and statistical treatment of data.

4.1 Research Methods Used

Churchill (1995) stated that descriptive research is used to describe the characteristics of certain groups and to estimate the proportion of people in a specified population who behave in a certain way of interest in a situation. Given the research objectives, the descriptive research was the method that was used in this research study.

A survey is a system for collecting information to describe, compare, or explain knowledge on the variables chosen for this survey i.e. managers' attitudes toward ISO 9000, organizational culture and organizational commitment. A survey method is another research technique in which information is gathered from a sample of people by use of questionnaire; a method of data collection based on communication with a representative sample of individuals. In this research, primary data was collected from respondents through the use of questionnaires.

4.2 Respondents and Data Collection Procedures

4.2.1 Respondents

Zikmund (1999) defined respondents as the persons who answer interview questions or persons who provide answers to written questions in self-administered surveys. In this study, respondents mean all managers including supervisors, middle, and senior managers. According to Taylor (1995a, 1995b), manager commitment may change over time, increasing, for example, because of the advantages of seniority and because of decreased ability with age. Managers can be committed to many aspects of their organizations, so it is also important to define the objects of their commitment.

Since managers are a key element in making ISO programs a success, the researcher selected the target population as managers.

4.2.2 Target Population

There are two broad approaches to organizational studies – one can sample organizations across industries or within industries. There are some problems with mixing organizations across industries, including the difficulty in constructing items to measure the same concept in different contexts. In addition, while the heterogeneity obtained by sampling organizations from a variety of industries provides values generality, it also creates unwanted noise in the data that may obscure the effects one is searching for. Thus, for this study, the researcher selected the firms within the industry approach to maximize item interpretability across organizations, as well as to avoid some of the undesired effects of organizational heterogeneity. The particular industry selected for study in this research was the electrical machinery industry.

Davis & Cosenza (1988) started that a population is defined as the complete set of units of analysis that are under investigation. The target population for the study was all managers including supervisors, middle, and senior managers in Bangkok and Samutprakarn, who work with large companies in the electrical machinery industry that have adopted ISO 9000 at all levels for over 2 years. The researcher studied the entire population of target respondents by using census technique that involves a complete count of each element in a population (Malhotra, 2002).

4.2.2 Data Collection Procedures

In this study, the researcher selected large companies in electrical machinery industry that are already certified for ISO 9000 at all levels for over 2 years. Steps of data collection in this study were as follows:

1. The researcher found information on firms in the electrical industry that employs more than 500 workers – it was observed that only three large organizations with over 500 employees had used all the steps related to ISO 9000 for over two years.

2. Telephone enquiries were made in November 2002 to these three electrical machinery companies in Bangkok and Samutprakarn area (Appendix C & D) to find the exact number of their employees and managers.
3. Telephone enquiries were made in November 2002 to these companies to secure the permission for conducting the questionnaire survey and to establish contact with the relevant person from human resource department who would assist in the distribution of questionnaires.
4. After the necessary contacts had been made, the questionnaire survey form together with an introduction letter was handed to the human resource department in the companies. Only those with managerial positions were given the questionnaires.

4.2.2.1 Data Collection Plan

This research is a survey technique and the questionnaires were distributed to all 243 manager respondents in the 3 large companies of the electrical machinery industry who had adopted all levels of ISO 9000 in Bangkok and Samutprakarn. These are ABB Group, Philips Electronics (Thailand) Ltd. (luminaries), and Siam Electrical Parts and Industries Co.Ltd. The 3 firms are shown with the number of workers and managers employed, as follows:

Table 4.1: Number of Managers in respondent companies

No	Company Name	Number of Workers	Number of Managers & Supervisors
1.	ABB Group	723	93
2.	Philips Electronics (Thailand) Ltd. (Luminaries)	596	73
3.	Siam Electrical Parts and Industries Co., Ltd.	652	77
TOTAL RESPONDENTS			243

The distribution of questionnaires to respondents was conducted through the human resource departments of the three firms. The researcher distributed the questionnaires during 15 November – 20 December 2002.

4.3 Research Instruments / Questionnaires

The data collection instrument used in this study was a written survey questionnaire. The full questionnaire is included in the appendix. Essentially, it

provided a series of statements and asked the respondents to rate their agreement with the statements using a Likert-type scale. According to Likert (1932) attitudes can be measured by having a respondent attach an indication of the degree of agreement or disagreement to a statement. The questionnaire included a set of questions designed to measure attitude, organizational culture, and organizational commitment. The overall purpose of the study was to examine the linkage among organizational culture, and organizational commitment, and manager's attitude toward ISO 9000 within their organizations.

Sekaran (1992) claimed that an “*Interval scale* is used when responses to various items that measure a variable can be tapped on a five-point (or seven-point or any other number of points) scale, which can thereafter be summated across the items.” (p.166). Zikmund (1994: 286) also pointed out that an “*interval scale* is used to measure psychological attributes, the researcher can comment on the magnitude of differences or compare the average differences on attributes that are measured but cannot determine the actual strength of attitudes toward an object”.

➤ ***Attitude toward ISO 9000– survey questions A1-A10***

This section was intended to cover the attitude of managers' toward ISO 9000. There are 10 questions in this part. A Likert scale was used to indicate the degree of agreement or disagreement with a variety of statements related to attitude toward ISO 9000. The measurement scales are summed across statements to get the attitude score by using a 5-point Likert scale from strongly disagree (1 mark) to strongly agree (5 marks).

➤ ***Organizational Culture – survey questions B1-B16***

The organizational culture investigates managers' perceptions of the degree to which certain cultural patterns exist within their organization. In this study, organizational culture includes four orientations: power, support, role, and task.

➤ ***Organizational Commitments – survey questions C1-C15***

An assessment of organizational commitment questionnaire was obtained using a questionnaire designed and published by Mowday et al. (1979). The 15-items scale was designed to be used in a summated response technique to measure the degree of

commitment managers had to the organization. The 15 statements are rated using 5-point Likert-type scales with the following anchors: (1) strongly disagree, (2) disagree, (3) neither agrees nor disagree, (4) agree, and (5) strongly agree.

➤ **Demographic – survey questions D1-D8**

The final section covered respondents' demographic characteristics which measured length of service with the company, position, gender, age, education, and income. These variables were assessed in means, frequencies, and percentages.

Table 4.2: Operational Definition of Influencing Variables relate to questionnaire

Part	Variables	Conceptual Definitions	Question No.
I	Attitude	An individual's preference, inclination, views or feelings toward some phenomenon.	A (all questions)
II	Power Orientation	Power to make the majority of decisions, personal loyalty or a fear of punishment, and decentralization in organization	B (1,2, 3, & 4)
II	Role Orientation	Roles held by members in the organization	B (5, 6, 7, & 8)
II	Task Orientation	Getting a specific job done, goals, and achievement within a strict deadline.	B (9, 10, 11, & 12)
II	Support Orientation	People's orientation for quality of life, modesty and caring, intuitive and emotional	B (13, 14, 15, & 16)
III	Affective	A person's emotional attachment to the organization	C (1, 2, 3, 4, & 5)
III	Continuance	An awareness of the costs associated with leaving an organization	C (6, 7, 8, 9, & 10)
III	Normative	Feeling of obligation to continue employment	C (11, 12, 13, 14, & 15)
IV	Demographic	The basis of variables such as age, sex, etc.	D (all questions)

4.4 Pilot Test / Reliability

Churchill (1995) claimed that the questionnaire pretest is vital. It is the use of questionnaire on a trial basis in a small pilot study to determine how reliable and valid the questionnaire is. In the pretest, the interviewer can see whether some questions seem confusing or produce resistance or hesitancy among respondents for one reason or another. The researcher looks for evidence of ambiguous questions and respondent misunderstanding, whether the questions mean the same thing to all respondents, the point at which respondent's fatigue sets in, places in the questionnaire where a respondent is likely to terminate, and other considerations. Vanichbuncha (2001)

argued that in order to conduct the pilot survey or pretest, the number of respondents should be at least 25 samples. Therefore, the researcher piloted this questionnaire by trying out the questionnaire with 32 respondent managers of 3 medium-sized companies in the electrical machinery industry which have adopted ISO 9000 for over 2 years. These are Safe-T-Cut MFG Co., Ltd., Charoen Chai Transformer Co., Ltd., and Siwali Transformer Co., Ltd. The 3 firms that satisfied these criteria were as follows:

Table 4.3: Number of Managers in pilot respondent companies

No	Company Name	Number of Workers	Number of Managers & Supervisors
1.	Charoen Chai Transformer Co., Ltd.	258	11
2.	Safe-T-Cut MFG Co., Ltd.	201	7
3.	Siwali Transformer Co., Ltd.	276	14
TOTAL RESPONDENTS			32

After pretesting the questionnaire, some question wordings was improved, some that did not provide adequate information were eliminated, and some that caused problems were revised.

In order to find out reliability, the overall questions in the questionnaire are processed in SPSS program by using the Cronbach's Coefficient Alpha Scales. After examining the questionnaire, the result of the reliability analysis was an alpha coefficient as shown in Table 4.4.

Table 4.4: Reliability of the questionnaire for piloted survey

Questionnaire Section	Number of Cases	Number of Items	Alpha Coefficient
1. Managers' attitudes	30	14	0.8469
2. Organizational Culture	30	16	0.7450
3. Organizational Commitment	30	15	0.6734
Overall	30	45	0.8687

Sekaran (1992) stated that if the reliability value is at least 0.6, a questionnaire is considered reliable. The reliability analysis resulting from the pilot study indicated that this questionnaire was adequate for examining the research's hypotheses.

Moreover, the researcher fined out the overall reliability after collected data and seem that the result of the reliability analysis was an alpha coefficient as shown in following table.

Table 4.5: Reliability of the questionnaire for completed survey

Questionnaire Section	Number of Cases	Number of Items	Alpha Coefficient
4. Managers' attitudes	243	14	0.8735
5. Organizational Culture	243	16	0.8883
6. Organizational Commitment	243	15	0.8818
Overall	243	45	0.9521

4.5 Collection of Data / Gathering Procedures

The unit analyses of this study were managers in the electronic machinery industry. Data were collected through questionnaires administered to the managers. Questionnaires were distributed by the researcher to the respondents though their respective human resource departments. The procedures for gathering data are shown below.

Primary Data

Malhotra (2000) mentioned that primary data is that originated by the researcher for the specific purpose of addressing the research problem. Data is collected and assembled specifically for the purpose of investigation at hand. In order to achieve the objectives of this study, survey by self-administered questionnaire was conducted to gather information. The packages of materials distributed to the electronic machinery managers included (1) a cover letter including survey distribution protocol (Appendix E), and (2) four-page questionnaire.

4.6 Statistical Treatment of Data

Several methods of statistical analyses were used to analyze the returned questionnaires. The data was coded and processed by SPSS (Statistical Package for the Social Sciences). After collecting the data from questionnaires, the data were coded into symbolic form that is used in SPSS software. The form of data presentation from these procedures was presented in an easily interpretable format. SPSS program was

used for both descriptive analysis and test of hypotheses. The appropriate statistical tools, which were used in this study, were as follows:

1. The independent T-test was used to test Hypotheses 1. That is, to determine whether there were any differences of the means occurring between two groups in one independent variable.
2. The Analysis of Variance (ANOVA) was used to test Hypotheses 2-6. That is, to determine whether there were any differences of the means occurring between more groups in one independent variable.
3. The Pearson Correlation Coefficient was used to test Hypotheses 7-11. That is, to test whether or not there were significant relationships between component of organizational culture (power, role, task and support) and managers' attitude toward ISO 9000.
4. The Pearson Correlation Coefficient was used to test Hypotheses 12-15. That is, to test whether or not there were significant relationships between components of organizational commitment (affective, continuance, and normative) and managers' attitude toward ISO 9000.

4.6.1 Descriptive Analysis

Kinnear & James (1991) stated that descriptive statistics is a branch of statistics that provides researchers with summary measures for the data in their samples. Descriptive statistics consists of the frequency and percentage in order to describe each variable that is associated with respondent data.

4.6.2 Independent T-test

Saiyod & Saiyod (1995) stated that Independent T-test is used to test the hypothesis that the mean scores on some interval or ratio scaled variables will be significantly different for two independent samples or groups. To use T-test for differences of means, it is assumed that two samples are drawn from normal distributions and the variance of the two populations or groups are equal. The following is the formula for T-test analysis:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

$$df = \frac{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right)}{\frac{\left(\frac{S_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{S_2^2}{n_2}\right)^2}{n_2 - 1}}$$

Where:

\bar{X}_1	=	Mean of group 1
\bar{X}_2	=	Mean of group 2
S_1^2	=	Variance of group 1
S_2^2	=	Variance of group 2
n_1	=	Sample size of group 1
n_2	=	Sample size of group 2
df	=	Degree of freedom

4.6.3 Analysis of Variance (ANOVA)

Zikmund (2000) stated that Analysis of Variance (ANOVA) involves the investigation of the effects of one treatment variable on an interval scaled dependent variable; a hypothesis testing technique to determine whether statistically significant differences on means occur between two or more groups. The F-test is a procedure for comparing one sample variance with another sample variance. The formula is shown below:

$$F = \frac{MS_b}{MS_w}$$

Where:

F	=	F-distribution
MS_b	=	Mean Square between groups
MS_w	=	Mean Square within groups

Summary for Analysis of Variance

Source of Variations	Sum of Squares	Degree of Freedom	Mean Square	F- ratio
Between groups	SS _b	P-1	MS _b	
Within group	SS _w	N-P	MS _w	$F = \frac{MS_b}{MS_w}$
Total	SS _t	N-1		

Where: P = Number of groups
N = Number of observations in a group

4.6.4 Pearson Correlation Coefficient

Zikmund (2000) claimed that the most popular technique that indicates the relationship of one variance to another is the simple correlation analysis. The simple correlation coefficient is a statistical measure of the covariation or association between two variables. The formula for calculating the correlation coefficient(r) for two variables, X and Y is:

$$r_{xy} = r_{yx} = \frac{\sum (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum (X_i - \bar{X})^2 \sum (Y_i - \bar{Y})^2}}$$

Where: X and Y represent the sample means of X and Y, respectively.

4.6.5 Summary of the analytical methods used in this research:

- 1. Independent T-test: for hypotheses 1.
- 2. ANOVA: for hypotheses 2-6.
- 3. Pearson Correlation Coefficient: for hypotheses 7-15.

Table 4.4: Summary of Hypotheses and Statistical Analyses

Hypothesis	Statistical
H1 _o : There is no relationship between managers' attitudes toward ISO 9000 and gender factors	Independent T-Test
H1 _a : There is a relationship between managers' attitudes toward ISO 9000 and gender factors	

Table 4.3: Summary of Hypotheses and Statistical Analyses (Cont.)

Hypothesis	Statistical
H2 _o : There is no relationship between managers' attitudes toward ISO 9000 and age factors H2 _a : There is a relationship between managers' attitudes toward ISO 9000 and age factors	ANOVA
H3 _o : There is no relationship between managers' attitudes toward ISO 9000 and education levels factors H3 _a : There is a relationship between managers' attitudes toward ISO 9000 and education levels factors	ANOVA
H4 _o : There is no relationship between managers' attitudes toward ISO 9000 and lengths of service factors H4 _a : There is a relationship between managers' attitudes toward ISO 9000 and lengths of service factors	ANOVA
H5 _o : There is no relationship between managers' attitudes toward ISO 9000 and positions factors H5 _a : There is a relationship between managers' attitudes toward ISO 9000 and positions factors	ANOVA
H6 _o : There is no relationship between managers' attitudes toward ISO 9000 and departments factors H6 _a : There is a relationship between managers' attitudes toward ISO 9000 and departments factors	ANOVA
H7 _o : There is no significant relationship between power orientation and managers' attitude toward ISO 9000 H7 _a : There is a significant relationship between power orientation and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H8 _o : There is no significant relationship between role orientation and managers' attitude toward ISO 9000 H8 _a : There is a significant relationship between role orientation and managers' attitude toward ISO 9000	Pearson Correlation Coefficient

Table 4.3: Summary of Hypotheses and Statistical Analyses (Cont.)

Hypothesis	Statistical
H9 _o : There is no significant relationship between task orientation and managers' attitude toward ISO 9000 H9 _a : There is a significant relationship between task orientation and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H10 _o : There is no significant relationship between support orientation and managers' attitude toward ISO 9000 H10 _a : There is a significant relationship between support orientation and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H11 _o : There is no significant relationship between organizational culture and managers' attitude toward ISO 9000 H11 _a : There is a significant relationship between organizational culture and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H12 _o : There is no significant relationship between affective commitment component and managers' attitude toward ISO 9000 H12 _a : There is a significant relationship between affective commitment component and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H13 _o : There is no significant relationship between continuance commitment component and managers' attitude toward ISO 9000 H13 _a : There is a significant relationship between continuance commitment component and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H14 _o : There is no significant relationship between normative commitment component and managers' attitude toward ISO 9000 H14 _a : There is a significant relationship between normative commitment component and managers' attitude toward ISO 9000	Pearson Correlation Coefficient

Table 4.3: Summary of Hypotheses and Statistical Analyses (Cont.)

Hypothesis	Statistical
H15 _o : There is no significant relationship between organizational commitment and managers' attitude toward ISO 9000	Pearson Correlation Coefficient
H15 _a : There is a significant relationship between organizational commitment and managers' attitude toward ISO 9000	



Chapter V

Data Analysis

This study which was conducted within firms in the electronic machinery industry in Bangkok and Samutprakarn provinces, examined manager's attitude toward ISO 9000. Data was collected by distributing questionnaires in 3 companies during the period of 15th October, 2002 to 15th January, 2001. In each selected company, questionnaires were distributed to all managers, at supervisory, middle, and senior management levels. The numbers of questionnaires returned were 243 sets divided as follows:

Electronic Machinery Company	No. of Returned Questionnaires
ABB Group	93
Philips Electronics (Thailand) Ltd. (Luminaries)	73
Siam Electrical Parts and Industries Co., Ltd.	77
TOTAL	243

In the following sections, the researcher presents the findings using descriptive statistical analysis, as well as inferential statistical analysis for the test of hypotheses.

Descriptive Statistical Analysis

5.1 Respondents' Demographic Characteristics

Table 5.1: Frequency and Percentage of Gender

Gender of respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	205	84.4	84.4	84.4
	Female	38	15.6	15.6	100.0
	Total	243	100.0	100.0	

Table 5.1 shows that 205 respondents are male while 38 respondents are female, which represents 84.4% and 15.6% respectively.

Table 5.2: Frequency and Percentage of Age levels

Age levels of respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 - 30	45	18.5	18.5	18.5
	31 - 40	114	46.9	46.9	65.4
	41 - 50	60	24.7	24.7	90.1
	Over 50	24	9.9	9.9	100.0
	Total	243	100.0	100.0	

Table 5.2 shows that 45 respondents are aged between 21-30 years (18.5%), 114 respondents are aged between 31-40 years (46.9%), 60 respondents are aged between 41-50 years (24.7%), and 24 respondents are aged over 50 years (9.9%).

Table 5.3: Frequency and Percentage of Education levels

The highest education levels of respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's Degree	102	42.0	42.0	42.0
	Graduate Degree	141	58.0	58.0	100.0
	Total	243	100.0	100.0	

Table 5.3 shows that 102 respondents have bachelor's degrees while 141 respondents have graduate degrees, which represents 42.0% and 58.0% respectively.

Table 5.4: Frequency and Percentage of Length of service with the company

Length of services with the company					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Half year - A year	24	9.9	9.9	9.9
	A year - One and half year	22	9.1	9.1	18.9
	one and half year - 2 years	66	27.2	27.2	46.1
	More than 2 years	131	53.9	53.9	100.0
	Total	243	100.0	100.0	

Table 5.4 shows the number of respondents and their work experience with the company between half year - a year, a year - one and half year, one and half year - 2

years, and more than 2 years are 24, 22, 66, and 131 which represents 9.9%, 9.1%, 27.2, and 53.9% respectively.

Table 5.5: Frequency and Percentage of Positions

Positions of respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Middle/Project/Product Manager	129	53.1	53.1	53.1
	Department Manager	58	23.9	23.9	77.0
	Senior Manager	34	14.0	14.0	90.9
	Supervisor	22	9.1	9.1	100.0
	Total	243	100.0	100.0	

Table 5.5 shows that the majority of respondents, 129, are Middle/Project/Product Managers (53.1%). The remaining are supervisors (22%), department manager (23.9%), and senior managers (14%) respectively.

Table 5.6: Frequency and Percentage of Departments

Departments of respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Finance and Accounting	25	10.3	10.3	10.3
	Marketing	67	27.6	27.6	37.9
	Purchasing	10	4.1	4.1	42.0
	Production	26	10.7	10.7	52.7
	Personnel	13	5.3	5.3	58.0
	Logistics and Warehouse	16	6.6	6.6	64.6
	Foreigh Affairs	12	4.9	4.9	69.5
	International Business	15	6.2	6.2	75.7
	Legal	11	4.5	4.5	80.2
	Internal Audit	6	2.5	2.5	82.7
	Quality Asurance	4	1.6	1.6	84.4
	Research and Development	7	2.9	2.9	87.2
	Marketing Research	7	2.9	2.9	90.1
	Information Technology	11	4.5	4.5	94.7
	Administration	4	1.6	1.6	96.3
	Regulatory Affairs	5	2.1	2.1	98.4
	Other	4	1.6	1.6	100.0
	Total	243	100.0	100.0	

Table 5.6 shows that 67 respondents were working in the marketing department (27.6%), 25 respondents in finance & accounting department (10.3%), and 26 respondents in the production department (10.7%). Those three departments have a total of 118 respondents that equal 48.6% of all respondents. The findings also showed that departments which have respondents between 5–10% are personnel department (5.3%), logistics & warehouse department (6.6%), and International Business department (6.2%). Others are purchasing, foreign affairs, legal, internal audit, research & development, marketing research, information technology, and regulatory affairs departments with 10, 12, 11, 6, 4, 7, 7, and 11, which represents 4.1%, 4.9%, 4.5%, 2.5%, 2.9%, 2.9%, 4.5%, and 2.1% respectively. Quality assurance, administration, and others are only 1.6% (4 respondents) and these form the minority of respondents.

5.2 Respondents' variable toward ISO 9000

The research instrument (part I of the questionnaire) attempted to measure the level of managers' attitude toward ISO 9000 system. There are 14 statements for this section. For each statement, the respondents are provided with a five point scale, ranging from one (strongly disagree) to five (strongly agree). Mean scores and standard deviation are summarized in Table 5.7.

Table 5.7: Summarized Mean scores and Standard Deviation of managers' attitude toward ISO 9000

Managers' Attitude Toward ISO	N	Mean	Standard Deviation
1. I like the ISO 9000 system used in my company	243	3.26	.62
2. I feel that ISO 9000 programs in my company are effective in improving productivity	243	2.88	.68
3. I feel that ISO 9000 programs in my company are effective in improving customer service	243	3.20	.79
4. I feel that ISO 9000 programs in my company are effective in reducing cost	243	2.77	.65
5. I feel that ISO 9000 programs in my company are effective in developing staff potential	243	3.34	.64
6. I feel that ISO 9000 programs in my company are effective in building up better teamwork	243	3.42	.67
7. I believe that it is good for my company to adopt the ISO 9000	243	3.21	.55
8. I believe that ISO 9000 has enhanced the management standards of my company.	243	2.92	.50
9. I believe that ISO 9000 has enhanced the image and goodwill of my company	243	3.49	.63
10. I believe that ISO 9000 makes my work easier	243	3.74	.62
11. I believe that ISO 9000 will help to develop a better working quality	243	3.31	.72
12. I intend to participate in the ISO 9000 programmes	243	3.54	.73
13. I intend to support ISO 9000 programmes	243	3.31	.72
14. I intent to do my best to assist my company in maintaining the ISO 9000 standard	243	3.54	.73
Valid N (listwise)	243	3.2807	

Based on Table 5.7, the mean score of managers' attitude toward ISO was 3.28. The item that ranked the highest (3.74) score was managers' feeling that ISO 9000 made his/her work easier. Managers' intention to participate in ISO programs, as well as doing their best to assist their companies in maintaining ISO standards, obtained the same mean score of 3.54. The lowest mean score was evident in terms of ISO 9000 and reducing cost, which means that managers did not feel that implementing ISO 9000 in their companies would help them to be more cost-effective.

The second part of the instrument (part II of the questionnaire) attempted to measure the level of organizational culture of the company. There are 16 statements that included power orientation, role orientation, task orientation, and support

orientation in this section. For each statement, the respondents were provided with a five point scale, ranging from one (strongly disagree) to five (strongly agree). Mean scores and standard deviation are summarized in Table 5.8.

Table 5.8: Summarized Mean scores and Standard Deviation of organizational culture

Organizational Culture Questions	N	Mean	Standard Deviation
1. Supervisors in my organization are to be followed without question	243	3.67	.61
2. Those at the top of the organization, have the power to make the majority of decisions	243	3.67	.47
3. Individuals in my firms are motivated by fear of punishment than loyalty	243	3.49	.63
4. There is a low degree of decentralization in my organization	243	3.51	.50
5. There is a high degree of bureaucracy in my organization	243	3.64	.78
6. There is a fixed way of doing things in my organization	243	3.30	.60
7. Roles are more important than individuals in my organization	243	3.40	.78
8. Everyone has a clear idea of his/her role in my organization	243	3.77	.42
9. There is a strong emphasis on achieving goals in my organization	243	3.32	.65
10. There is a high task-oriented culture in my organization	243	3.59	.66
11. What is achieved is more important than how it is achieved in my organization	243	3.31	.72
12. Getting a job done within a specific deadline is the most important aspect of organization life	243	3.65	.75
13. The needs and expectations of the individual are at the center of my organization	243	3.31	.72
14. The organization supports employees in their ambition	243	3.08	.83
15. Decision-making is done by consensus in my organization	243	2.81	.78
16. The personal growth and development of individuals is most important in my organization	243	3.49	.63
Valid N (listwise)	243	3.4390	

Based on Table 5.8, the mean score of organizational culture was 3.43. The highest ranking statement was managers' feeling that everyone had a clear idea of his/her role in the organization (3.77). A strict organization culture appears to be evident in these organizations judging from the scores obtained by statements such as "supervisors in my organization are to be followed without question" (mean 3.67), "those at the top have the power to make the majority of decisions" (mean 3.67),

"getting a job done within a specific deadline" (mean 3.65), and "there is a high degree of bureaucracy in my organization" (mean 3.64). The lowest ranked statement was "decision-making is done by consensus in my organization" (mean 2.81).

The findings in Table 5.8 are summarized to display the four types of organizational culture in Table 5.9.

Table 5.9: Summarized Mean scores and Standard Deviation of organizational culture and its components

Components of Organizational Culture	N	Mean	Standard Deviation
Power Culture Component	243	3.5854	.4502
Role Culture Component	243	3.5298	.5348
Task Culture Component	243	3.4681	.4565
Support Culture Component	243	3.1728	.5874
Valid N (listwise)	243	3.4390	

Based on Table 5.10, the mean score of power culture orientation ranks the highest (3.5854), followed by role culture (3.52), task culture (3.46), with support culture ranking the lowest (3.1728).

The third section of the instrument (part III of the questionnaire) attempted to measure the level of organizational commitment of managers. There were 15 statements that included affective commitment, continuance commitment, and normative commitment. For each statement respondents were provided with a five point scale, ranging from one (strongly disagree) to five (strongly agree). Mean scores and standard deviation are summarized in Table 5.8.

Table 5.10: Summarized Mean scores and Standard Deviation of organizational commitment

Organizational Commitment Questions	N	Mean	Standard Deviation
1. I am willing to put a great deal of effort beyond that normally expected in order to help this organization be successful	243	3.67	.61
2. I will accept almost any type of job in order to keep working for this organization	243	3.42	.67
3. This organization really inspires the very best in me in the way of job performance	243	2.88	.68
4. I really care about the fate of this organization	243	3.67	.61
5. I feel great loyalty to this organization	243	2.77	.65
6. I talk up this organization to my friends as a great organization to work for	243	3.11	.65
7. I am proud to tell others that I am part of this organization	243	3.37	.75
8. It will take very little change in my present circumstances to cause me to leave this organization	243	2.87	.63
9. There is a lot to be gained by sticking with this organization indefinitely	243	3.21	.64
10. Deciding to work for this organization was definitely a benefit on my part	243	3.08	.63
11. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees	243	3.67	.47
12. I find that my values and the organization's are very similar	243	3.10	.68
13. I could just as well be working for a different organization as long as the types of work were similar	243	3.67	.61
14. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined	243	3.74	.62
15. For me this is the best of all possible organizations to work for	243	3.49	.63
Valid N (listwise)	243	3.3141	

Based on Table 5.7, the mean score of organizational commitment ranked at 3.31, with the highest ranking statement being "I am extremely glad I chose this organization to work for over others" (mean 3.74). Four other statement scored similar means of 3.67, and these were related to "willingness to put effort to make the organization successful", "really care about the fate of my organization", "difficulty in agreeing with organization's policies on its employees", and " working for a different organization as long as the work was similar". The lowest ranked statement was related to "it would take very little change in my present position to cause me to leave this organization" (mean 2.77).

Table 5.10 shows a summary of the three types of organizational commitment with mean scores and standard deviation.

Table 5.11: Summarized Mean scores and Standard Deviation of organizational commitment and its components

Components of Organizational Commitment	N	Mean	Standard Deviation
Affective Commitment Component	243	3.2798	.4487
Continuance Commitment Component	243	3.1292	.4740
Normative Commitment Component	243	3.5333	.4734
Valid N (listwise)	243	3.3141	

Based on Table 5.11, the mean score of normative commitment ranks the highest (3.53), followed by affective commitment (3.27) with continuance commitment ranking the lowest (3.12).

According to the findings of Tables 5.8 to 5.11, organizational culture (3.4390) scores slightly higher than organizational commitment (3.3141) in the selected organizations.

Inferential Statistical Analysis

5.3 Hypotheses Testing

In this study, there were 10 hypotheses that were tested in order to determine managers’ attitude toward ISO 9000 system. ANOVA, Independent t-test, and Pearson Correlation Coefficient were used in order to test all the hypotheses. If significant value (p-value) is less than the chosen level of significance, the null hypothesis is rejected, otherwise, the null hypothesis will be accepted or failed to reject. The results are shown below:

Hypothesis 1

- H1_o: There is no difference between managers’ attitudes toward ISO 9000 and gender factor
- H1_a: There is a difference between managers’ attitudes toward ISO 9000 and gender factor

Table 5.12: The analysis of the relationship between managers’ attitude and gender factor by using One-Way-ANOVA

ANOVA

Gender of respondent

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.068	7	.867	7.838	.054
Within Groups	25.990	235	.111		
Total	32.058	242			

The analysis of variance from Table 5.12, indicates that the significant value of .054 is more than .05 ($.054 > .05$), which means that the null hypothesis was accepted. Therefore, there is no difference between managers’ attitude toward ISO 9000 and gender of respondents at the .05 significant level.

Hypothesis 2

- H2_o: There is no difference between managers’ attitudes toward ISO 9000 and age levels
- H2_a: There is a difference between managers’ attitudes toward ISO 9000 and age levels

Table 5.13: The analysis of the relationship between managers’ attitude and age levels factor by using One-Way-ANOVA

ANOVA

Current age of respondent

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.799	7	4.971	7.795	.000
Within Groups	149.868	235	.638		
Total	184.667	242			

Table 5.12 shows the significant value of .000, which is more than .05 ($.000 < .05$). Therefore, the null hypothesis was rejected. It means that there is a difference between managers’ attitude toward ISO 9000 when segmented by age levels at the .05 significant level.

Hypothesis 3

H3_o: There is no difference between managers' attitudes toward ISO 9000 and education levels

H3_a: There is a difference between managers' attitudes toward ISO 9000 and education levels

Table 5.14: The analysis of the relationship between managers' attitude and education levels factor by using One-Way-ANOVA

ANOVA

The highest level of education that respondent has completed

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	48.192	7	6.885	147.164	.000
Within Groups	10.994	235	4.678E-02		
Total	59.185	242			

The analysis of variance from Table 5.14 indicates that the significant value of .000 is less than .05 ($.000 < .05$), which means that the null hypothesis was rejected. Therefore, there is a difference between managers' attitude toward ISO 9000 and education, at the .05 significant level.

Hypothesis 4

H4_o: There is no difference between managers' attitudes toward ISO 9000 and length of service

H4_a: There is a difference between managers' attitudes toward ISO 9000 and length of service

Table 5.15: The analysis of the relationship between managers' attitude and length of service factor by using One-Way-ANOVA

ANOVA

Length of service with the company

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	171.343	7	24.478	92.266	.000
Within Groups	62.344	235	.265		
Total	233.687	242			

The analysis of variance from Table 5.15 indicates that the significant value of .000 is less than .05 ($.000 < .05$), which means that the null hypothesis was rejected. Therefore, there is a difference between managers' attitude toward ISO 9000 and length of service, at the .05 significant level.

Hypothesis 5

- H5₀: There is no difference between managers' attitudes toward ISO 9000 and position
H5_a: There is a difference between managers' attitudes toward ISO 9000 and position

Table 5.16: One-way ANOVA between managers' attitude and position factor

ANOVA					
Position of respondent					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	26.913	7	3.845	4.234	.134
Within Groups	213.384	235	.908		
Total	240.296	242			

In Table 5.16, the analysis of variance shows a significant value of .134, which is more than .05 ($.134 > .05$). Therefore, the null hypothesis was accepted. It means that there is no difference between managers' attitude toward ISO 9000 when segmented by position of respondents, at the .05 significant level.

Hypothesis 6

- H6₀: There is no difference between managers' attitudes toward ISO 9000 and department
H6_a: There is a difference between managers' attitudes toward ISO 9000 and department

Table 5.17: One-way ANOVA between managers' attitude and department

ANOVA					
Department of respondent					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1174.330	7	167.761	10.687	.095
Within Groups	3688.855	235	15.697		
Total	4863.185	242			

The analysis of variance from Table 5.17, indicates a significant value of .095, which is more than .05 ($.095 > .05$), which means that the null hypothesis was accepted. Therefore, there is no difference between managers' attitude toward ISO 9000 and department of respondents, at the .05 significant level.

Hypothesis 7

- H7_o: There is no significant relationship between power orientation and managers' attitude toward ISO 9000
- H7_a: There is a significant relationship between power orientation and managers' attitude toward ISO 9000

Table 5.18: Managers' attitude and power culture component

Correlations			
		Means of Attitude	Means of Power Culture Component
Means of Attitude	Pearson Correlation	1.000	.708**
	Sig. (2-tailed)		.000
	N	243	243
Means of Power Culture Component	Pearson Correlation	.708**	1.000
	Sig. (2-tailed)	.000	
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.18, there is a statistically significant difference in correlation between managers' attitude and power culture component with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and the power component of organizational culture, at the .05 level of significance.

Hypothesis 8

- H8_o: There is no significant relationship between role orientation and managers' attitude toward ISO 9000
- H8_a: There is a significant relationship between role orientation and managers' attitude toward ISO 9000

Table 5.19: Managers' attitude and role culture component

Correlations			
		Means of Attitude	Means of Role Culture Component
Means of Attitude	Pearson Correlation	1.000	.289**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Role Culture Component	Pearson Correlation	.289**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.19, there is a statistically significant difference in correlation between managers' attitude and role culture component with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and role component of organizational culture, at the .05 level of significance.

Hypothesis 9

H9_o: There is no significant relationship between task orientation and managers' attitude toward ISO 9000

H9_a: There is a significant relationship between task orientation and managers' attitude toward ISO 9000

Table 5.20: Managers' attitude and task culture component

Correlations		Means of Attitude	Means of Task Culture Component
Means of Attitude	Pearson Correlation	1.000	.606**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Task Culture Component	Pearson Correlation	.606**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.20, there is a statistically significant difference in correlation between managers' attitude and task culture component with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and task component of organizational culture, at the .05 level of significance.

Hypothesis 10

H10_o: There is no significant relationship between support orientation and managers' attitude toward ISO 9000

H10_a: There is a significant relationship between support orientation and managers' attitude toward ISO 9000

Table 5.21: Managers' attitude and support culture component

Correlations			
		Means of Attitude	Means of Support Culture Component
Means of Attitude	Pearson Correlation	1.000	.597**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Support Culture Component	Pearson Correlation	.597**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.21, there is a statistically significant difference in correlation between managers' attitude and support culture component with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and support component of organizational culture at the .05 level of significance.

Hypothesis 11

H11₀: There is no significant relationship between organizational culture and managers' attitude toward ISO 9000

H11_a: There is a significant relationship between organizational culture and managers' attitude toward ISO 9000

Table 5.22: Managers' attitude and organizational culture

Correlations			
		Means of Attitude	Means of Culture
Means of Attitude	Pearson Correlation	1.000	.673**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Culture	Pearson Correlation	.673**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.22, there is a statistically significant difference in correlation between managers' attitude and overall organizational culture with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and overall organizational culture, at the .05 level of significance.

Hypothesis 12

- H12_o: There is no significant relationship between affective commitment component and managers' attitude toward ISO 9000
- H12_a: There is a significant relationship between affective commitment component and managers' attitude toward ISO 9000

Table 5.23: Managers' attitude and affective commitment

Correlations		Means of Attitude	Means of Affective Commitment Component
Means of Attitude	Pearson Correlation	1.000	.922**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Affective Commitment Component	Pearson Correlation	.922**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.23, there is a statistically significant difference in correlation between managers' attitude and the affective component of organizational commitment with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and affective commitment at the .05 level of significance.

Hypothesis 13

- H13₀: There is no significant relationship between continuance commitment component and managers' attitude toward ISO 9000
- H13_a: There is a significant relationship between continuance commitment component and managers' attitude toward ISO 9000

Table 5.24: Managers' attitude and continuance commitment

Correlations		Means of Attitude	Means of Continuance Commitment Component
Means of Attitude	Pearson Correlation	1.000	.235**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Continuance Commitment Component	Pearson Correlation	.235**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.24, there is a statistically significant difference in correlation between managers' attitude and the continuance component of organizational commitment with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and continuance commitment, at the .05 level of significance.

Hypothesis 14

H14_o: There is no significant relationship between normative commitment component and managers' attitude toward ISO 9000

H14_a: There is a significant relationship between normative commitment component and managers' attitude toward ISO 9000

Table 5.25: Managers' attitude and normative commitment

Correlations		Means of Attitude	Means of Normative Commitment Component
Means of Attitude	Pearson Correlation	1.000	.792**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Normative Commitment Component	Pearson Correlation	.792**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 5.25, there is a statistically significant difference in correlation between managers' attitude and normative component of organizational commitment with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and normative commitment, at the .05 level of significance.

Hypothesis 15

- H15_o: There is no significant relationship between organizational commitment and managers' attitude toward ISO 9000
- H15_a: There is a significant relationship between organizational commitment and managers' attitude toward ISO 9000

Table 5.26: Managers' attitude and organizational commitment

Correlations		Means of Attitude	Means of Organizational Commitment
Means of Attitude	Pearson Correlation	1.000	.767**
	Sig. (2-tailed)	.	.000
	N	243	243
Means of Organizational Commitment	Pearson Correlation	.767**	1.000
	Sig. (2-tailed)	.000	.
	N	243	243

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation Analysis on Table 5.26 shows a statistically significant difference in correlation between managers' attitude and overall organizational commitment, with a two-tailed significance of .000, which is less than .05 ($.000 < .05$). Accordingly, the null hypothesis is rejected, which means that there is a correlation between managers' attitude and overall organizational commitment, at the .05 level of significance.

Table 5.28: Summary of hypotheses tests (ANOVA)

Hypothesis	Statistical Technique	Significant Value	Result
1	ANOVA	.054	Accept H_0
2	ANOVA	.079	Accept H_0
3	ANOVA	.000	Reject H_0
4	ANOVA	.000	Reject H_0
5	ANOVA	.134	Accept H_0
6	ANOVA	.095	Accept H_0
7	Pearsons Correlation	.708	Reject H_0
8	Pearsons Correlation	.289	Reject H_0
9	Pearsons Correlation	.606	Reject H_0
10	Pearsons Correlation	.597	Reject H_0
11	Pearsons Correlation	.673	Reject H_0
12	Pearsons Correlation	.922	Reject H_0
13	Pearsons Correlation	.235	Reject H_0
14	Pearsons Correlation	.792	Reject H_0
15	Pearsons Correlation	.767	Reject H_0

According to the findings on Table 5.28, most demographic characteristics did not have any effect on managers' attitude toward ISO 9000, except for education and lengths of service with the company. In addition, the findings show that organizational culture and organizational commitment have relationships with the managers' attitudes toward ISO 9000, although the former has a stronger relationship on managers' attitude toward ISO 9000, than the latter in the three selected organizations.

Chapter 6

Conclusion and Recommendation

This chapter is organized into four sections. The first section is a summary of the findings of research questions including the demographic characteristics of respondents, managers' attitude toward ISO 9000, organizational culture, organizational commitment, and the tests of hypotheses. The second section is the conclusion of the study, the third section contains the recommendation provided based on the findings, and the final section offers suggestion for future research.

6.1 Summary of the Findings

This research was conducted to investigate managers' attitude toward ISO 9000 in three large electrical machinery companies in Bangkok and the surrounding provinces. The three selected companies were those, which had used ISO 9000 for over two years. A total of 243 managers, at all levels, were surveyed and data collected was analyzed according to SPSS. According to Chapter 1, there are three major research questions in this study.

A brief profile of the respondents showed that they were 84.4% male and 15.6% female. The median age range was between 31 - 40 years (46.9%) followed in descending order by 41 - 50 years (24.7%), 21 - 30 years (18.5%), and over 50 years (9.9%). As regards education level, the respondents had graduate degrees and bachelor degrees; with the majority having graduate degrees (58%). None of the respondents had education less than a bachelor's degree.

The summaries of the findings based on each research questions are as follows:

Research Question I: Are there significant relationships in managers' attitude toward ISO 9000 and demographic factors?

Statistical analysis calls for an examination of the relationships between independent and dependent variables as well as between demographic variables and dependent variables. Analysis of Variance (ANOVA) procedures were used initially to

examine the study's six independent variables in relationship to the dependent variable, i.e., managers' attitude toward ISO 9000.

According to table 5.12 and 5.13, the data showed that gender and age levels of respondents did not have an effect on their attitude toward ISO 9000 as the findings of the variance table showed that significant values are .054 and .079, which is more than the set criteria (.05). Therefore, the null hypotheses were accepted. These results are supported by studies conducted by Angle & Perry (1981) and Morris & Sherman (1981), wherein gender and age levels were found to have no relationship to managers' attitude toward ISO 9000. Hence, it can be concluded that the managers' gender and age levels had no effect on their attitude.

Table 5.14 showed that education levels of respondents have an effect on their attitude toward ISO 9000. The results of the variance table shows that the significant value of .000 is less than the set criteria (.05). Therefore, the null hypothesis was rejected.

Table 5.15 also showed a relationship between managers' attitude toward ISO 9000 and length of service with the company. The result of variance table shows that the significant value of .000, is less than the set criteria (.05). Therefore, the null hypothesis was again rejected.

Tables 5.16 and 5.17 showed that position and department of respondents did not have a relationship with their attitude toward ISO 9000. The results of the variance table shows that significant values are .134 and .095, which is more than the set criteria (.05). Therefore, the null hypotheses were accepted. These findings are supported by the studies of Angle & Perry (1981), Murphy & Dunivin (1994), and Morris & Sherman (1981). In all three studies cited, managers' position and department, gender and age levels was found to have no relationship to their attitude to ISO. Bruning & Snyder's (1983) study also found that gender was not related to attitude. While marital status does not seem to have been a variable that has been tested in research, it is worth noting here that marital status was found to have no relationship to managers' attitude toward ISO.

Research Question II: Is there a significant relationship between organizational culture and managers' attitude toward ISO 9000?

In this research, there are 5 hypotheses, hypothesis 7-11, set in order to test the relationship between managers' attitude toward ISO 9000 and organizational culture. Moreover, there are four types of organizational culture, which are power culture, role culture, task culture, and support culture components.

According to table 5.8, the highest scores were observed in statements that were linked to bureaucratic style of management. For instance, the positioning of roles for everyone in the organization, the centralization of decision making, supervisors' uncontested authority, and high task-orientation scored the highest means. Therefore, it was not surprising to see that the lowest mean was observed for the statement related to decision making by consensus.

From all four organizational culture components, power and role culture ranked the highest. This is in conformity with the high scores observed in relation to bureaucratic management practices in these three organizations. Surprisingly, although these three companies had employed ISO 9000 for over two years, support culture, which is strongly related to human development and need, ranked the lowest.

Table 5.18 illustrates that power culture component has the strongest relationship with managers' attitude toward ISO 9000. This is consistent with a previous study done by Harrison (1972a) who found out that manager' attitude toward quality initiatives is significantly correlated with the high level of power orientation. The author explained that the power culture was driven by a set of behavioral and structural values, which were centrally driven; built upon and controlled by coercive power and decisively implemented, from the center. Individual managers are motivated by their loyalty to the company in sense of history and tradition prevails.

Similar results were evidenced in a study conducted Trompenaars & Hampden-Turner (1993) who examined the effect of organizational culture on attitudes in the organization, and found that power culture impacted favorably on the perceptions of work group and management (i.e., supervisory) relationships, than any other cultural component.

Besides role orientation, Table 5.19 illustrates that role culture also has a positive relationship with managers' attitude toward ISO 9000. Role orientation implies a degree of stability and predictability, and works well in mechanistic-type environments. This orientation focuses on the rational and orderly and emphasizes roles rather than the individual. A good employee is one who recognizes protocol and always sticks to the rules (Harrison, 1972a).

The findings on Table 5.20 illustrate that task culture was related with managers' attitude toward ISO 9000, although not as strongly as power or role orientations. The implications are that managers who get a specific job done within a strict deadline, achieve goals and emphasize ends rather than means are the ones with positive attitudes toward ISO systems, findings that were supported by Handy (1993).

As mentioned earlier, and as shown in Table 5.21, support culture ranked the lowest of all four culture components. Ritchie (2000) claims that support culture can increase levels of employees' attitude leading to cultural change and improved levels of employee commitment to the organization. It is evident that in these organizations which emphasized power and role orientation, that support for employees' ambition and personal growth, was not considered as important as emphasis on goals.

Based on the overall findings, the researcher summarized that organizational culture and its components have an effect on the managers' attitude toward ISO 9000 in a positive direction. The vast majority of ISO standards are highly specific. They are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines or definitions. The respondents in these organizations ranked power and role orientation highly, and this indicates an agreement with the ISO 9000 requirement of maintaining high standards for manufacturing and services in their organizations.

Research Question III: Is there a significant relationship between organizational commitment and managers' attitude toward ISO 9000?

In this study, there are 4 hypotheses, hypothesis 12-15, which tested the relationship between managers' attitude toward ISO 9000 and organizational

commitment. The literature cites three types of organizational commitment, which are affective, continuance, and normative commitment.

According to Table 5.10, the highest mean scores of organizational commitment were observed in statements related to managers' positive feelings about choosing to work in their present organizations. Although the responses indicate that managers put full efforts in their jobs, take pride in their work, and were glad to work for the organization, there is also evidence of difficulty in working with company policies commitment. Mean scores for inspiration and loyalty were among the lowest reported in the table.

Table 5.11 shows the mean score for each of the organizational commitment components: affective, continuance, and normative. The findings indicate that the highest mean score of organizational commitment component is normative (3.5333) followed by affective (3.27) and continuance (3.1292).

Normative commitment indicates that the respondents in this study feel a sense of obligation to continue employment. It also indicates that they have a strong belief in the organization's values and accept them. Committed managers perceive the value and importance of integrating individual and organizational goals. It is also likely that managers in this study perceived their goals and the organization's goals in personal terms.

Table 5.23 illustrates that affective commitment also had a relationship with managers' attitude toward ISO 9000. Affective commitment implies strong emotional attachment, identification, and involvement in the organization. It specifies that managers will stay with their organization because they want to do so. The result is consistent with a previous study done by Harrison (1972a) who found out that positive attitude is significantly correlated with high levels of manager commitment.

Table 5.24 indicated that continuance commitment had a weaker relationship with managers' attitude toward ISO 9000. Continuance commitment implies an awareness of the high costs associated with quitting an organization. In other words, managers who have continuance commitment will stay continuously with an

organization because they need to. The findings in this study show that managers do not stay with their organizations because of the fear of being unemployed otherwise. Rather, it is their moral obligation and emotional attachment that makes them stay with their organizations.

Daley (1988) who examined the effect of commitment on employee attitudes toward the organization found that workers' normative commitment affected attitude toward work group and management (i.e., supervisory) relationships more than any other commitment components.

6.2 Conclusion

The ISO 9000 quality standard has aroused great interest among managers who see it as the key to improving quality. Substantial benefits come with having the ISO 9000 standard and it is becoming a minimum guarantee of quality for customers, which is why many customers put considerable pressure on their suppliers to be accredited with ISO 9000. Although the findings of this study showed that managers were enthusiastic about implementing ISO 9000 standards, some of their responses created doubts on whether they felt ISO 9000 was the best measure of improving productivity and costs. The mean in terms of attitude of managers toward ISO 9000 was only 3.28, which implied that there were still many question marks in their understanding of ISO 9000.

No one management technique can allow managers to solve all the problems of their business. ISO 9000 is no exception to this rule. A significant weakness of ISO 9000 is that its guidelines, which were formulated, to be flexible are in practice, rather vague. That offers some explanation of why the statement about ISO 9000 enhancing standards in the organization, scored at low mean of 2.89.

The cost of implementing ISO 9000 is significant, and the findings in relation to cost-reduction brought about by ISO 9000 in the three organizations, support this. For instance, ISO 9000 may be of little use in improving quality where there already exists a strong commitment to TQM. The improvement brought about by ISO 9000 is

likely to be small but the cost involved in creating the quality manual and obtaining the certification must still be incurred.

Almost all ISO 9000 experts argue that it can only be implemented successfully when all managers are fully committed to it. It is also important to mention here that management's responsibility of implementing ISO 9000 is the first key element of successful implementation. The findings of this study showed that managers' commitment toward their organizations and ISO 9000, was still doubtful in certain aspects, i.e., personal versus organizational values.

The second most important variable for successful implementation of ISO 9000 is organizational culture. Effective and open channels of communication are necessary for ISO 9000 to work. If everyone in the organization is aware of the quality policies and mission, and is determined to follow the objectives, only then can we say that the organization can successfully implement ISO 9000. The strongly bureaucratic nature of the three organizations under study, raise questions about the nature of communication and decision making in these organizations. For example, the commitment of front-line staff who make the product or provide the service is vital, as they have the most knowledge about how to improve the quality. Strong power and role orientations were observed in the three organizations under study, and this situation may depict that managers, especially at the top, may be afraid to implement any system that poses a threat to their authority.

6.3 Recommendations

Based on the findings of this study, some suggestions can be made by the researcher for Thai managers in terms of attitude, behavior, and commitment toward ISO 9000.

Several authors cite commitment as a necessary prerequisite for effective implementation of ISO 9000. However, commitment is more than accepting responsibility for an activity, or even being engaged in reaching an objective. Organizational commitment involves both attitudes and behaviors. It requires a strong belief in, and the internalization of goals and values by everyone in the organization.

This definition also includes the notion of loyalty to the organization. In order to enhance the level of commitment and thereby change attitude and behavior of all employees, managers may have to undertake the following steps for successful implementation of ISO 9000:

- Commit time to understand its purposes correctly
- Be more inclined to subject the whole of the organization - all employees, to the scope of assessment, rather than confining ISO 9000 to only some departments or product lines.
- Be active in measuring the financial impact of ISO 9000 on the business
- Demonstrate strong willingness to train all employees in application of ISO standards
- Be more inclined to view ISO 9000 as part of a strategic quality plan.

While top managers' attitude and commitment is of vital importance, everybody in the organization, from top to bottom, must be committed to quality. Most organizations fail to achieve the desired objective, even those with the most sophisticated organization structures, only because of vague and unclear visions about ISO 9000. In many organizations, the process of quality initiatives is carried out only by managers at the upper level and the process is not deployed down to the organization, thus creating disruptions and misunderstanding among other hierarchical levels. In this regard, communication and an open culture, act as the central nervous system by educating every member of the organization about ISO 9000.

6.4 Suggestions for Further Research

- There is not enough empirical research on the value of ISO 9000 to firms. This study suggests that understanding of the purpose and benefits of ISO 9000 is lacking and research needs to be conducted on this aspect.
- Even though the opinion of most managers in this study was positive, it is still necessary to measure the financial impact and exact benefits of ISO in their firms.
- There is very little research on the commitment of senior Thai managers to ISO initiatives. More published work in this respect is needed.

- Finally, there must be further research to study the impact of ISO 9000 on different sizes of organizations, sectors, and other factors.





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Appendix A

Questionnaire: English Version

SURVEY QUESTIONNAIRE

This questionnaire is constructed for use as part of a thesis entitled “The relationship between organizational culture, commitment, and managers’ attitudes toward ISO 9000” by a master’s degree student at Assumption University. For completeness of the research, the researcher requests all the respondents to answer every item in this questionnaire. The researcher wishes to thank all respondents for their co-operation and effort expended in answering this questionnaire.

Section A (Attitude): Listed below are statements that represent attitude you might have about the ISO 9000 employed in the organization for which you work. Please check (X) in the box for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	(1)	(2)	(3)	(4)	(5)
1. I believe, it is good for my company to adopt the ISO 9000	1	2	3	4	5
2. I believe that ISO 9000 has enhanced the management standards of my company	1	2	3	4	5
3. I believe that ISO 9000 has enhanced the image and goodwill of my company	1	2	3	4	5
4. I believe that ISO 9000 makes my work easier	1	2	3	4	5
5. I believe that ISO 9000 will help to develop a better working quality	1	2	3	4	5
6. I like the ISO 9000 system used in my company	1	2	3	4	5
7. I feel that ISO 9000 programs in my company are effective in:					
a. improving productivity	1	2	3	4	5
b. improving customer service	1	2	3	4	5
c. reducing cost	1	2	3	4	5
d. developing staff potential	1	2	3	4	5
e. building up better teamwork	1	2	3	4	5
8. I intend to participate in implementing the ISO 9000 programs	1	2	3	4	5
9. I intend to support ISO 9000 programs	1	2	3	4	5
10. I intend to do my best to assist my company in maintaining the ISO 9000 standard	1	2	3	4	5

Section B (Organizational Culture): Listed below are a series of statements that describe your organization’s culture.. Please check (X) one box for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	(1)	(2)	(3)	(4)	(5)
1. Supervisors in my organization are to be followed without question	1	2	3	4	5
2. Those at the top of the organization, have the power to make the majority of decisions	1	2	3	4	5
3. Individuals in my firms are motivated by fear of punishment rather than loyalty	1	2	3	4	5
4. There is a low degree of decentralization in my organization	1	2	3	4	5
5. There is a high degree of bureaucracy in my organization	1	2	3	4	5
6. There is a fixed way of doing things in my organization	1	2	3	4	5
7. Roles are more important than individuals in my organization	1	2	3	4	5
8. Everyone has a clear idea of his/her role in my organization	1	2	3	4	5
9. There is a strong emphasis on achieving goals in my organization	1	2	3	4	5
10. There is a high task-oriented culture in my organization	1	2	3	4	5
11. What is achieved is more important than how it is achieved in my organization	1	2	3	4	5
12. Getting a job done within a specific deadline is the most important aspect of organization life	1	2	3	4	5
13. The needs and expectations of the individual are at the center of my organization	1	2	3	4	5
14. The organization supports employees in their ambition	1	2	3	4	5
15. Decision-making is done by consensus in my organization	1	2	3	4	5
16. The personal growth and development of individuals is most important in my organization	1	2	3	4	5

Section C (Organizational Commitment): This section represents possible feelings that you might have about the organization for which you work. Please check (X) one box for each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	(1)	(2)	(3)	(4)	(5)
1. I am willing to put a great deal of effort beyond that normally expected in order to help this organization be successful.	1	2	3	4	5
2. I will accept almost any type of job in order to keep working for this organization	1	2	3	4	5
3. This organization really inspires the very best in me in the way of job performance	1	2	3	4	5
4. I really care about the fate of this organization.	1	2	3	4	5
5. I feel great loyalty to this organization.	1	2	3	4	5
6. I talk up this organization to my friends as a great organization to work for	1	2	3	4	5
7. I am proud to tell others that I am part of this organization.	1	2	3	4	5
8. It will take very little change in my present circumstances to cause me to leave this organization.	1	2	3	4	5
9. There is a lot to be gained by sticking with this organization indefinitely.	1	2	3	4	5
10. Deciding to work for this organization was definitely a benefit on my part.	1	2	3	4	5
11. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees.	1	2	3	4	5
12. I find that my values and the organization's are very similar.	1	2	3	4	5
13. I could just as well be working for a different organization as long as the types of work were similar.	1	2	3	4	5
14. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.	1	2	3	4	5
15. For me this is the best of all possible organizations to work for.	1	2	3	4	5

Section D: Please check (✓) in only one ☐ for each question (Your responses here and throughout the questionnaire will be held strictly **CONFIDENTIAL**)

1. What is your **Gender**?

☐ Male

☐ Female

2. What is your current **age**?

☐ Below 21

☐ 21 - 30

☐ 31 - 40

☐ 41 - 50

☐ Over 50

3. What is the highest level of **education** you have completed?

☐ High school or less

☐ Associate or two year college degree

☐ Bachelor's degree

☐ Graduate degree (Master's, Ph.D., etc.)

4. Your **length of service with the company**?

☐ Less than half year

☐ Half year - A year

☐ A year - One half year

☐ One half year - 2 years

☐ More than 2 years

5. Your **position**?

☐ Supervisor

☐ Middle Manager

☐ Department Manager

☐ Senior Manager

☐ Others manager, please specify _____

6. Your **department**? (Kindly choose the answer that is closest to your nature of work)

☐ Finance and Accounting

☐ Marketing

☐ Purchasing

☐ Production

☐ Personnel

☐ Logistics and Warehouse

☐ Foreign Affairs

☐ International Business

☐ Legal

☐ Internal Audit

☐ Quality Assurance

☐ Research and Development

☐ Marketing Research

☐ Information Technology

☐ Administration

☐ Regulatory Affairs

☐ Others, please specify _____

Thank you for your cooperation!



Appendix B

Questionnaire: Thai Version

แบบสอบถาม

แบบสอบถามฉบับนี้จัดทำขึ้นเพื่อใช้เป็นส่วนประกอบในการทำวิทยานิพนธ์เพื่อการศึกษาถึง “ความสัมพันธ์ของ ทักษะคิดของพนักงานกับการจัดการมาตรฐานสากล (ISO 9000) และ ความสัมพันธ์ของ ปัจจัยทางด้านประชากร วัฒนธรรมในองค์กร ความไว้วางใจในองค์กร ในมุมมองของผู้จัดการในประเทศไทย” โดยนักศึกษานิพนธ์ปริญญาโท คณะบริหารธุรกิจ มหาวิทยาลัยอีสต์อีสต์ เพื่อความถูกต้องในการวิเคราะห์ข้อมูล ผู้จัดทำขอความกรุณาท่านผู้ตอบแบบสอบถามทุกท่านตอบแบบสอบถามฉบับนี้ ทุกข้อ เพื่อให้วิทยานิพนธ์ฉบับนี้สมบูรณ์ ผู้จัดทำขอขอบคุณทุกท่านที่สละเวลาของท่านทำแบบสอบถามชุดนี้

ส่วนที่ 1 (ทัศนคติ): ทักษะคิดเกี่ยวกับการจัดการมาตรฐานสากล ISO 9000 ในองค์กรของท่าน (กรุณาทำเครื่องหมาย “X” ลงในช่องที่ตรงกับคำตอบของท่านมากที่สุดเพียงข้อเดียวในแต่ละคำถาม)

	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	ไม่มีความเห็น	เห็นด้วย	เห็นด้วยอย่างยิ่ง
	(1)	(2)	(3)	(4)	(5)
1. ท่านเชื่อว่าเป็นการคิดที่องค์กรของท่านหันมาใช้ระบบมาตรฐาน ISO 9000	1	2	3	4	5
2. ท่านเชื่อว่าระบบมาตรฐาน ISO 9000 มีส่วนช่วยในการยกระดับมาตรฐานในการบริการให้กับองค์กรของท่าน	1	2	3	4	5
3. ท่านเชื่อว่าระบบมาตรฐาน ISO 9000 มีส่วนช่วยในการยกระดับประสิทธิภาพและค่านิยมให้กับองค์กรของท่าน	1	2	3	4	5
4. ท่านเชื่อว่าระบบมาตรฐาน ISO 9000 ทำให้งานของท่านง่ายขึ้น	1	2	3	4	5
5. ท่านเชื่อว่าระบบมาตรฐาน ISO 9000 จะช่วยพัฒนาคุณภาพของงานให้ดียิ่งขึ้น	1	2	3	4	5
6. ท่านชอบระบบมาตรฐาน ISO 9000 ในองค์กรของท่าน	1	2	3	4	5
7. ท่านรู้ดีกว่าระบบมาตรฐาน ISO 9000 ในองค์กรมีผลกระทบต่อองค์กรของท่านในแง่:					
ก. การปรับปรุงการผลิต	1	2	3	4	5
ข. การปรับปรุงการบริการลูกค้า	1	2	3	4	5
ค. ช่วยลดต้นทุน	1	2	3	4	5
ง. การพัฒนาความสามารถแฝงของพนักงาน	1	2	3	4	5
จ. สร้างความแข็งแกร่งของทีมงาน	1	2	3	4	5
8. ท่านตั้งใจที่จะมีส่วนร่วมในระบบมาตรฐาน ISO 9000 ในองค์กร	1	2	3	4	5
9. ท่านตั้งใจที่จะสนับสนุนในระบบมาตรฐาน ISO 9000 ในองค์กร	1	2	3	4	5
10. ท่านตั้งใจที่จะพยายามอย่างเต็มที่ในการช่วยรักษามาตรฐานของระบบ ISO 9000 ในองค์กร	1	2	3	4	5

ส่วนที่ 2 (วัฒนธรรมในองค์กร): (วัฒนธรรมในองค์กร = ท่านคิดอย่างไรเพื่อให้องค์กรประสบความสำเร็จ) (กรุณาทำเครื่องหมาย "X" ลงในช่องที่ตรงกับคำตอบของท่านมากที่สุดเพียงข้อเดียวในแต่ละคำถาม)

	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	ไม่มีความเห็น	เห็นด้วย	เห็นด้วยอย่างยิ่ง
	(1)	(2)	(3)	(4)	(5)
1. พนักงานจะเชื่อฟังคำสั่งของผู้บังคับบัญชาโดยไม่มีข้อสงสัย	1	2	3	4	5
2. อำนาจการตัดสินใจส่วนใหญ่ ตกอยู่ที่ผู้บริหารระดับสูง	1	2	3	4	5
3. แรงผลักดันในการทำงานของพนักงานในองค์กร มาจากการกลัวการถูกลงโทษมากกว่าความจงรักภักดีกับองค์กร	1	2	3	4	5
4. การกระจายอำนาจภายในองค์กรอยู่ในระดับที่ต่ำ	1	2	3	4	5
5. ในองค์กรของท่านมีลำดับและขั้นตอนในการทำงานหลายขั้นตอนมาก	1	2	3	4	5
6. ในองค์กรของท่านมีวิธีการกำหนดวิธีการในการทำงานไว้อย่างตายตัว	1	2	3	4	5
7. ในองค์กรของท่าน บทบาทหน้าที่มีความสำคัญมากกว่าตัวบุคคล	1	2	3	4	5
8. ในองค์กรของท่านพนักงานทุก ๆ คนทราบเป็นอย่างดีถึงบทบาทและหน้าที่ของตนเอง	1	2	3	4	5
9. ในองค์กรของท่านการทำงานมุ่งเน้นถึงการบรรลุวัตถุประสงค์เป็นส่วนสำคัญ	1	2	3	4	5
10. วัฒนธรรมในองค์กรของท่านมุ่งเน้นในเรื่องของชิ้นงาน	1	2	3	4	5
11. ในองค์กรของท่าน ผลของงานเป็นสิ่งที่สำคัญมากกว่าวิธีการในการทำงานให้บรรลุผล	1	2	3	4	5
12. การทำงานให้สำเร็จทันตามระยะเวลาที่กำหนดเป็นสิ่งที่สำคัญที่สุดในองค์กรของท่าน	1	2	3	4	5
13. ความต้องการและความคาดหวังของแต่ละบุคคลมาจากศูนย์กลางขององค์กร	1	2	3	4	5
14. องค์กรของท่าน ให้การสนับสนุนพนักงานแต่ละคนโดยพิจารณาจากความทะเยอทะยานของแต่ละคน	1	2	3	4	5
15. การตัดสินใจกระทำการใด ๆ ในองค์กรของท่านใช้ความเห็นส่วนใหญ่เป็นหลัก	1	2	3	4	5
16. การเติบโตและการพัฒนาในแต่ละบุคคล มีความสำคัญมากที่สุดในองค์กรของท่าน	1	2	3	4	5

ส่วนที่ 3 (ความไว้วางใจในองค์กร): ในส่วนนี้ใช้ในการแสดงความรู้สึกส่วนตัวอันมีผลในองค์กร (กรุณาทำเครื่องหมาย “X” ลงในช่องที่ตรงกับคำตอบของท่านมากที่สุดเพียงข้อเดียวในแต่ละคำถาม)

	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	ไม่มีความเห็น	เห็นด้วย	เห็นด้วยอย่างยิ่ง
	(1)	(2)	(3)	(4)	(5)
1. ท่านจะพยายามเป็นอย่างยิ่งในการที่จะช่วยให้องค์กรให้ประสบความสำเร็จ	1	2	3	4	5
2. ท่านจะยอมรับในทุกตำแหน่งหน้าที่ เพื่อที่ท่านจะยังคงได้ทำงานในองค์กรต่อไป	1	2	3	4	5
3. องค์กรนี้สร้างแรงบันดาลใจให้ท่านในด้าน สมรรถภาพของชิ้นงาน	1	2	3	4	5
4. ท่านเอาใจใส่เป็นอย่างยิ่ง เกี่ยวกับอนาคตขององค์กร	1	2	3	4	5
5. ท่านรู้สึกจงรักภักดีกับองค์กรนี้เป็นอย่างมาก	1	2	3	4	5
6. ท่านกล่าวถึงองค์กรนี้ในแง่ดีกับเพื่อนของท่าน ว่าเป็นองค์กรที่ดีสำหรับทำงาน	1	2	3	4	5
7. ท่านภูมิใจที่ได้พูดว่าท่านเป็นส่วนหนึ่งขององค์กรนี้	1	2	3	4	5
8. ท่านยินดีที่จะเปลี่ยนแปลงเล็กน้อยในสถานะภาพปัจจุบันของท่าน เพื่อให้ท่านไม่ต้องออกจากองค์กรนี้	1	2	3	4	5
9. การที่ท่านยังคงทำงานกับองค์กร ท่านจะได้รับประโยชน์อีกมากในหลายหลายมุมมอง	1	2	3	4	5
10. การตัดสินใจทำงานกับองค์กรนี้เป็นการตัดสินใจที่เป็นประโยชน์กับตัวของท่าน	1	2	3	4	5
11. บ่อยครั้งเพียงใดที่ ท่านพบว่ามันเป็นการยากที่จะยอมรับในนโยบายขององค์กร ในสาระสำคัญเกี่ยวกับพนักงาน	1	2	3	4	5
12. ท่านพบว่าสิ่งที่ท่านคิดเหมือนกันกับขององค์กร	1	2	3	4	5
13. ในขณะที่ท่านยังคงทำงานในหน้าที่เดิม ท่านสามารถทำงานได้อย่างดีแม้ว่าจะเป็นในต่างองค์กร	1	2	3	4	5
14. ท่านดีใจอย่างที่สุดที่เลือกองค์กรนี้ แม้ในขณะที่เดียวกันท่านได้รับการพิจารณาในองค์กรอื่นๆ	1	2	3	4	5
15. สำหรับท่าน องค์กรนี้คือองค์กรที่ดีที่สุดในการทำงาน	1	2	3	4	5

ส่วนที่ 4 (ปัจจัยทางด้านประชากร) : กรุณาทำเครื่องหมาย “✓” ลงใน ☐ ที่ตรงกับคำตอบของท่านมากที่สุดหนึ่งข้อในแต่ละคำถาม (ข้อมูลทุกอย่างของท่านในแบบสอบถามฉบับนี้จะเก็บเป็นความลับ)

1. เพศ ?

☐ ชาย

☐ หญิง

2. อายุ ?

☐ ต่ำกว่า 21 ปี

☐ 21 - 30 ปี

☐ 31 - 40 ปี

☐ 41 - 50 ปี

☐ 50 ปีขึ้นไป

3. สำเร็จระดับการศึกษาสูงสุด ?

☐ มัธยมศึกษาตอนปลาย หรือ ต่ำกว่า

☐ อนุปริญญา

☐ ปริญญาตรี

☐ ปริญญาโท หรือ สูงกว่า

☐ อื่นๆ (โปรดระบุ) _____

4. อายุการทำงานของท่านกับองค์กรนี้ ?

☐ น้อยกว่าครึ่งปี

☐ ครึ่งปี - 1 ปี

☐ 1 ปี - 1 ปีครึ่ง

☐ 1 ปีครึ่ง - 2 ปี

☐ มากกว่า 2 ปี

5. ตำแหน่งงานของท่าน ?

☐ ผู้บริหาร (Supervisor)

☐ ผู้จัดการระดับกลาง

☐ ผู้จัดการแผนก

☐ ผู้จัดการอาวุโส

☐ ผู้จัดการอื่นๆ (โปรดระบุ) _____

6. แผนกของท่าน ?

☐ การเงินและการบัญชี

☐ การตลาด

☐ จัดซื้อ

☐ การผลิต

☐ ทรัพยากรบุคคล

☐ จัดส่งและคลังสินค้า

☐ ต่างประเทศ

☐ ธุรกิจต่างประเทศ

☐ กฎหมาย

☐ ตรวจสอบภายใน

☐ ประกันคุณภาพ

☐ วิจัยและพัฒนาสินค้า

☐ วิเคราะห์การตลาด

☐ ศูนย์สารสนเทศ

☐ ธุรกิจ

☐ ทะเบียนผลิตภัณฑ์

☐ อื่นๆ โปรดระบุ _____

ขอขอบคุณที่ให้ความร่วมมือ

Appendix C
Industrial Sector: List of Electrical Machinery
(Location in Bangkok)



Industrial Sector: Electrical Machinery (Locate in Bangkok)

No	Company	Standard	Scope of certification	Certificated by
1	กัณยวัฒนา บจก. Kang Yong Watana Co., Ltd. 28 Krungthep Kreetha Rd., Huamark, Bangkok, Bangkok 10240; tel 7316841; fax 3794762	ISO 9002	The provision of mitsubishi electric service center (Thailand)	BVQI 17-Nov-00
2	กิจพูนชัย บจก. Kijpunchai Industry Co., Ltd. 22/2 mu 13, Kannayao, Kannayao, Bangkok 10230 tel: 9433299, 5109776, fax: 5109777	ISO 9002	The manufacture of electrical hardware i.e. Clamp, Connector, Bolt, Preformed Fitting, Steel Wire and Overhead Ground Wire	SGS 31-Jul-00
3	กุลธรรอิเล็กทรอนิกส์ บจก. Kulthorn Electric Co. Ltd. 44/2 Moo 7, Ladkrabang Industrial Estate, Chalongkrung Rd., Lampratiew, Latkrabang, Bangkok 10520	ISO 9001	Design and manufacture of fractional horse power electric motors for air conditioning and refrigeration units	MASCI 21-Oct-98
4	ควอลิตี้ ทรานส์ฟอร์มเมอร์ บจก. (BKK & Rayong) Quality Transformer Co., Ltd. Head Office 1719 Ramkhamhaeng Rd., Huamark, Bangkapi, Bangkok 10240 tel 3144220-1, fax 3144222	ISO 9001	Design and manufacture of oil immersed transformer	SGS 19-Apr-00
5	เจนรัลอิเล็กทโรนิคส์ซิสเต็ม บจก. General Electronics System Co., Ltd. 16/8-10 Serithai Rd, Buengkum, Bangkok 10240; tel 7326500; fax 7326519	ISO 9002	Manufacture and service for UPS	BVQI 26-May-99
6	เจนอรัลกลาส บจก. General Glass Co., Ltd. 538/1-2 Suk Sawat 29, Ratburana, Bangkok 10140; tel 4280568; fax 4280569	ISO 9002	Manufacture of glass tube for electric lamps	BVQI 13-Dec-96
7	เจริญชัยทรานส์ฟอร์มเมอร์ บจก. Charoen Chai Transformer Co., Ltd. 443/3 mu 4 Soi Pracha-utis 21, Ratburana, Bangkok; tel 4275546; fax 4273296	ISO 9001	Design and manufacture of transformers and transformer tanks	BVQI 20-Jan-97 TISI 3-Nov-97
8	เจริญชัยหม้อแปลงไฟฟ้า บจก. Charoenchai Transformer Co., Ltd. 443/3 mu 4, Soi Prachautis 21 (Sukjai), Prachautis Rd., Rajburana, Rajburana District, Bangkok. 10140 Tel. 4275552 Fax. 4273296	ISO 9001	Design/ development and manufacture of oil-immersed distribution transformers and transformer tanks	MASCI 2-Nov-00
9	ซันโย ยูนิเวอร์แซล อิเล็กทริก บมจ. Sanyo Universal Electric PCL 19 Sukhumvit 103, Prawet, Bangkok	ISO 9002	Manufacture of compressor (reciprocating type) for refrigerators	TISI 10-Apr-97

Industrial Sector: Electrical Machinery (Locate in Bangkok)

No	Company	Standard	Scope of certification	Certificated by
10	ซัมมิต แมนูแฟคเจอร์ริง บจก. Summit Manufacturing Co., Ltd. 246 Lat Krabang Indus.Estate II, Chalong Krung Rd, Bangkok 10520; tel 3260106; fax 3260827	ISO 9002	Assembly fuse cutouts 15 KV, 27 KV, 34.5 KV	BVQI 26-Jan-99 MASCI 26-Nov-99
11	เซฟทีคัท เอ็มเอฟซี บจก. Safe-T-Cut MFG Co., Ltd. 179 Sukhumvit 62/1, Bangchak, Phrakhanong, Bangkok 10110; tel 7415601; fax 7415602	ISO 9002	Inspection and testing of ground fault circuit interrupter	BVQI 7-Jun-99
12	ดัลมิสัน (ประเทศไทย) บจก. Dulmison (Thailand) Co., Ltd. 65/4 Lat Krabang Indus.Estate, Bangkok 10520; tel 7394026-32; fax 3260563	ISO 9002	Manufacture and assembly of overhead line hardware	SGS 1-Dec-98
13	ทองรสมี อิเลคทริค เวิร์คส บจก. Thongrussamee Electric Works Co., Ltd. 538/3 Suksawat 29 Rad Burana Bangkok10140 tel 4277464, 4278651, fax 4280589	ISO 9002	Manufacture of low voltage ballast.	SGS 10-Jan-00
14	ทีเอส ทริงกิง บจก. TS Trunking Co., Ltd. 85/3 soi Prachumporn, Chaeng Watthana, Don Muang, Bangkok 10210; tel 9824629; fax 5745803	ISO 9002	Manufacture of luminaires and cable support system	BVQI 27-Feb-99
15	ไทยเมเดนชา บจก. Thai Meidensha Co., Ltd. 11 Fl., TST Tower, 21 Viphavadi-Rangsit Rd., Soi Chuei Phung, Ladyao, Jatujak, Bangkok 10900; tel 2738954; fax 2738966	ISO 9002	Electrical and mechanical installation contractor instrumentation maintenance and general engineering services	AJA EQS 17-Nov-00
16	บี.บี.เค. อิเลคทริค บจก. B.B.K. Electric Co., Ltd. 102 mu 3, Sereethai Road, Khannayaw, Bangkok 10230; tel 337 2900 #573	ISO 9002	Cord Plug and Lead Wire Assembly	BVQI 16-Feb-00
17	พรีไซส์อินเตอร์เนชั่นแนล คอร์ป บจก. Precise Int'l Corp., Ltd. 1842 Krunthep-Nonthaburi Rd, Bangsu, Bangkok 10800; tel 9109700; fax 9109713	ISO 9002	Trading, installation and servicing of power distribution and transmission products	BVQI 26-Oct-99
18	เพาเวอร์ไลน์ เอ็นจิเนียริง บจก. Power Line Engineering Co., Ltd. 2 Soi Sukhumvit 81 (Siripot), Sukhumvit Rd., Bangjak, Phrakhanong, Bangkok 10250; tel 3320345 ext. 1402; fax 3110851	ISO 9002	Mechanical & Electrical contractor (electrical engineering system), (air conditioning engineering system), (plumbing & sanitary engineering system), (fire protection engineering system)	BVQI 31-Aug-00
19	รุ่งแสงฟ้าอิเลคทริค บจก. Rungsangfah Electric Co., Ltd. 77/25 Suanphak Rd, Thalingchan, Bangkok; Tel 8820545-7; Fax 8820548	ISO 9002	Design, manufacture, and distribution of luminaries, electronic ballast's, x-ray film viewers and emergency lights including part of luminaries	BVQI 20-Jan-00

Industrial Sector: Electrical Machinery (Locate in Bangkok)

No	Company	Standard	Scope of certification	Certificated by
20	ล กิจเจริญแสง บจก. Lee Kijchareonseang Co., Ltd. 372/1-2 Suksawad 29 Rd., Rajburana, Bangkok 10140 tel 427-0191-5, fax 427-3267	ISO 9002	Manufacture of fluorescent lamp, incandescent lamp and starter	SGS 7-Oct-99
21	เล้งเพาเวอร์ บจก. Leng Power Co., Ltd. 266 Rimklongprapa Road., Bangsue, Ket Bangsue Bangkok 10800, tel: 913-8888, fax: 587-5432	ISO 9002	Manufacture of wire harness and transformers.	SGS 16-Jun-00
22	วนวิทย์ แมนูแฟคเจอร์ บจก. Wanavit Manufacturing Co., Ltd. 66/13 Mu 4, Soi 94, Rama II Rd., Samaedum, Bangkokhuthien, Bangkok 10150; tel 0-2896-2390; fax 0-2896-2380-1, 0-2896-2416	ISO 9001	Development, manufacture and maketing of electric appliances and telecommunication accessories	RWTUV Dec-98
23	วีเอสแอล (ประเทศไทย) บจก. VSL (Thailand) Co., Ltd. 5th Floor, Sarasin Building 14 Surasak Road, Silom, Bangrak, Bangkok 10500 tel: 237-3288 fax: 238-2448	ISO 9001	The design, supply and installation of post tensioning	SGS 18-Oct-00
24	สยามการไฟฟ้า Siam Electric Co., Ltd. 421 Mu 3 Suksawad 29, Rajburana, Bangkok 10140; tel 8730490; fax 4275806	ISO 9002	Manufacture of lamps & lightings	AJA EQS 4-Dec-00
25	สยามแปซิฟิก อิเล็กทริกไวร์แอนด์เคเบิล บจก. Siam Pacific Electric Wire&Cable Co., Ltd./Pacific Thai Electric Wire & Cable Co., Ltd. 2922/311 Charn Issara Tower I Fl.30, New Petchaburi Rd, Huay Kwang, Bangkok 10320; tel 3082091; fax 3082081	ISO 9002	Manufacture of electric wire and cable	ITS 30-May-97
26	สยามฟลูออเรสเซนต์แลมป์ บจก. Siam Fluorescent Lamp Co., Ltd. 11 mu 7 Hua Krabu Rd, Bang Khunthian, Bangkok 10150; tel 8972321; fax 8972553	ISO 9002	Manufacture of straight and circline fluorescent lamp	BVQI 30-Sep-98
27	สายไฟฟ้าบางกอกเคเบิล บจก. Bangkok Cable Co., Ltd. 187/1 Ratchadamri Rd, Lumpini, Pathumwan, Bangkok; tel 4250441; fax 4258537	ISO 9002	Electrical cables and wires	RWTUV 19-Nov-96
28	สิวลีทรานส์ฟอร์มเมอร์ บจก. Siwali Transformer Co., Ltd. 1519, 1521 Onnut Rd, Suanluang, Bangkok	ISO 9002	Manufacture of oil immersed distribution transformer capacity not exceed 3000 kVA	MASCI 27-Apr-98
29	อัลคาเทล (ประเทศไทย) บจก. Alcatel (Thialand) Co., Ltd. 75/112 Ocean Tower 2, Sukhumvit 19, Bangkok	ISO 9002	Assembly of switching and transmission rack, installation of switching and transmission system and after sale service	BVQI 21-May-98
30	อาซาฮีอินสตรูเมนต์ (ประเทศไทย) บจก. Asahi Instrument (Thailand) Co., Ltd. 283 Lat Krabang Indus. Estate, Zone 3, Bangkok; tel 3260428-32; fax 3260248	ISO 9002	Manufacture of thermostat for electrical appliances and electronics equipment, excluding defrost thermostat	TISI 7-Aug-98

Industrial Sector: Electrical Machinery (Locate in Bangkok)

No	Company	Standard	Scope of certification	Certified by
31	อาเซียนอินซูเลเตอร์ บจก. Asian Insulator Co., Ltd. 9/8 mu 4, Bangchan Industrial Estate, Serithai Road, Kunnayao, Kunnayao, Bangkok10230	ISO 9002	Manufacture of porcelain insulator for power supply which are spool type, pin type, station post type, line post type and suspension type, ceramic cable spacer and underground cable support	MASCI 5-Aug-97
32	อิเคบานา เอ็นจิเนียริง บจก. Ikebana Engineering Ltd. 11/324, Mu 10, Ekkachai Rd., Soi 94, Bangbon, Bangkok 10150 tel 8950681-2; fax 4150106	ISO 9002	Manufacturing of heat shrinkable cable accessories	MOODY 13-Apr-00
33	เอฟอีซี (ไทย) บจก. FEE (Thai) Co., Ltd. 2189 New Phetchaburi Road, Huay Kwang, Bangkok 10310; tel 7180726; fax 7180712	ISO 9002	Manufacture and sales of toroidal inductors and transformers	BVQI 20-Mar-96
34	เอส.พี. อีเลคตริก อินดัสตรี บจก. S.P. Electric Industry Co., Ltd. 390/10 soi Petchakasem 96, Bang Khae Nua, Bangkok 10160; tel 8091771; fax 4441069	ISO 9002	Manufacture of oil immersed transformers	SGS 6-Jun-97
35	เอส.พี.เค. อุตสาหกรรมพาณิชย์ บจก. S.P.K. Industrial Commercial Co., Ltd. 496, 498 Soi Onnut 17 Yak 16, Suanluang, Bangkok 10250 tel 300-2668-71, fax 300-2670	ISO 9002	The manufacture of electrical and mechanical hardware e.g. bolts, pin for insulator, clamp strain, clamp, high tensile strength hardware, hardware produced from steel plate, round bar or pipe by cutting, drilling, welding, punching, forging process	SGS 31-May-00
36	เอส.พี.อีเลคตริก อินดัสตรี บจก. S.P. Electric Industry Co., Ltd. 390/10 mu 1, Soi Petkasem 96, Bangkaenuar, Bangkae District, Bangkok. 10160Tel. 8091171-3, 8091575 Fax. 4441069	ISO 9002	Manufacture of oil-immersed distribution transformers capacity not exceed 3,000 kVA	MASCI 27-Nov-00
37	เอสอีไอ อินเตอร์เนชั่นแนล บจก. SEI International Co., Ltd. 10 mu 7 Hua Krabue Rd, Bang Khunthian, Bangkok 10150; tel 8972321; fax 8972553	ISO 9002	Manufacture of straight and circline fluorescent lamp	BVQI 30-Sep-98
38	โอเรียนทัลอิเล็กทริกส์ อินดัสตรีส บจก. Oriental Electric Industry Co., Ltd. (formerly Oriental Electronics Corp.) Bangchan Indus. Estate, Khannayao, Bungkum, Bangkok 10230; tel 5171326	ISO 9002	Manufacture of watt hour meter	BVQI 1-Sep-97

Appendix D

Industrial Sector: List of Electrical Machinery
(Location in Samutprakarn)



Industrial Sector: Electrical Machinery (Locate in Samutprakarn)

NO	Company	Standard	Scope of certification	Certified by
1	กวางหงส์ อิเล็กทรอนิกส์ (ไทยแลนด์) บจก. Kuang Hung Electronic (Thailand) Co., Ltd. 694 Export Processing Zone, Bangpoo Industrial Estate, Muang District, Samutprakarn 10280; tel 3240247-8, 7093266, 7093013; fax 3240798	ISO 9002	Manufacture of micro & subminiature lamps	BM TRADA 7-May-98
2	กัณยงอิเล็กทริค บจก. Kang Yong Electric Co., Ltd. 67 mu 11 Bangna-Trat km.20, Bangphli, Samutprakarn; tel 3372431; fax 3372439	ISO 9001	Design and manufacture of electric fans	BVQI 26-Feb-97
3	คลอไรด์เพาเวอร์ อิเล็กทรอนิกส์ (ประเทศไทย) บจก. Chloride Power Electronics (Thailand) Ltd. Bangphli Indus.Estate, Bangna-Trat km.23, Samutprakarn 10540; tel 3151508; fax 3151510	ISO 9002	Manufacture of uninterrupted power supplies	UL 14-Nov-98
4	ควอลิตี้ไวร์ บจก. The Quality Wire Co., Ltd. 234 mu 10, Naikhleng Bangplakot, Phrasamut Chedi, Samutprakarn	ISO 9002	Manufacturer of bare copper wire, tinned copper wire, soudronic wire, eletric wire, power cable PVC compound, copper wire rod and copper wire bar.	SGS 12-Oct-99
5	คอมพาส อีสต์ อินดัสตรี บจก. Compass East Industry (Thailand) PCL 712 mu 4, Bangpu Indus. Estate, Phraeksa, Samutprakarn; tel 3240861-2; fax 3240528 290-291 Mu 4, Bangpoo Industrial Estate Soi 5, Sukhumvit Rd., Prakasa, Meung, Samutprakarn 10280 ; Tel 3240527-34; Fax 7094248	ISO 9002	Assembly of ceiling fans and light fittings	DNV 5-Oct-95
6	คิวชูมัตซึชิตาอิเล็กทริก (ประเทศไทย) บจก. Kyushu Matsushita Electric (Thailand) Co., Ltd. 101 mu 2, Theparak Rd, Bangsaonthong, Samutprakarn; tel 3381515; fax 7080857	ISO 9002	Manufacture of deflection yokes and fly back transformers	SGS 9-Apr-98
7	ชไนเดอร์ (ประเทศไทย) บจก. Schneider (Thailand) Ltd. 540 soi 9 Bangpu Indus. Estate, Samutprakarn; tel 3230834; fax 3240670	ISO 9002	Manufacture of branch circuit breakers, main circuit breakers, panelboards, busway and switchgear	UL 8-Mar-94
8	ซิโน-อเมริกัน อิเล็กทรอนิกส์ (ประเทศไทย) บจก. Sino-American Electronic (Thailand) Co., Ltd. 817 mu 4 Bangpu Indus.Estate, Samutprakarn 10280; tel 7094510; fax 7094510	ISO 9002	Manufacture of transformers, adopters, charges and switching power supplies	UL 5-Aug-99
9	ซีเมนส์ บจก. Siemens Ltd. (switchgear) 24 mu 13, Sukhaphiban 16, Puchao Samingphrai; Samutprakarn	ISO 9002	Medium and low voltage switchboards, motor control center, relay panel, distribution	RWTUV 1-Feb-97

Industrial Sector: Electrical Machinery (Locate in Samutprakarn)

NO	Company	Standard	Scope of certification	Certificated by
10	ทิวไทย บจก. Tira Thai Co., Ltd. 516, 516/1 Mu 4, Bangpoo Industrial Estate, Sukhumvit Rd., Praksa, Muang, Samutprakarn 10280 tel 7093237; fax 7093236	ISO 9001	Design development and manufacture of 1. Oil immersed distribution transformer maximum capacity 10 MVA maximum voltage 33 kV 2. Dry type transformer capacity 5-3000 kVA maximum voltage 33 kV 3. Automatic on load tap changing transformer maximum voltage 33	BVQI 11-Apr-97 MASCI 24-Dec-99
11	ทัสโก ทรานโฟ บจก. Tusco Trafo Co., Ltd. 612 mu 4, Bangpoo Industrial Estate, Soi 8A, Pattana 1, Road, Samutprakarn tel 324 0100, fax 324 0235	ISO 9002	The manufacture of oil immerged transformer	SGS 15-Oct-99 BVQI 2-Apr-99
12	ทีอีซีอีโอ อิเล็กทริกแอนด์มาชีนเนอรี (ไทย) บจก. TECO Electric & Machinery (Thai) Co, Ltd. 128/1 soi Wat Siwarinnoi mu 7 Bangna-Trat Rd, km.18, Bangphli, Samutprakarn 10540; tel 3371311	ISO 9002	Manufacture of electric motor	SGS 10-Sep-99
13	ไทยทรานโฟ บจก. Thai Trafo Co., Ltd. 141 mu 3, Phuttharaksa Rd, Samutprakarn; tel 2952121; fax 2952148	ISO 9002	Manufacture of distribution transformers supply for the Metropolitan Electricity Authority and the Provincial Electricity Authority	BVQI 20-Mar-97
14	ไทยนิคโกเมทัลอินดัสตริย์ บจก. Thai Nikko Metal Industry Co., Ltd. 373 mu 4 Bangpu Indus.Estate, Samutprakarn; tel 7093674; fax 3240430	ISO 9002	Manufacture of electric horns for motorcycles, automobiles and marine boats	RWTUV 1-Feb-99
15	ไทย ลัสเตอร์ โปรดักส์ บจก. Thai Luster Products Co., Ltd. 9/35-36 Moo 3, T. Bangpleeyai, A. Bangplee, Samutprakarn 10540 tel: 757-5531-2 fax: 757-4689	ISO 9002	Manufacture of Wiring Harness	SGS 8-Dec-00
16	ไทยโคอิโตะ บจก. Thai Koito Co.,Ltd. 370 Moo 17, T. Bangsaothong, King A. Bangsaothong, Samutprakarn 10540; tel 3153278-80, 7058006; fax 3153281, 7058075	ISO 9002	Manufacture of automotive lamp product	BVQI 18-Dec-98
17	ไทยเชียวชาญอุตสาหกรรม บจก. Thai Chiew Charn Industry Co., Ltd. 01/13 Bangplee King-Kaew Road Bangplee Yai, Bangplee, Samutprakarn Tel : 3162675-9 Fax : 3161228	ISO 9002	Manufacture of wire hamess	RWTUV 17-Feb-00
18	ไทยไฟเบอร์ออปติกส์ บจก. Thai Fiber Optics Co., Ltd. 233 mu 6 soi Wat Changruang, Suksawat Rd, Khlong Bang Pakot, Phrasamut-chedi, Samutprakarn 10290; tel 8175590; fax 8177187	ISO 9002	Manufacture of fiber optic cables	BVQI 1-Jul-98

Industrial Sector: Electrical Machinery (Locate in Samutprakarn)

NO	Company	Standard	Scope of certification	Certificated by
19	ไทยสตอเรจแบตเตอรี่ บจก. Thai Storage Battery PCL 387 mu 4, Soi Patthana 3, Sukhumvit Rd, Phraeksa, Samutprakarn; tel 7093535; fax 3240460	ISO 9002	Manufacture of automobile batteries and motorcycles batteries	BVQI 24-Jan-97
20	Bangkok Telecom บจก. Bangkok Telecom Co., Ltd. 233 mu 6 soi Wat Changruang, Suksawat Rd, Khlong Bang Pakot, Phrasamutchedi, Samutprakarn 10290	ISO 9001	Design and manufacture of electrical and telephone wire conduit	TISI 16-Jul-98
21	Bangkok Telecom บจก. Bangkok Telecom Co., Ltd. 283 Mu 1, Suksawad Rd., Pakklongbangplakot, Phrasamutchedi, Samutprakarn 10290; tel (02) 4630160; fax (02) 4633702	ISO 9001	Design and manufacture of copper conductor telecommunication wire & cable for inside and outside building application	MASCI 16-Jul-98
22	พงษ์พิมามการไฟฟ้า บจก. Phongpimarn Electric Co, Ltd. 129/595 mu 4, Phongsirichai, Omnoi, Samutprakarn; tel 4207945; fax 4207948	ISO 9002	Manufacture of distribution transformers	BVQI 29-Dec-97
23	ฟาร์ไซต์สหกิจ บจก. Far-Sight Sahakij Co., Ltd. 1999/1 mu 1Ban Patthanasuk, Teparak Rd, Samutprakarn 10270; tel 3852127; fax 3852132	ISO 9002	Wire harness, cable assembly, AC power cord plug, wire interface, cord assembly	BVQI 18-Nov-98
24	ฟิลิปส์ อิเล็กทรอนิกส์ (ประเทศไทย) บจก.: โรงงานลูมินาเรส์ Philips Electronics (Thailand) Ltd. (luminaires) ฟิลิปส์ อิเล็กทรอนิกส์ (ประเทศไทย) บจก.: โรงงานแลมป์ Philips Electronics (Thailand) Ltd. (Lamp) 515 mu 4, D8, Bangpu Indus. Estate, Samutprakarn; tel 3250900; fax 3250950	ISO 9002 ISO 9001	Manufacture and assembly of products for tubular fluorescent lamps, lamp fitting batteries and luminaires, attachment sets, light diffuser	SGS 8-Mar-95 SGS 28-Jul-94
25	เฟลปส์ดอดจ์ ไทยแลนด์ บจก. (บางพลี) Phelps Dodge Thailand Ltd. (Bangphli) 159 mu 10, soi Wat Ratburana, Theparak Rd km.17, Bangphli, Samutprakarn เฟลปส์ดอดจ์ ไทยแลนด์ บจก. (สำโรง) Phelps Dodge Thailand Ltd. (Samrong) 220 mu 1 soi Wat Dan Samrong, Samutprakarn	ISO 9001	Design and manufacture of power and telecommunication cables	MASCI 19-Feb-97
26	มัตซุชิตะ แบตเตอรี่ (ประเทศไทย) บจก. Matsushita Battery (Thailand) Co., Ltd. 166 mu 4 Sukhumvit Rd, Muang, Samutprakarn; tel 3841156; fax 3842138	ISO 9002	Manufacture of dry batteries and storage batteries and battery appliances	SGS 12-Mar-99
27	มัตซุชิตะอิเล็กทรอนิกส์ เอวีซี (ประเทศไทย) บจก. Matsushita Electric AVC (Thailand) Co., Ltd. 101 mu 2 Theparak Rd, Bangsaothong, Samutprakarn; tel 7081111; fax 3880857	ISO 9002	Manufacture of television and audio equipment	SGS 17-Jan-97

Industrial Sector: Electrical Machinery (Locate in Samutprakarn)

NO	Company	Standard	Scope of certification	Certificated by
28	มัตสึชิตาเซไก (ประเทศไทย) บจก. Matsushita Seiko (Thailand) Co., Ltd. 101 mu 2 Theparak Rd, Bangsaothong, Samutprakarn; tel 7081111; fax 7080853	ISO 9002	Manufacture of electric fan, ventilating fan and mini sirocco	SGS 25-Mar-99
29	ไลท์ติ้ง เอ็นโด (ประเทศไทย) บจก. Lighting Endo (Thailand) Co., Ltd. 440 Mu 17 Teparak Rd., T. Bangsaothong, King, A. Bangsaothong, Samutprakarn 10540; tel 3153184-6; fax 3153188	ISO 9002	Manufacture and distributor of lighting fixtures and semi lighting fixtures	BVQI 26-Aug-00
30	สแตนดาร์ดอินซูเลเตอร์ บจก. Standard Insulator Co., Ltd. 515 mu 3 Panwithi Rd, Bangbo, Samutprakarn	ISO 9002	Manufacture of porcelain insulator	TISI 30-Mar-98
31	สยาม ซีเอส แบตเตอรี่ บจก. Siam GS Battery Co., Ltd. 78 mu 3 Sukhumvit Road, Bangpu Mai, Samutprakarn; tel 3239030; fax 3239539	ISO 9002	Manufacture of automobile batteries, motorcycle batteries and sealed lead-acid batteries	BVQI 25-Sep-96
32	สยามอิเล็กทรอนิกส์พาร์ตส์แอนด์อินดัสตริย์ บจก. Siam Electrical Parts and Industries Co., Ltd. Bangpu Indus.Estate soi 1B, 649 Bangpumai, Samutprakarn 10280; tel 3240210; fax 3240214	ISO 9002	Manufacture and marketing of magnet wire and copper wire	BVQI 30-Jul-98
33	สยามอิเล็กทรอนิกส์พาร์ตส์ บจก. Siam Electrical Parts Co., Ltd. 366 mu 17 Bangphli Indus-Estate, Samutprakarn 10540; tel 3153322; fax 3153313	ISO 9002	Manufacture of condenser discharge ignition units	UL 12-Aug-96
34	สายไฟฟ้าไทย-ยาซากิ บจก. Thai-Yazaki Electric Wire Co. Ltd. 283 Mu 1, Suksawad Road, Pak Khlong Bangplakot, Phrasamuthchedi District, Samutprakarn 10290 Tel. 4630058 Fax. 4632477	ISO 9001	Design/ development and manufacture of electric wires and cables, copper and aluminum conductor wires	BVQI 26-Oct-95 MASCI 27-Nov-00
35	สายไฟฟ้าบางกอกเคเบิ้ล บจก. (โรงงานสมุทรปราการ) Bangkok Cable Co., Ltd. (Samutprakarn Plant) 93 mu 11, Suksawad Road, Naiklongbangplakod, Prasamutchedee District, Samutprakarn 10290, Thailand Tel. 425-0445-7 Fax. 815-6296	ISO 9002	Manufacture of electric wire and cable	MASCI 2-Oct-00
36	อัลฟา เอ็นไวโรเทค อินดัสตรีส์ บจก. Alpha Envirotech Industries Co., Ltd. 12/403-5 Mu 15 Bangna-Trad Rd., KM.5, Bangkaew, Bangplee, Samutprakarn 10540; tel 7451121, 3124761-62; fax 7450509	ISO 9002	Manufacture of cellulose insulation product	BVQI 22-Dec-00

Industrial Sector: Electrical Machinery (Locate in Samutprakarn)

NO	Company	Standard	Scope of certification	Certificated by
37	อีมิเนนซ์แอร์ (ประเทศไทย) บจก. Eminent Air (Thailand) Co., Ltd. 405 Mu 5 Soi Soonthonvasa, Bhudharaksa Rd., Preakasamai, Muang, Samutprakarn 10280; tel 3891090; fax 7036710	ISO 9002	Manufacture of air conditioner & Coil	AJA EQS 15-Dec-00
38	อีสเทิร์น ซินเทค บจก. Eastern Syntech Co., Ltd. 611 mu 4 soi 9A, Bangpu Indus.Estate, Sukhumvit Rd, Samutprakarn 10280; tel 7093147; fax 3230857	ISO 9002	Marketing, manufacture and assembly of ducting system product and energy and energy saving lighting products	BVQI 3-Feb-99
39	เอเชียแลมป์ บจก. Asia Lamp Industry Co., Ltd. 199 mu 2 Phuttharaksa Rd, Thaiban, Samutprakarn 10280; tel 7029471; fax 7029470	ISO 9002	Manufacture of fluorescent lamps	UL 22-Nov-99
40	เอบีบี บจก. (ธุรกิจหม้อแปลงไฟฟ้ากำลัง) ABB T&D Ltd. (Transformer) ABB T&D Ltd. (low voltage) ABB Limited ABB Limited (Power Transformer Business) 297 mu 4, Bangpu Indus. Estate, soi 6 Sukhumvit km.34, Samutprakarn; 322 mu 4 Bangpoo Industrial Estate, Soi 6 Sukhumvit Road, Samutprakarn 10280 tel 3240505; fax 3240503, 324 0504, 709-3770	ISO 9001	The design, manufacture, installation and commissioning of capacitor banks. The manufacture of low voltage power capacitors. The distribution of low voltage apparatus and electrical installation material manufactured at other ABB worldwide locations.	UL 27-Dec-96 JQA 25-Mar-97 TISI 1-Apr-97 SGS 3-Apr-97 JQA 1-Dec-97 SGS 31-Jul-00 SGS 19-Apr-99
41	เอส.ซี.ไอ. อีเลคตริค แม้นิวแพ็คเซอเวจ บจก. SCI Electric Manufacturer Co., Ltd. 107/1 mu 1 Bangna-Trat Road, km 27, Samutprakarn; tel 3381414; fax 3381419	ISO 9001	Design and manufacture of low-high tension switch boards, fuse switches, strret lighting, cable trays, cable ducts, support systems and fabricated steel assemblies	UL 22-Sep-95

