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THE IMPLEMENTATION OF TQM IN CANADA AND MEXICO:

A CROSS-CULTURAL PERSPECTIVE

Bella Lise Galperin

A Thesis

in

The Faculty

of

Commerce and Administration

Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Science at
Concordia University
Montreal, Quebec, Canada

March 1995

ISBN 0-612-01320-0

ABSTRACT

The Implementation of TQM in Canada and Mexico: A Cross-Cultural Perspective

Bella Lise Galperin

Total quality management (TQM) gained its popularity during the last decade and continues to have a profound impact on business strategies today. Using the case study method, this research examines the influence of national culture on the successful or unsuccessful implementation of TQM in Canada and Mexico. Data from focused interviews are used to compare the TQM implementation process in two plants (one Canadian and one Mexican plant) of Northern Telecom, a telecommunications company. As hypothesized, the qualitative results suggest that a firm in a collectivistic culture, such as Mexico, is more successful at implementing TQM than a firm in an individualistic culture, such as Canada because a plant in a collectivistic culture has more TQM beliefs and values than a plant in an individualistic culture. More specifically, the findings suggest that compared to the Canadian plant, the Mexican plant: 1) more integratively uses information for improvement purposes; 2) more regularly rewards their employees for good results; 3) has more group based rewards; and 4) does not need to have employee ownership programs for employees to feel as though they have a stake in their company. The implications of these findings for collectivistic and individualistic cultures are discussed.

To my loving Earley

ACKNOWLEDGMENTS

Most importantly, I would like to thank Professor Terri Lituchy. I am most grateful for her insight, encouragement, and guidance.

Professor Mohan Gopalakrishnan and Professor Louis Hébert were also instrumental during the stages of this research.

This research would not have been possible without the cooperation of Northern Telecom. I am grateful for their time and valuable information.

I would like to thank my parents for providing an environment in which education was encouraged. Thanks Dad and Sylvie for your help in translating the materials. Thank you, Ilana for always being there. Especially, Friday afternoon at 4:30. Thanks Earl for being so understanding.

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CHAPTER 1- INTRODUCTION

The key word in North American business these days is quality. The term total quality or total quality management (TQM) is often heard in both the service and manufacturing industries, as well as government and public agencies. TQM gained its popularity throughout the 1980's and continues to hold prominent ground in the business environment. Due to the globalization of the marketplace, organizations today are making quality their priority due to increased competition.

Although international business has existed for centuries, the world has recently entered an era of global economic activity, including worldwide production, distribution, and global strategic alliances (Adler, 1992). One does not have to go very far to see examples of transborder business activity. The Canada-United States Free Trade Agreement (FTA) has refocused North American attention on international business. Moreover, the emergence of the North American Free Trade Agreement (NAFTA) will further increase the number of diverse forms of investment and cooperation available to Canadian businesses.

With the opening of Mexican markets to Canadian industry, it is likely that more Canadian companies will open subsidiaries in Mexico. Currently, total trade among the U.S., Canada, and Mexico approximates $225 billion a year (Guay, 1991). However, with the trilateral arrangements, it is expected that there will be even more trade between these countries. Canadian investments and business in Mexico are likely to expand rapidly (Lynn, 1992). This will require Canadians and Mexicans to be more familiar with each others cultural

similarities and differences. When conducting business in another culture, it is essential that one understands the value system and attitude framework of a society or national culture before making judgments or taking actions.

Similarly, when attempting to implement business practices in different countries, it is necessary to comprehend the national cultures in question. The topic of major interest to this study will be whether Canadian and Mexican companies will be successful at implementing the TQM philosophy. Moreover, this study will attempt to uncover the major problems that organizations may face when implementing TQM. Specifically, the following research question will be examined: What role will national culture play in the successful or unsuccessful implementation of a TQM process in Canada and Mexico?

TQM begins with the primary assumption that an organization must cooperate to achieve quality for the needs of the customer. One can achieve quality by controlling manufacturing/service processes to prevent defects. TQM, however, does not only consists of quality tools and techniques. TQM processes also depend on a certain set of values and beliefs shared by all organizational members. In this study, the success of a TQM process will be primarily viewed in terms of these TQM elements. The implementation of quality tools and techniques to Canada and Mexico will not be the focus of this research.

The objectives of the research are threefold. First, this paper contributes to the cross-cultural management literature by developing theoretical knowledge of TQM in the international context. In the past, there has been little research in the cross-cultural management area (Adler, 1992).

Second, with the introduction of NAFTA and pro-market policies, there will be a need for Mexicans to understand that quality efforts will play a key role in developing and maintaining a competitive edge. This study will shed light on the necessary knowledge that is essential to implement TQM in Mexico, thus enabling Mexicans to improve the quality of products and services.

Finally, and most importantly, this study will examine the implementation of TQM in Canada and Mexico. Research has shown the importance of culture when implementing management practices or human resource management (HRM) systems in another country. Yet, no research has been conducted on the dynamics of TQM in Mexico (DeFrank, Matteson, Schweiger & Ivancevitch, 1985). This paper expands the literature in this area by developing theoretical knowledge of TQM in the international context. Several researchers believe that greater research attention should be devoted to total quality (Reeves & Bednar, 1994; Spencer, 1994; Waldman, 1994). In the Academy of Management Review's July 1994 special issue on total quality, Dean and Bowen (1994) note that total quality is a "ubiquitous organizational phenomenon" that has been given little attention. They state that researchers may be reluctant to conduct research based on the consulting-oriented frameworks currently available. This research will contribute to the existing theories, as well as bridge the gap between researchers and practitioners in the field.

Given the importance of quality in today's market, as highlighted above, the TQM philosophy can contribute to the success and profitability of Canadian businesses in Mexico. Much hope exists for the implementation of TQM in Mexico since Mexican workers and managers welcome their exposure to other culture's business methods, and are eager to adapt when given the opportunity

(DeForest, 1994). Moreover, Noll's (1992) study found Mexican workers to place a high level of importance on work characteristics such as making a quality product, and learning something new to do better on the job. The importance of quality is a central theme to TQM.

TQM practices, however, have not always been successful nor profitable. In a study of Canadian firms, those with TQM processes in place, only one-third of the companies had tangible results (Bak, 1992). Similarly, Bak (1992) also found that 80% of TQM efforts in British firms had failed (Bak, 1992). Furthermore, two-thirds of American managers think TQM has failed in their companies (Jacob, 1993). There have been numerous signs of disappointment, not only limited to North America.

The factors which may contribute to the failure of a TQM implementation process include the national culture, industry culture, and the organizational culture (Fombrun, 1983). In the case of multinational corporations, the parents' corporate culture may influence the subsidiary's organizational culture, in turn affecting the implementation process in the subsidiary. In addition, educational, political-legal, and economic elements of the country can also affect the implementation process (Saadat-Nejad, 1981). This research will focus on the role of national culture in the implementation process of TQM. The findings will provide practitioners with valuable information that will facilitate the successful implementation of TQM in Canada and Mexico.

In this chapter, a brief introduction to the topic was presented. The study's objectives and relevance were also highlighted. Chapter Two describes the meaning of TQM, and its historical development. The definition of culture and

the literature on cross-cultural management are also presented. The literature on the implementation of management practices then follows. Chapter Three, the method section, discusses the selection and description of the sample, as well as the procedure. The results are presented in Chapter Four. Finally, Chapter Five highlights the limitations and implications of the study, as well as future research.

CHAPTER 2- LITERATURE REVIEW

Total Quality Management

In past few years, TQM has become a hot topic in the academic literature. Despite the voluminous number of articles and books on TQM, total quality management remains a hazy, ambiguous concept (Dean & Bowen, 1994). This may be due to the fact that the term TQM often means different things to different people. Quality "gurus" such as Deming, Juran, and Crosby have proposed their own frameworks. Deming's (1986) 14 principles highlights the systematic nature of organizations, the importance of leadership, and the need to reduce variation in organizational processes (Anderson, Rungtusanatham & Schroeder, 1994). Juran's (1989) framework focuses on three sets of activities- quality planning, control, and improvement. Emphasis is also placed on the use of statistical tools to eliminate defects. Crosby (1979) stresses the reduction of cost through quality improvement. Moreover, he states that both high- and low-end products can have high quality. Extensions of the TQM framework have included the development of customer-based specifications in the design of a product or process (Tagushi & Clausing, 1990), benchmarking or the measurement of products/services and processes against those of organizations recognized as leaders (Camp, 1989), and the increase interest in lean production or a system that involves just-in-time production, continuous improvement, team-based work arrangements (Shadur & Bamber, 1994).

Regardless of the different perspectives, the underlying theme common to all frameworks is that TQM is based on a prevention work process that strives to increase quality and efficiency, improve productivity, and enhance customer

satisfaction (Waldman & Addae, 1993). More specifically, a TQM process comprises of the following aspects: upper management commitment to place quality as a top priority; a broad definition of quality as meeting customers' expectations at the least cost, which encompasses all phases of the design, production, and delivery of a product/service; the institution of leadership practices oriented toward TQM values and vision; the development of quality culture; the involvement and empowerment of all organizational members in cooperative efforts to achieve quality improvements; an orientation toward managing-by-facts, including the prolific use of scientific and problem-solving techniques such as statistical process control; the commitment continually to improve employees' capabilities and work processes through training and benchmarking; and, the attempt to get external suppliers and customers involved in TQM efforts (Waldman, 1994).

For the purpose of this research project, TQM will be defined as follows:

> TQM means that the organization's **culture** is defined by and supports the constant attainment of **customer** satisfaction through an integrated system of **tools, techniques**, and training. This involves the continuous improvement of organizational processes, resulting in high quality products and services (Sashkin & Kiser, 1993, p.39)

TQM Culture

As highlighted by the above definition, it can be noted that there are three important aspects of TQM: integrated tools and techniques, the customers, as well as the quality culture (Sashkin & Kiser, 1993). In this project, the emphasis will be placed on the quality culture of the organizations. In other

words, the shared values and beliefs, expressed by leaders, that define and support quality.

The certain core values and beliefs that are essential in implementing a TQM process, as highlighted by Sashkin and Kiser (1993), include the following elements:

1. Quality information must be used for improvement, not to judge or control people.
2. Authority must be equal to responsibility.
3. There must be rewards for results.
4. Cooperation, not competition, must be the basis for working together.
5. Employees must have secure jobs.
6. There must be a climate of fairness.
7. Compensation should be equitable.
8. Employees should have an ownership stake.

To more fully comprehend Sashkin and Kiser's (1993) eight elements, a description of each element will follow.

Information for improvement refers to the notion that performance and quality information must be used to understand problems, develop solutions, and take action. To ensure that information is used for improvement purposes, measurement should center on the process of work, not just the outcomes. A process approach advocates the use of performance and quality data by those

who can apply it directly to identify problems, solve them, and make improvements.

Conversely, a results approach emphasizes that the measurement should assess the final results. When an organization relies on results, an atmosphere of fear often exists. Workers are worried that if their numbers are not good enough, they will be punished. In such a system, quality data is not used to identify and solve the problem, but to control workers. Consequently, the importance of making quality products or services to satisfy the customer becomes of secondary value (Deming, 1986).

The second element, **authority must equal to responsibility**, refers to the notion that employees who are responsible for doing the work and attaining certain outcomes must have the authority they need to carry out their responsibilities effectively. In other words, those responsible for production or service activities must also have the authority to take positive actions based on performance and quality information. This means making process control a part of the employees' jobs. People should have the authority to control and improve the work for which they are responsible.

The third element highlights the fact that there must be **rewards for results**. Achievement should be recognized symbolically, and in terms of material rewards. The use of rewards reinforces the value of high quality and problem solving. Individuals, teams, and all members of the organization must be rewarded for their efforts. However, for TQM to be successful, it is essential that the organization stresses team-based rewards. Team-based rewards are important because work teams represent the single most effective way to

structure an organization for TQM (Blackburn & Rosen, 1993; Sashkin & Kiser, 1993). Teams provide a structural basis for cooperation, which is a necessity in a TQM culture. For example, when the United States Air Force implemented a team-approach, the overall cooperation and integration improved (Creech, 1994). It is important for organizations to design reward systems to reinforce team performance, rather than individual performance.

The fourth element emphasizes that **cooperation must be the basis for working together**. People in the organization must cooperate to accomplish their work with the common aim to ensure quality for both the external and internal customers. Since the external customers purchase the product, and financially support the organization, it is essential to satisfy these people. It is equally important to determine and satisfy the needs of the internal customers or people in the organization who use the product or service. When each worker focuses on satisfying the needs of the internal customers, quality is built into every step of the process. In sum, employees should support one another's effort, and not compete with each other. Competition among individuals can be detrimental to the performance of the organization.

Job security, the fifth element, highlights the necessity for employees to know that their jobs are secure. If employees do not feel secure in their jobs, they may not take risks to make improvements. Consequently, these feelings of uneasiness may translate in the inability to achieve high quality. Deming (1986) states that a concern for quality requires that employees feel secure. High quality cannot be attained unless managers operate in a culture of openness.

The sixth element, emphasizes that there must be **a climate of fairness.** Everyone in the organization must perceive that managers' actual behaviors are fair. However, fairness is a complex issue because two people may have different views on what is fair. Fairness is important for TQM because it is difficult for employees to feel empowered, to believe there will be rewards for results, or act cooperatively unless they perceive conditions as fair.

Sashkin and Kiser (1993) refer to their seventh element as **"equitable" compensation**. When Sashkin and Kiser (1993) explain the term "equitable compensation", they state that "... top executive pay should not be much more than about twenty times the pay of the lowest-paid full-time permanent employee. p.106". However, based on their description of an "equitable" compensation system, Sashkin and Kiser (1993) are truly referring to a compensation that is based on "equality", and not "equity". A compensation system based on equity would ensure that individuals are being compensated for what they are contributing to the organization (Myers, 1983). In other words, their inputs correspond to their outputs. On the other hand, a compensation system based on equality would ensure that if two people contribute equally, they should receive equal compensation (Myers, 1983). In other words, large discrepancies between lower-level employees and top management should not exist. Due to the confusion in terms, throughout the thesis this element will be referred to as a compensation system based on equality, and not equity. Research has shown that the difference between executives' and lower level employees' pay do make a difference with respect to the quality (Sashkin & Kiser, 1993). Consequently, compensation based on equality is necessary for a TQM culture.

The final element emphasizes that employees should have an ownership stake in the organization. Sashkin and Kiser (1993) state that while ownership can be a significant factor, it is not necessarily the most important factor. Of course, in some organizations such as, government agencies, employee ownership is impossible. The key is that the employees must feel and act as though they are owners. They must have a sense of ownership over their work and actions.

In the section above, eight specific elements essential to a TQM culture were discussed. These eight elements are based on certain values and beliefs that underlie a TQM process. However, in order to better understand the foundation of TQM, it is necessary to view the background and evolution of the TQM philosophy.

Historical Development of TQM

TQM is an approach to management that has evolved from a narrow focus on statistical process control to encompass an integrated, systematic, organizational wide strategy for improving product and service quality (Dean & Evans, 1994). The philosophy underlying TQM is by no means a new invention, in fact the Japanese have been using the TQM business philosophy for the past 25 years (Jutkiewicz, 1991).

W. Edwards Deming, the pioneer of TQM, was an American statistical researcher who emphasized both statistical process controls and fundamental management changes. Deming spent a great deal of his time teaching others to use the quality control tools and techniques he had learned, modified, or invented. During the 1930's and '40's, Deming's teachings were widely adopted

by the American industry. However, after the war, these quality practices dramatically declined. Riding on the postwar boom, American management did not seem to view quality to be important. Deming realized that despite all his work before the war, he made no lasting effect on the American organizations he worked with.

In the late 1940's, Deming was sent to Japan to help the postwar Japanese government to improve the quality of Japanese products (Sashkin & Kiser, 1993). Unlike the American managers, Japanese top managers paid attention to Deming. The Japanese quickly embraced the importance to produce the level of quality goods and services that customers wanted. In fact, Japan's products and services are now viewed worldwide as being superior in quality compared to the Americans.

It should be noted that Deming, Juran, and other key players were not the primary explanation for the revitalization of the Japanese industry. Several researchers have noted that an important factor that helped Japan build the societal commitment to rebuild their industry on the basis of quality was their national culture (Sashkin & Kiser, 1993). The strong collective culture in Japan has facilitated the implementation of TQM efforts in Japanese companies because Japanese organizations are far more homogeneous and cohesive than some firms in other countries. Since all employees, including top management, are collectively committed to the quality process, quality efforts are more likely to be successfully implemented in Japan.

In sum, the Japanese strong culture has largely facilitated the societal commitment to rebuild the industry on the basis of quality and customer

satisfaction. It is interesting that even though TQM was identified as having American origins, the philosophy of TQM is more in line with Japanese management theories and practice. For example in Japan, teamwork, an essential TQM element, is not considered a "management practice" but a deeply long held view of one's place in society (Scher & Ciancanelli, 1993). To more fully comprehend the meaning of culture, the following section will define national culture.

Culture

First, one must ask the question, what is culture? In the past, researchers have defined culture in many different ways. However, Kluckholm (1951: 86, 5) states that there has been consensus on the anthropological definition:

> Culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional ideas and especially their attached values.

The above definition highlights that our values, and subsequent behaviors are nearly all affected by cultural forces. People who are born and raised in a country are fully programmed in the ways of its culture. For example, Japanese children are taught early the value of working within a group (Scher & Ciancanelli, 1993; Zhao, 1993). Conversely, Canadian children are taught the value of individuality (Hofstede, 1980; Jain, 1990).

These different socialization practices reflected in various cultures will result in variances in attitudes, values and assumptions which determine behaviors, or how organizations operate. For example, Hambrick's (1987) results on management teams suggest that to understand team values, one must look at the context in which the team members were raised, educated and acculturated. The cultural and societal factors represent the broader society in which the business operates. In his research, Hambrick (1987) notes that many organizations have found that very different styles and perspectives exist and are needed for effectively managing in different cultures.

Similarly, Bedeian (1975: 287) states, "It is a well-established fact that different cultures possess different organizational norms and behavior standards and that they recognize these as legitimate forms of influence." Furthermore, the popular literature on management styles, quality circles, and corporate cultures, assumes that differences in behavior are culturally induced (O'Grady, 1991).

Researchers have proposed several dimensions to study cultural variances, as well as key differences between countries (Kluckhohn & Stodtbeck, 1961; Rokeach, 1973; Hofstede, 1980). However in comparison to other dimensions, the individualistic/collectivistic cultural orientation has profound implications for how individuals work (Hofstede, 1980; Triandis, 1989). In the past, researchers have used the individualism/collectivism dimension as a theoretical framework (Kim, Triandis, Kagitcibasi, Choi & Yoon, 1994), specifically studies have shown this dimension to affect work values (Hofstede, 1980), cognitions and behaviors (Triandis, 1979; Lituchy, 1992; Earley, 1993; Lituchy & Dahl, 1993). In this study, the individualism/collectivism cultural

dimension will be utilized as a theoretical basis to formulate a priori research hypotheses to study the cultural implications involved in the implementation of TQM in Canada and Mexico.

Individualism and Collectivism

Individualism/collectivism reflects the extent to which people emphasize their individual goals over those of their clan or group (Hofstede, 1980). Individualism refers to a loosely knit social framework in which people are supposed to look after their own interests over those of their collective. It's opposite collectivism, is characterized by a tight social framework in which people do not distinguish between the two (Erez & Earley, 1993). Research has shown that Canadians and Americans are highly individualistic (Hofstede, 1980). In Gutierrez's (1993) study, Canadian and American employees were perceived as being more loyal to themselves than a boss or an organization. A distinction existed between their personal interests and those of their companies'. On the other hand, in Mexico and Japan, both collectivistic cultures (Hofstede, 1980), loyalty was often related to a personal bond between boss and subordinate or between peers (Hofstede, 1980; Gutierrez, 1993; Deming, 1986). Employees did not differentiate between their own interests and those of the company. In this study, Japan is of interest because the Japanese have been strong advocates of TQM since the 1950's.

Another aspect of the individualism and collectivism dimension concerns the nature of group memberships (Hofstede, 1980). In individualistic cultures emphasis is placed on self-sufficiency and control. The pursuit of in-group goals is not an important factor, individual goals may or may not be in agreement with the in-group goals (Triandis, Bontempo, Vilareal, Masaaki,

Lucca, 1988). Moreover, membership within multiple in-groups is common. Individuals will often terminate their membership of one in-group if membership becomes a burden.

In collectivistic cultures, the self is defined by in-group memberships. A person in a collectivistic culture will only belong to a few in-groups, and behavior within the group emphasizes goal attainment, cooperation, group welfare, and in-group harmony (Erez & Earley, 1993). Collectivists are concerned about the implications of their actions on their in-groups, they feel interdependent on in-group members. They also emphasize the integrity and harmony of the in-groups (Hui & Triandis, 1986) over self interests. Members will attempt to minimize any new conflicts that may arise over time. Research has shown that as opposed to Canadian employees, Mexican and Japanese employees have an overwhelming desire to save face and please others (Sher & Ciancanelli, 1993; O'Grady, 1994).

The individualism/collectivism dimension also highlights the notion of an extended family. In collectivistic cultures, actions of group members are coordinated (Erez & Earley, 1993). For example, in Mexico family members are often given positions and promotions in organizations (O'Grady, 1994). Such practices are viewed as a logical extension of the highly collectivistic Mexican culture. Yet, in an individualistic culture, such as Canada, nepotism is viewed as a sign of corruption. Similarly, in Japan the extension of family into the organizational sphere is also evident. In Japanese organizations, a group of co-workers shows allegiance to its leader provided that the leader demonstrates paternalism towards the group (Nakane, 1978).

Individualism and collectivism also differ on the issue of autonomy and group action. In individualistic cultures, emphasis is placed on individual freedom of action and preferences. In highly individualistic countries, such as Canada and the United States, it is considered socially acceptable to pursue one's own ends without the minding the welfare for others (Inkeles, 1984). Conversely, in collectivistic cultures, such as Mexico and Japan, if the pursuit of individual interests conflict with collectivist interests, it is viewed as morally wrong (Erez & Earley,1993). According to Erez and Earley, the morality of individual and collective action may be the most intangible aspect of culture because it lies at the very heart of a society's moral stance.

The individualism/collectivism dimension also influences whether the culture is characterized by concern for other's needs or emotional detachment (Triandis, 1989). Cultures which are concerned for others often follow an equality standard. On the other hand, when emotional detachment is prevalent in the culture, an equity standard exist. Research has shown that an individualistic culture, such as Canada, more closely follows an equity principle, whereas collectivistic cultures, such as Japan and Mexico, adheres by an equality norm (Leung, 1987). Other primary characteristics of individualism and collectivism include: sharing of resources, locus of decision making, feelings of involvement in one another's lives (Triandis, 1989).

In summary, different aspects of the cultural dimension of individualism/ collectivism were highlighted. From the above, one would propose that a TQM process would be more successfully implemented in Mexico than Canada, because the Mexican culture is more similar to the Japanese culture with respect to the individualism/collectivism dimension. As mentioned earlier,

Sashkin and Kiser (1993) state that an important factor that helped Japanese organizations quickly adopt TQM was their culture. Japanese organizations are far more collectivistic and cohesive than firms in other countries. Consequently, since there are congruences between Japanese and Mexican culture with respect to the individualism/collectivism dimension, one might expect that Mexico will successfully adapt to the TQM philosophy as readily as Japan. However, to more fully comprehend the implementation of TQM to Canada and Mexico, it is necessary to address the effect of culture on organizations and management practices. The section below will discuss the cross-cultural management literature.

Cross-Cultural Management

In today's global forum, managers must be skilled at working with people from different countries. Cross-cultural management studies the behavior of people in organizations around the world (Adler, 1992). Researchers in the field are interested in understanding the role of culture in shaping individual reactions to management practices and predicting which practices will be most effective in a given cultural context.

Several researchers have shown the effect of culture on management practices. For example, Lane and DiStephano's (1988) study cite an occasion when an expatriate manager introduced a piece-rate incentive system to increase production in a small sewing operation in Botswana. Unfortunately, the adoption of the new system did not lead to an increase in production, however a worker's strike. The manager later realized that the conflict was culturally based. In other words, a group-based incentive program should

have been implemented instead of an individual incentive system that violated the workers' value of the group.

The above example illustrates that managers are often unaware of the impact of their own culture. However, indeed culture "... exerts a pervasive, yet hidden, influence on behavior" (Lane & DiStephano, 1988:4). Researchers have continuously found culture to define various management practices such as compensation packages (Bishko, 1990) and performance appraisal systems (Waldman & Addae, 1993). In the section below, cross-cultural studies specifically relating to TQM will be discussed. TQM in developing countries will first be addressed, followed by research particularly relating to Mexico.

TQM in Developing Countries

Jaeger and Kanungo (1990) proposed a theoretical framework which examined the distinctions between developing and developed countries. They found developed countries to be highly individualistic, on the other hand developing countries were found to be highly collectivistic. In contrast to developed countries, developing countries' high degree of collectivism is in line with the TQM process. Moreover, it is believed that the high degree of collectivism might lead to an emphasis on group-level objectives (Waldman & Addae, 1993). In other words, developing countries' cultural conduciveness to the TQM culture might facilitate the implementation of TQM.

Waldman and Addae's (1993) paper specifically compared the performance management systems of developing and developed countries. Using Jaeger and Kanungo (1990) framework, they found that in terms of cultural values, many developing countries may actually be in a better position to manage

performance appraisals that are more in line with TQM than developed countries. In other words, as opposed to individualistic developed countries, the collectivistic culture of developing countries would facilitate the implementation of group-based structures and reward mechanisms, principles central to a TQM process.

The literature on developing countries illustrates that a number of countries have implemented programs which are based on TQM elements. These countries include: India (Jaggi, 1977), Tanzania (Kanawaty, Thorsrud, Semiono & Singh, 1981), Colombia (Navarrette, 1991), Venezuela (Cartaya & Medina, 1989), Brazil (Ito, 1990), and Argentina (Bertin, 1990). However, TQM efforts in these countries are often not implemented in its entirety. Instead, only certain TQM-based elements, such as participative leadership styles, QCs or quality control procedures, are implemented.

For example, several studies conducted in India have only focused on the implementation of participative leadership styles. Researchers have shown that employees (Kakar, 1971) and managers (Jaggi, 1977) in India preferred a more participative leadership style. In Tanzania, TQM efforts were restricted to the implementation of work groups. Kanawaty et al. (1981) found that after employees were reorganized in work groups and group incentive systems were introduced, cooperation among employees improved and absenteeism dropped from 8.9 % to 1.9 %. In addition, production increased 17%.

Several Latin American countries have also noted that quality is their best path to competitiveness. Since the establishment of the Colombian Quality Control Association in the mid 1970's, Colombia has begun TQM related

activities. Navarrette (1991) found that QCs were successfully introduced and implemented in Colombian firms. Similarly in Venezuela, the implementation of quality control procedures has been successful (Cartaya & Medina, 1989). For the first time in the history of a factory, quality operations were assigned to the operators. Specifically, operators had the opportunity to define with management a list of possible defects and their solutions. In addition, operators were given the new responsibility to reject immediately any faulty components and to return the defective pieces for immediate re-work. As a result of this change, the quality of the products improved and there was an increase in productivity. In Brazil, top management has delegated the technical aspects of quality to lower management and has focused their attention on the importance of quality in strategic planning (Ito, 1990). The Brazilian Society for Quality Control has designed the National Quality of Excellence Program, a certified quality engineer program, that has already qualified more than 800 Brazilian professionals. The program is regarded as one of the best- the 70% overall approval rate is one of the highest in the world. Finally, Argentina has also made some progress in their quality efforts with the cooperation of quality societies and experts from the U.S., Europe and Japan. Argentina now possesses the foundations and the means to solve quality problems in the future (Bertin, 1990).

In conclusion, the cultures of the countries mentioned above are all collectivistic (Jaeger & Kanungo, 1990). It is possible that the collectivistic cultures of these developing countries have facilitated the implementation of quality efforts. Hence, with respect to Mexico, one would also expect the implementation of TQM to also be facilitated by its collectivistic culture. In the section below, TQM-related efforts in Mexico will be discussed.

TQM in Mexico

Prior to the trade liberalization policies in 1986, Mexican companies did not have strong incentives to achieve world quality standards. However, in the last several years, firms have focused on improving not only the quality of the product, but also its packaging, distribution and associated customer service (Newman & Szterenfeld, 1993). In a recent survey of executives, "the urgent need to improving quality" was mentioned as one of the key factors shaping their firms' strategies in today's Mexican business environment (Newman & Szterenfeld, 1993).

Various Mexican organizations have attempted to implement TQM by investing in labor and improving their human resources. These companies include: Shure Brothers (Peak, 1993), Mattel (Peak, 1993), Nissan Mexicana (Geyer, 1993), Xerox Mexicana (Geyer, 1993), Cummins Engine Company (Newman & Szterenfeld, 1993), General Motors (Toledano, 1993), and Rogers Corporation (Miller, 1992).

The literature illustrates that the implementation of quality efforts in the above Mexican organizations have been successful. For example, Xerox's Total Quality program called: "Facing the Future: A Focused Factory Strategy" was awarded Mexico's prestigious National Quality Award in 1990 (Geyer, 1993). Similarly, Yamauchi, the vice president of Nissan Mexicana, further highlights Mexico's success at implementing the TQM elements. His view on quality is summarized in the following manner: "Many people still think Mexico is lacking in quality, I can tell you that this is not true... It would not be possible for us to export cars to Japan if the quality standards were not the

same" (Geyer, 1993, p 32). It is possible that the collectivistic Mexican culture has facilitated the implementation of quality efforts at Xerox and Nissan Mexicana.

Several of the Mexican companies have begun their TQM efforts by giving their employees the authority to control and improve their own work activities, an essential element in the TQM process, as highlighted by Sashkin and Kiser (1993). For example, at Mattel's facility, supervisors do not control the speed of the assembly line. Instead, the hourly workers on the line are empowered to move the line forward when they are satisfied with the quality of the product for which they are working on (Peak, 1993). Similarly, at the Shure Brothers' Juarez facility, the empowerment of a cross-functional team led to surprising results (Peak, 1993). When the team was given the authority to make changes in the work processes, significant design improvements to the products were recommended. Moreover, the manufacturing steps were cut from 349 down to 96 and production time from 32 days to two.

In sum, James Furst, the vice president of total quality at Shure Brothers, stated that, "We've had other TQM projects in the United States, but there is **something** about TQM in Mexico that really makes it take off" (Peak, 1993, p. 21). It is probable that the "something" that James Furst is referring to is the Mexican national culture. As discussed earlier, research has shown the influence of culture on management practices (Lane & DiStephano, 1988). It is possible that the collectivistic culture of Mexico has facilitated the implementation of TQM. On the other hand, the individualistic culture of the United States has become an obstacle in implementing TQM.

In this section, the influence of culture on management practices was reviewed. Cross-cultural management studies pertaining to the implementation of TQM efforts in developing countries, specifically Mexico were summarized. Research has shown that developing countries may be successful at implementing TQM elements because of their collectivistic culture. To further highlight this point, several examples of companies which have been successful at implementing TQM elements in developing countries were presented. Interestingly, the literature on the implementation of management practices have also noted the importance of culture. In the section below, the implementation of management practices will be discussed.

The Implementation of Management Practices

After the years following World War II, there was an emergence of political independence of many developing nations. After achieving political freedom, and self-determination, the newly emerging nations recognized that their bureaucracies were not prepared to carry social and economical development (Sultan, 1988). One of the major solutions proposed to promote the bureaucracy of those new nations was to import management know-how from developed societies of the West to developing non-Western countries.

However, this view is problematic because it assumes that what is best for a developed society can also be best for a developing society (Sultan, 1988). Often management know-how from developed countries are not designed to respond to demands for social and economic advancement, instead they are concerned with the maintenance of law and social order in a developed society. Not surprisingly, these findings have led to some disagreement in the literature

on the implementation of modern management practices to different cultures (Kelley & Worthley, 1981), such as TQM.

Researchers' views differ on the importance of national culture in the implementation of management practices. The two most popular theoretical models are: Farmer-Richman (1965) and Negandhi-Prasad (1971). Farmer and Richman describe national culture as a major variable in determining both managerial and organizational effectiveness. When attempting to implement management practices between cross-cultural environments, it is essential to consider factors such as religion, customs, and other culturally related value systems. In their study, Farmer and Richman (1965) found that there are a wide variety of external factors influencing the implementation of management practices which the researcher has no control over. These factors fall into the four broad categories: socio-cultural, educational, political-legal, and economic. Consequently, in the event significant cultural differences exists, the management practices should be adapted to suit the cultural mores of the country in question.

On the other hand, Negandhi and Prasad's model view national culture as a major independent factor, not affecting the overall organizational effectiveness. According to Negandhi and Prasad (1971), there are basic management practices that are universal to all aspects of human activity, regardless of socio-cultural, and geographic considerations. These practices are chiefly concerned with: planning, organizing, staffing, directing, and controlling business. Consequently, if management practices are universal, one would expect different countries to readily implement management practices.

However, more recently, research has shown that micro level variables, such as the styles of leadership, motivation, decision making, planning and organizing, staffing, and controlling, are not easily implemented because these variables vary among countries (Adler, 1992; Dowling, Schuler & Welch, 1994). On the other hand, macro level variables, such as the structure and technology used by organizations across cultures, are easily transferable due to their similarity between cultures (Adler, 1992; Dowling et al., 1994). Child (1981) proposes that although organizations in different cultures are becoming more similar, the micro level factors dealing with the behavior of individuals within these organizations are maintaining its cultural specificity.

Several studies focusing on the micro level organizational factors have confirmed the importance of national culture on management practices (Kelley & Worthley, 1981; Laurent, 1983; DeFrank et al., 1985). In Laurent's (1986) study, national culture was found to be the most powerful determinant of managerial assumptions. He concluded that deep-seated managerial assumptions are strongly shaped by national cultures rather than organizational cultures.

In Vance, McClaine, Boje and Stage's (1992) study significant differences in management styles were found between the United States, Indonesia, Malaysia, and Thailand. These management style differences were translated into distinct differences in the optimal management of performance appraisal, thus suggesting the importance of national culture when implementing traditional performance appraisal principles across cultural boundaries.

In sum, several studies have confirmed the influence of culture on the implementation of management practices. In this study, specifically the implementation of Japanese management strategies is of interest because TQM is a management practice that highly resembles Japanese philosophies and practices. The implementation of TQM may be affected by national culture, as highlighted by the numerous signs of disappointment in some cultures and success stories in other cultures. Similarly, several studies on the implementation of Japanese management strategies have confirmed the importance of national culture (Jain, 1990; Pegels, 1991).

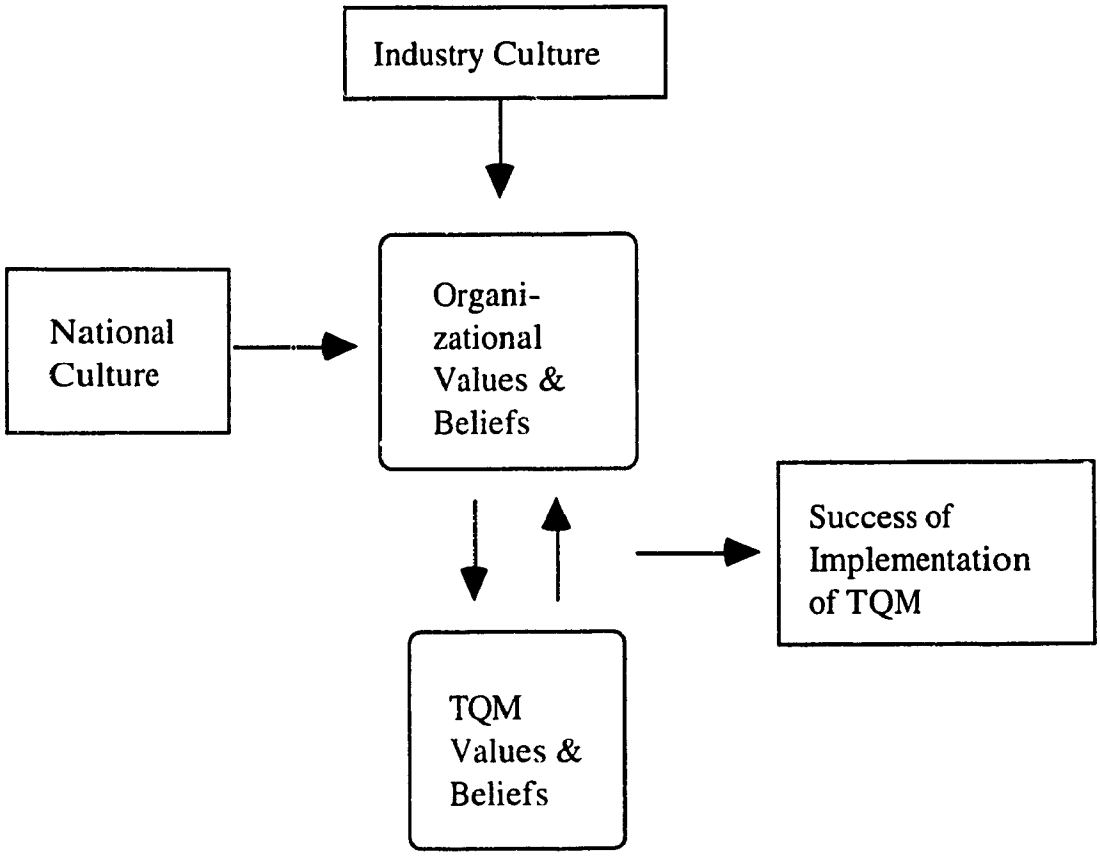
Research on the implementation of Japanese practices indicates that some countries have had some problems implementing Japanese practices. Pegels' (1991) study on the implementation of Japanese practices in the United States illustrates the difficulties involved in the implementation of Japanese practices. In his study, Pegels' (1991) found that some Japanese practices, such as quality circle participation during the employee's own free time, a no-layoff policy, or socializing after work were not easily implemented in the United States. These TQM-oriented practices were not implemented because they were viewed as too objectable to the American culture.

Despite the problems that may exist when implementing Japanese management strategies to other cultures, a great deal of literature illustrates that some elements of Japanese management can be successfully adopted abroad. Shadur and Bamber (1994) found the following Japanese philosophies and practices to be implemented in Australia: quality circles, team-based work organizations, TQM, and continuous improvement. Research has also shown that certain organizations adopting Japanese practices have made significant

progress in reforming their work organization, information sharing, skill formation and training (Bamber, Shadur & Howell, 1992). The successful implementation of Japanese practices abroad can be very beneficial for organizations. Taylor and Beechler (1993) found that when overseas practices are adapted to local practices, the level of satisfaction and commitment of the employees can increase (Taylor & Beechler, 1993).

In summary, several studies have confirmed the importance of national culture in the implementation of management practices. Nevertheless, a review of the literature shows that no one has studied the implementation of TQM to Canada and Mexico from a cultural perspective. Consequently, a conceptual model guiding the research was formulated by synthesizing concepts from various bodies of literature, and applying them to the following research question: What role will national culture play in the successful or unsuccessful implementation of a TQM process in Canada and Mexico? A conceptual model is illustrated in Figure 1 below.

FIGURE 1: THE CONCEPTUAL MODEL



The conceptual model above suggests that the successful implementation of a TQM process is dependent on the similarity between the organizational values and beliefs and TQM values and beliefs. When the organizational culture is more similar to the TQM culture, the implementation of TQM will be facilitated. The organizational culture, however, can be influenced by the industry culture. For example, industries which face stiff competition, have high barriers of entry, and have stringent customer quality requirements will have different organizational cultures than industries with different market related variables. The organizational culture can also be influenced by the national

culture. The basic premise of the model is that national culture, in turn affects the organizational values and beliefs. When the organizational culture is congruent to the TQM culture, the successful implementation of TQM will be maximized.

Specifically, from the literature above, one would propose that a TQM process would be more successfully implemented in Mexico than Canada, because the Japanese and Mexican cultures are more similar, with respect to the individualism/collectivism dimension, than the Japanese and Canadian cultures. As mentioned earlier, Sashkin and Kiser (1993) state that an important factor that helped the Japanese quickly adopt TQM was their collectivistic culture. Consequently, since the Japanese and Mexican cultures are both collectivistic, one might expect that Mexico will successfully adopt the TQM philosophy as readily as Japan.

When viewing the eight TQM elements as described by Sashkin and Kiser (1993), many values underlying TQM resemble the Japanese and Mexican values (Lituchy & Galperin, 1994). In the next section, the eight TQM elements, briefly described in the TQM section above, will be used as a basis to formulate the hypotheses of the study. Moreover, the similarities between Japanese and Mexican cultures with respect to the individualism/collectivism dimension will be highlighted. The Canadian culture will also be outlined in relation to the eight TQM core values and beliefs.

Hypotheses

Based on Sashkin and Kiser's (1993) eight TQM elements, the hypotheses of this study were formulated. The first element states that in order to ensure that **information is used for improvement** purposes, a process approach, as opposed to a results approach should be emphasized. Unfortunately, in most Canadian and American organizations, emphasis is placed on final results (Sashkin & Kiser, 1993). Often, performance and quality information is not used to improve performance, but it is utilized to control employees. In individualistic cultures emphasis is placed on self-sufficiency and control rather than group membership. Perhaps due to the individualistic culture in Canada and the U.S., quality control tools are often not given to all employees. The quality tools are only used by managers because the tools are for management use only (Deming, 1986). Nevertheless, there are always exceptions. Some organizations such as Motorola have given training and certain tools to different categories of employees (Creech, 1994). In general, however, due to the short term goal orientation of individualistic organizations, the value of the tools are often rendered useless. As a result of the adoption of a results approach which is short term oriented, most Canadian organizations do not integratively use information for improvements. Consequently, quality problems are rarely found during the process, and corrective actions cannot be taken immediately, resulting in poor quality products or services.

As opposed to Canada, in Japan's highly collectivistic culture, a process approach is widely adopted. Quality tools are available to all Japanese first line employees and foremen. By comparing data with the quality goal during the

process, corrective actions are taken immediately, including shutting down the plant (Zhao, 1993). Similarly, in Mexico, a collectivistic culture, it is believed that quality will be available to all Mexican first line employees, foremen, and managers. In Mexican organizations, cooperation between management and employee is stressed (DeForest, 1994). It is expected that all employees will cooperate to ensure quality control during the process, and not just the results.

In sum, most Canadians and Japanese ultimately have different uses for quality information. Canadians often emphasize the final results. On the other hand, the Japanese are somewhat results oriented, however they have systems in place which emphasize a long term perspective, making it possible for them to achieve a process oriented approach. These diverse beliefs can result in differences in the implementation of quality in an organization. The approach adopted by most individualistic Canadian organizations can become an obstacle when attempting to use information for improvement purposes. On the other hand, the approach of the collectivistic Japanese and Mexican organizations will enhance the possibility that information will be used for improvement purposes.

Hypothesis 1: A firm in a collectivistic culture, such as Mexico, will be more likely to integratively use information for improvement purposes than a firm in an individualistic culture, such as Canada.

The second element, **authority must equal to responsibility** is also essential in the successful implementation of a TQM process. Employees should control their own work activities rather than follow orders. In the language of

modern human resource management, the term most often heard is "empowerment" (Sashkin & Kiser, 1993). That is, employees should have the authority to take actions that will lead to high quality excellent performance.

In individualistic cultures such as Canada and the United States, empowering employees can be frightening for some managers. Many fear that they will lose their jobs in the process when they will lose their formal authority (Sashkin & Kiser, 1993). As a result of their fears, many managers are hesitant to empower their lower level employees.

Conversely, in collectivistic cultures, group membership is viewed as long-term and permanent (Erez & Earley, 1993). Thus, many of the actions of collectivists in the workplace center around the long-term aspects of their work group memberships. Since job security is often not a concern, collectivistic managers are comfortable with the notion of empowering employees, in turn, giving employees the authority to make quality decisions.

For example, in Japan, since quality tools are available to all first line employees and foremen, employees are given the authority to improve their performance and quality during the process (Zhao, 1993). Similarly, in Mexico, hourly employees who work on assembly lines are given the authority to control the speed of the line (Peak, 1993). Only when workers are satisfied with the quality of the product, they move the line forward.

In sum, the literature has shown that managers in individualistic cultures, such as Canada and the United States, are hesitant to give employees the authority to make quality decisions (Sashkin & Kiser, 1993). Conversely,

managers in collectivistic cultures, such as Japan and Mexico, do not have any fears in empowering their employees (Peak, 1993). These diverse beliefs can result in differences in the implementation of quality in an organization. The lack of job security and fear to empower employees among Canadian managers can become a major obstacle in the implementation of TQM. On the other hand, the Mexican culture will facilitate the empowerment of employees within the organization.

Hypothesis 2: A firm in a collectivistic culture, such as Mexico, will be more likely to make authority equal to responsibility than a firm in an individualistic culture, such as Canada.

Third, when implementing a TQM process, individuals, teams, and all members of the organization must be **rewarded for results**. In collectivistic cultures there exists a high level of personal interdependence and great sensitivity towards other people's needs (Erez & Earley, 1993). Since organizations in collectivistic cultures will be more sensitive to their employees need for reinforcement than individualistic cultures, organizations in collectivistic cultures, such as Japan and Mexico, will more likely regularly reward their employees. In Japan, employees will often receive a large bonus when their organization performs well because organizations recognize their employees achievement at the organizational level. In the United States and Canada, employees will rarely receive a large bonus when their organization achieves good results. When rewards are used, it is mostly at the individual level (Sashkin & Kiser, 1993). It is proposed that unlike Canada's individualistic culture, Japanese and Mexican collectivistic cultures will regularly reward their employees for good results.

Hypothesis 3 (a): A firm in a collectivistic culture, such as Mexico, will be more likely to regularly reward their employees for good results than a firm in an individualistic culture, such as Canada.

Most importantly, the organization must create and maintain a reward system that is based on team accomplishments. However, in Canada and the United States, highly individualistic cultures, when organizations design reward systems, they use mostly or solely individual rewards (Sashkin & Kiser, 1993). This type of reward system has several negative outcomes. Individual performance ratings naturally lead to comparisons between and among employees. Deming (1986) states that this leads employees to compete with each other, instead of working together, for the company. As a result, the company may be faced with a decrease in quality and profits.

In Japanese organizations, however, the need for individual-based rewards is not an issue. Unlike Canadians or Americans, Japanese workers emphasize conformity to the views, needs, and goals of one's group. Because of their collectivistic culture, in Japan everyone acts part of a team, for the good of the organization. Hence, group-based rewards are even more appropriate than individual-based rewards because the jobs are often designed as team structures and accomplishments are team-based.

Similarly in Mexican organizations, group belongingness and cooperation rather than competition are viewed. Research has shown that Mexican workers respond best to group efficiency or group output, rather than programs which stress competition with other workers (DeForest, 1994). It is

expected that Mexican employees will prefer group-based rewards rather than individual-based rewards because individual rewards may lead to comparisons between employees which may lead to competition.

In sum, research has shown that the collectivism/individualism dimension influences the type of reward system employed (Erez & Earley, 1993). It is proposed that unlike Canada's individualistic culture, Japanese and Mexican collectivistic culture will facilitate the implementation of group-based reward systems.

Hypothesis 3 (b): A firm in a collectivistic culture, such as Mexico, will be more likely to give group based rewards than a firm in an individualistic culture, such as Canada.

Fourth, **cooperation, not competition** must be the basis for working together. Members must cooperate to accomplish their work with the common aim to ensure quality for the customer (Sashkin & Kiser, 1993). In Canada and the U.S., even though there have been efforts to design work in groups, more often employees work as individuals for his/her own career progression. Moreover, segmentation and competition also exists among functional areas within the organizations (Bushe, 1988).

On the other hand, in Japan, teamwork and consensus are an important part of the Japanese work ethic. The teamwork and cooperation found in Japanese firms is not a "management practice" but it is deeply rooted in the collectivistic culture (Scher & Ciancanelli, 1993). In addition, cooperation between different functional areas exists. Managerial practices related to

strategic competition, human resources management, and product development are all interconnected and mutually influenced (Zhao, 1993) to ensure a high quality product or service.

Similarly, in Mexico, the importance of teamwork and cooperation are viewed in the workplace (DeForest, 1994). The cooperative climate in Mexican organizations is especially seen in the peaceful relations between union and management. Unlike the United States and Canada, the union cooperates with management in disciplining workers, and management's role is to discipline supervisors (DeForest, 1994). In sum, one can see Japan's and Mexico's collectivistic cultural values, and Canada's individualistic cultural values emerging in the workplace. It is proposed that the individualistic Canadian culture will make it difficult for an organization to make cooperation the basis of working together. Conversely, the collectivistic culture seen in Japan and Mexico will enhance the degree of cooperation in the firm.

Hypothesis 4: A firm in a collectivistic culture, such as Mexico, will be more likely to emphasize cooperation than a firm in an individualistic culture, such as Canada.

Fifth, for TQM to be implemented successfully, a feeling of **job security** must be propagating throughout the organization. If employees do not feel secure in their jobs, they may not take risks to make improvements. Consequently, these feelings of uneasiness may translate in the inability to achieve high quality. Deming (1986) states that a concern for quality requires that employees feel secure. High quality cannot be attained unless managers operate in a culture of openness.

In Canada and the United States, organizations do not generally offer life-time employment (Sashkin & Kiser, 1993). Hence, employees are very mobile. It is possible that their individualistic culture have contributed to the lack of job security seen in most organizations Unlike most collectivistic cultures, there is neither a feeling of loyalty, nor is there a dire necessity to have the certainty of obtaining life-time employment in individualistic cultures. Nonetheless, it should be noted that a number of the best U.S. organizations, such as Procter & Gamble, have job security policies (Sashkin & Kiser, 1993). However, these practices are generally the exception and not the rule.

On the other hand, many Japanese companies give their employees employment security (Deming, 1986). Even under the most adverse business conditions, there exists a distinctive life-time employment system. This attribute of the modern Japanese-style management has its historical basis in the collectivistic society of the mediaeval sixteenth-century merchant families (Scher & Ciancanelli, 1993). This collectivist policy towards employees removes the need for job hopping, and increases the chances of loyalty and commitment of the employees.

Similarly, in Mexico's close-knit, collectivistic society, it is expected that companies will have the same familial-like concern for its employees as Japanese firms. Research has shown there is an importance of loyalty between bosses and subordinates or peers in Mexico (DeForest, 1994; Gutierrez, 1993; Morris & Pavett, 1992). It is believed that this loyalty will translate into the notion of long term employment found in Japan. Moreover, since employees experience greater loyalty towards the company, Noll (1992) has suggested

that loyalty towards the company might motivate the Mexican worker to make a quality product, and to do a better job. Consequently, every employee within the organization will feel more personally responsible for making a quality product, an important step in the TQM implementation process.

Hypothesis 5: A firm in a collectivistic culture, such as Mexico, will be more likely to give their employees job security than a firm in an individualistic culture, such as Canada.

Sixth, there must be a **climate of fairness** within the organization. Sashkin and Kiser (1993) state that in order to instill a climate of fairness and develop trust, there must be a sharing of useful information. Moreover, as a means to instill fairness in the organization, top management must respect their employees and show concern towards them. Interestingly, these aspects of fairness strongly resemble the characteristics of collectivistic cultures. According to Triandis (1989), collectivistic societies have a tendency to share resources with group members. In addition, the relationships are viewed as respectful.

Unlike Canadian individualistic organizations, Japanese collectivistic organizations emphasize the widespread sharing of information (Bamber et al., 1992; Zhac, 1993). In collectivistic Mexican organizations, the importance of teamwork and cooperation is viewed (DeForest, 1994). It is believed that this sense of team spirit will translate into the sharing of information. Research has also shown that in Mexico trust is fundamental in the workplace (Gutierrez, 1993). It is difficult for a Mexican to work with someone he/she does not like. Moreover, it is essential that respect is present in business

relationships (Gutierrez, 1993). In sum, one would conclude that compared to individualistic cultures, such as Canada, collectivistic cultures, such as Japan and Mexico, would be more successful at instilling a climate of fairness, a necessary component in the implementation of TQM.

Hypothesis 6: A firm in a collectivistic culture, such as Mexico, will be more likely to instill a climate of fairness than a firm in an individualistic culture, such as Canada.

The seventh element highlights the importance of having a **compensation system based on equality**. In Canadian and American organizations, compensation systems are based on an equity principle, as opposed to an equality principle When a compensation system is based on an equity principle, large pay differentials exist. On the other hand, when a compensation system is based on an equality principle, small pay differentials are apparent. Research has shown that American and Canadian organizations have the highest pay differentials among their employees (Uchitelle, 1991). For example, American CEOs earn from 50 to 100 times as much as the lowest salary worker (Sashkin & Kiser, 1993).

Conversely, in Japan, compensation systems are based on the equality principle. CEOs earn only ten to 20 times as much as the lowest salaried employee (Sashkin & Kiser, 1993). These figures are in line with experts suggestions on the optimum ratio of pay for the CEO in relation to the lowest paid employee. Peter Drucker has argued that CEOs should earn no more than about 20 times the pay of the lowest level employee (Sashkin & Williams, 1990).

With respect to Mexico, it is expected that organizations will adopt a compensation system based on an equality principle. Research has shown that there is a desire for harmony rather than conflict in Mexican organizations (DeForest, 1994). It is believed that the large pay differentials of an equity based compensation system may instigate a climate of discord in the workplace, therefore organizations will prefer a compensation system based on an equality principle. Research has shown that individualistic cultures more closely follow an equity principle, whereas collectivistic cultures adhere by an equality norm (Leung, 1987). Consequently, from the above one can conclude that as opposed to individualistic cultures, such as Canada, collectivistic cultures, such as Japan and Mexico, will be more successful at implementing a compensation system based on equality, an essential element in the TQM process.

Hypothesis 7: A firm in a collectivistic culture, such as Mexico, will more likely have a compensation system based on equality principles than a firm in an individualistic culture, such as Canada.

The final element, **employee ownership**, highlights the notion that employees should have an ownership stake in their firms. Total involvement increases when employees have a stake in their firm. Throughout their book, Sashkin and Kiser (1993) present examples of common practices in Japan, and its similarity to TQM. However, in their discussion of employee ownership, there is no mention of Japan. The reason is that Japanese organizations do not offer employee stock option plans or other arrangements to provide employees with an ownership stake. In collectivistic cultures, such as Japan or Mexico, it is not essential for employees to own company stock to feel they have a stake

in the company. In collectivistic cultures, employees naturally develop feelings of involvement and belongingness for their organization (Erez & Earley, 1993).

In Canada or the United States, individualistic cultures, employees often need to own company stock to feel as though they have an ownership stake. Harvey Mackay, an American CEO, further highlights the above in his statement: "Owning 1 percent of something is worth managing 100 percent of anything" (Cowherd & Levine, 1992). Unlike collectivistic cultures, employees in individualistic cultures do not naturally have feelings of ownership, an essential element in the TQM process. Consequently, it is possible that collectivistic cultures will be more successful at implementing TQM than individualistic cultures.

Hypothesis 8 (a): A firm in a collectivistic culture, such as Mexico, will more likely feel as though they have a stake in their company than a firm in an individualistic culture, such as Canada.

Hypothesis 8 (b): A firm in a collectivistic culture, such as Mexico, will less likely need to have employee ownership programs for employees to feel as though they have a stake in their company than a firm in an individualistic culture, such as Canada.

The literature illustrates that compared to individualistic cultures, collectivistic cultures are more similar to the TQM culture. For example, the underlying beliefs and values of both collectivistic and TQM cultures emphasize teamwork and cooperation. Therefore, it is expected that firms in

collectivistic cultures, such as Mexico, should have more of the TQM elements to a greater degree than firms in individualistic cultures, such as Canada. Those firms which possess the TQM cultural elements will be successful at implementing TQM. It therefore follows that collectivistic firms will be more successful at implementing TQM than individualistic firms because collectivistic firms possess more of the TQM elements to a greater degree than individualistic firms. It is hypothesized that:

Hypothesis 9: A firm in a collectivistic culture, such as Mexico will be more successful at implementing TQM than a firm in an individualistic culture, such as Canada because a firm in collectivistic culture will have more of the eight TQM elements to a greater degree than a firm in an individualistic culture.

In the following chapter, the research methodology of this project is described.

CHAPTER 3- METHOD

Design of the Study

The research design selected for this project is a case study, using both qualitative and quantitative data. This type of research was chosen because of the explanatory nature of the research question. The major purpose of this study is to determine **how** national culture influences the successful or unsuccessful implementation of TQM. Yin (1984) states that for "how" and "why" questions, the preferred research strategy is the use of case studies. The case study strategy was also chosen because it allowed the researcher to explore unclear situations, too complex for survey or experimental strategies. Furthermore, research has shown that when conducting international mail surveys additional problems exist, such as nonavailability of sampling frames, poor mail services and high rate of illiteracy among target populations (Jobber & Saunders, 1988).

More specifically, the multiple case design consisted of a total of two cases, a plant in Canada, and a plant in Mexico. This design was used to contrast the TQM implementation process between a Canadian parent company and a Mexican subsidiary. The multiple case design was chosen because of its advantages. Researchers have indicated that the evidence from multiple cases is often more compelling, hence increasing the robustness of the study (Yin, 1984; Miles & Huberman, 1984). The design followed a replication logic because it was expected that the two organizations would produce contrary results. It was proposed that the Mexican collectivistic culture will facilitate the

implementation of TQM. Conversely, the Canadian individualistic culture will become an obstacle in the implementation of TQM.

Furthermore, there was an embedded design within each organization (Yin, 1984). In other words, data from the Mexican and Canadian sites were collected from the following three levels: upper management, middle managers and lower level employees.

Throughout the study, the researcher strived to increase the construct validity and reliability of the case study (Yin, 1984). First, multiple sources of evidence were used. Data was collected from interviews, historical archives and documents. A triangulation of the data was performed in order to increase the confidence in the accuracy of the data. Second, a case study data base was created. Yin (1984) emphasizes that every case study should develop a retrievable data base so that other investigators can review the evidence directly, hence increasing the reliability. In this case study, the data base comprised of on-site field journals and field notes, and documents. The data was organized, categorized, coded, and completed, thus available for future reference. Finally, efforts were made so that an external observer can trace the conclusions back to the original researcher question (Yin, 1984). To increase the quality and reliability of the case study, the researcher referred to relevant portions of the case study data base. For example, specific interviews or documents were cited. In sum, certain formal procedures were followed throughout the study to ensure quality control.

Selection and Description of Cases

Organizations in the Canadian Chamber of Commerce in Mexico directory were contacted to determine: 1) whether the Canadian companies had total quality processes in place, 2) whether they had attempted to implement TQM in Mexico, and 3) how long have they been a TQM oriented organization.

The corporate directors of training and development of the entire Canadian operations were initially telephoned. Since the directors' names were not included in the directory, the names were obtained with the assistance of the telephone operators of the companies. The nature of the study and its importance were explained over the telephone. The names of upper management at both the Canadian and Mexican plants were requested.

The senior managers of quality in Mexico were first telephoned. The nature of the study and importance were explained over the telephone. Follow-up letters were sent explaining the objectives of the research, the implications, and requesting the participation of the companies in the study. The senior managers of quality in Canada were then contacted, and identical letters were sent. One week after the letters were sent, follow-up telephone calls were made to determine whether the plants were interested in participating in the study.

Northern Telecom was selected to participate in the study because the firm met the initial sampling criteria described above. Northern Telecom, a TQM oriented firm in Canada, is presently attempting to implement TQM in Mexico. To increase the explanatory power of the study, it was necessary to set the sampling parameters because limiting the universe of study allowed the

researcher to speak with some confidence about the sites being sampled (Miles and Huberman, 1984). To further enhance the explanatory power of the study, both the organizational and industry culture were controlled.

Background Information on the Cases

Northern Telecom is a Canadian telecommunications company which has worldwide operations. The nature of the telecommunication industry is fast paced, and rapidly changing. In order for Northern Telecom to maintain a competitive edge, it must produce high quality products. "Excellence!", Northern Telecom's corporate wide TQM initiative started in the 1990's. According to Northern Telecom's Guide to Customer-Focused Quality, Excellence! means "providing external and internal customers with the innovative products and services that exceed their expectations and are superior to those of all other suppliers" (Publication number 57304.II/07-94, p. 9). Through continuous improvement, Excellence! is the responsibility of every Northern Telecom employee. By 1997, Northern intends to reach the following: a customer satisfaction level of 95%, an employee satisfaction level of 95%, a global market share of 12%, and a rate of return on assets of 20%. Specifically with respect to customer satisfaction, Northern Telecom has set a short term objective of 75% for 1995. A recent global survey conducted by Northern Telecom indicates that the overall customer satisfaction rating has increased from 67% in 1993 to 71% in 1994 (Horizon, 1995).

The Canadian plant is located in Montreal, Quebec and manufactures equipment which transmits telecommunication signals. Its core competency is transport network products in the telecommunications industry. The plant opened in September/October 1974 and had 2100 employees at the time of this

study. Its shop floor space is approximately 250,000 square feet. The plant started to implement TQM in late 1991. During this time, most employees received a half-day introductory course and a two-day seminar entitled, Excellence! through Continuous Improvement. These courses were designed to provide employees with the skills, knowledge, and tools to assist them in satisfying the customer's expectations. Specifically, employees were encouraged to join continuous-improvement (CI) teams. These teams worked on identifying and solving problems in certain problem areas. Flags, banners, documentation and written communications on quality and customer satisfaction, were distributed to the employees. By mid 1993, the hype associated with Excellence! slowly faded. The senior management committee in charge of Excellence! disbanded. There was a reduction in formalized CI teams, and less people were being trained in the two-day training course. The implementation of the Excellence! initiative was not a complete success.

Despite the negative stigma associated with the formalized Excellence! initiative, some employees are presently using the knowledge and tools acquired from its training curriculum. For example several groups exist, however they may not be called CI teams. More recently, senior management has shown a renewed interest in the Excellence! initiative. In late 1994, senior management created several CI teams. The objective was to reinforce the underlying principles of the Excellence program. However, this time senior management has decided that the quality initiative will be less formalized. There will be no slogans, exhortations, nor banners.

The Mexican plant is located in Monterrey, Mexico. Monterrey is 250 Km from Laredo, Texas. The plant produces cables and telephone sets. The plant has 795

employees and it's shop floor space is 85,000 square feet. The plant opened in April 1994. However, the cables operation started in early 1991. The Excellence! initiative was first offered to the cables support personnel in early 1992. The telephone set operation commenced in early 1993. The telephone set operation plant first started implementing Excellence! in December 1993.

Unlike the Canadian plant, the implementation of Excellence! in the Mexican plant is in its infancy. Upper and middle management have most likely received the half-day introductory course and two-day seminar. Very few lower level employees, however, have received the Excellence! training. Those employees who were selected to receive the training, were top performers in their departments.

Presently, there is no department formally in charge of the Excellence! initiative. There are a couple of trainers who are certified to teach the two day seminar, however the course is not offered regularly. In addition, a couple of managers have decided to take it upon themselves to monitor the performance of the CI teams. One quality manager has recently organized a CI team awards luncheon. During this time, the CI team with the most accomplishments is to receive a plaque with their names on it. The plant in Mexico has only just begun to organize the Excellence! initiative. Refer to Table 1 for plant information.

TABLE 1: PLANT INFORMATION

VARIABLES	PLANT	
	CANADIAN	MEXICAN
Produces	transmissions	cables & tel sets
Plant opened	1974	1994
Shop floor space	250,000	85,000
# of employees	2100	795
TQM started	1991	1992 (cables) 1993 (tel sets)

Participants

Ten Canadians (5 males and 5 females) took part in the study. Four directors, three middle managers, and three lower level employees were chosen for the interview process. In order for the implementation of TQM to be successful, all levels must be committed to the process (Deming, 1986). Hence, sampling from these levels provided the researcher with a good understanding of the dynamics within the organizations. The mean age was 37.6 (29 to 45 years). Twenty percent of the subjects completed a master's degree; 60% possessed a bachelor's and/or college degree; and 20% completed high school or less. Refer below to Table 2 for complete demographic information.

Ten Mexicans (6 males and 4 females) participated in the study. Two directors, four middle managers, and four lower level employees were interviewed. The mean age was 26.1 (20 to 38 years). Sixty percent of the subjects completed a bachelor's degree, and 40% completed high school.

TABLE 2: DESCRIPTIVE STATISTICS

VARIABLES	SAMPLE	
	CANADIAN	MEXICAN
Mean age	37.6	26.1
% Male	50%	60%
% with master's degree	20%	-
% with bachelors and/ or college degree	60%	60%
% completed high school or less	20%	40%

Procedure

A series of on-site visits took place whereby data was obtained from the following sources: interviews, historical archives and documents. Data was primarily collected from focused interviews. Research has shown the focused interview to be ideal in new areas of research (O'Grady, 1991). The focused interview included both open-ended and structured questions. The complete

interview protocol can be found in the appendix (See Appendices D, E, F for English, French, and Spanish versions). The open-ended questions prevented the researcher from foreclosing on the main issues of the interviews (Miles & Huberman, 1984). In other words, these type of questions restrained the researcher from concluding that TQM is more successfully transferable to Mexico than Canada.

The structured questions, however, prevented the researcher from collecting too much superfluous information, which could have compromised the efficiency and the power of analysis (Miles & Huberman, 1984). In other words, these questions provided a certain amount of structure, as well as the flexibility and richness of data sought by providing answers to the "hows" and "whys" (Yin, 1984). This qualitative process of inquiry enabled the researcher to uncover and view possible emergent themes which developed throughout the course of the study.

Moreover, since this research project is a multiple-site study, and the researcher viewed a cross-site comparison, the standardization of the instrument was required so that findings could be laid side by side during the analysis (Miles & Huberman, 1984). The focused interview served as a common instrument, which enabled the researcher to improve the predictions, and make recommendations.

Prior to the interviewing process, consent forms and interview questions were translated to French and Spanish by two bilingual assistants. One assistant was fluent in French and English. The other assistant was fluent in Spanish and English. Back-translations were conducted in order to increase the

equivalence of the materials. In other words, the translated materials were translated back to the original language to see if it matched the original material (Nasif, Al-Daeaj, Ebrahimi, Thibodeaux, 1991).

The interviewees were first asked to complete a consent form. Samples of the consent forms in each language are presented in the appendix (See Appendices A, B and C). Interviews were tape recorded and lasted between one and one half hours. In Canada, interviews were conducted in English and French. A translator was not used because the interviewer was fluent in French. In Mexico, the interviews were conducted in English and Spanish. A translator was present only when the lower level employees were interviewed because these employees did not speak any English. A translator was not necessary when upper and middle management were interviewed because they spoke English. In addition, the interviewer had a good comprehension of Spanish.

Once the interviews were completed, participants were debriefed, and thanked for their participation. The interviews were transcribed and translated into English (if necessary) by the researcher.

Measures

First, demographic information was obtained for age, nationality, position in the organization, and educational level. A general question was also included, primarily to put the participant at ease during the interview process. The interviewees were asked, "What is your typical day like in your company?"

TQM Implementation

Questions pertaining to TQM implementation were included in the interview protocol. Specifically, these questions focused on the whether the interviewees felt that the implementation of the TQM process was successful. The following questions were asked: "How has your organization attempted to implement TQM?"; "Are you satisfied with the results of TQM? Has it fulfilled its promise?"; and "What is the biggest barrier to achieving quality in your organization?".

TQM Cultural Elements

Sashkin and Kiser's (1993) eight cultural elements served as the basis for the structured interview questions. These elements enabled the researcher to determine whether the organization has become a "total quality" organization that places the quality for the customer as their central concern. Two questions for each cultural element were posed. The data from the two questions was then combined for the qualitative analysis. Qualitative responses to the cultural element questions were then quantified.

The first element, **quality for improvement**, consisted of the following questions: "If you do not meet your goals or deadlines will you be reprimanded?" and "When obtaining quality data, does measurement center on the process of work or just the outcome?". Each response received a score of 1, 3, or 5. That is, in the first question, a 1 was assigned when the subjects stated that they will be reprimanded (TQM element not present). A 5 was given when subjects answered that they will not be reprimanded (TQM element present). When subjects stated "it depends" or "sometimes" a 3 was assigned. In the second question, a 1 was assigned when subjects stated that the quality data

centers on the results (TQM element not present). A 5 was given when subjects answered that the quality data centers on the process (TQM element present). When subjects stated "both" to this question, the responses were coded differently compared to the other cultural elements. When subjects responded that measurement of quality centers on "both" the process and outcome, a 5 was assigned, instead on a 3. It was assumed that the final outcome is part of the process, consequently a response of "both" was coded as if the subject answered that the measurement of quality centers on the process. The responses of both questions were combined for the quantitative analysis of this element.

The second element, **authority must equal to responsibility**, consisted of the following questions: "Imagine this scenario: One day you notice that you are able to improve your work process. Would you feel comfortable making the necessary changes without asking your supervisor?" and "When making daily business decisions, do you take risks or do you need to consult your supervisor regularly?". Each response received a score of 1, 3, or 5. That is, a 1 was assigned when the TQM element was not present. Specifically, when subjects stated that: 1) they would not feel comfortable making the necessary changes without asking their supervisor and 2) they need to consult their supervisor regularly when making business decisions. A 5 was given when the TQM element was present. Specifically, when subjects answered that: 1) they would feel comfortable making the necessary changes without asking their supervisor and 2) they take risks when making business decisions. When subjects stated "it depends"or "sometimes" a 3 was assigned. The responses of the two questions were combined for the quantitative analysis of this element.

The third element, **reward for results**, consisted of the following questions: "Are you regularly rewarded for good results at work? How?" and "Are rewards usually based on team/department performance or individual performance?". Each response received a score of 1, 3, or 5. That is, a 1 was assigned when the TQM element was not present. Specifically, when subjects stated that: 1) they are not regularly rewarded for good results at work and 2) the rewards are usually based on individual performance. A 5 was given when the TQM element was present. Specifically, when subjects answered that: 1) they are regularly rewarded for good results at work and 2) the rewards are usually based on team performance. When subjects stated "it depends", "sometimes" or "both" a 3 was assigned. The quantitative responses to the two questions were analyzed separately because the hypothesis for this element consisted of two parts.

The fourth element, **cooperation**, consisted of the following questions: "Do you feel your co-workers cooperate with each other?" and "Do departments or groups often cooperate?". Each response received a score of 1, 3, or 5. That is, a 1 was assigned when the TQM element was not present. Specifically, when subjects stated that they feel: 1) their co-workers do not cooperate with each other and 2) departments or groups often do not cooperate. A 5 was given when the TQM element was present. Specifically, when subjects answered that they feel: 1) their co-workers cooperate with each other and 2) departments or groups often cooperate. When subjects stated "it depends" or "sometimes" a 3 was assigned. The responses of both questions were combined for the quantitative analysis of this element.

The first question of the fifth element entitled **job security** was, "Is there a climate of job security in your *organization*?". Each response received a score

of 1, 3, or 5. That is, a 1 was assigned when the subjects stated that there is not a climate of job security in their organization (TQM element not present). A 5 was given when subjects answered that there is a climate of job security in their organization (TQM element present). When subjects stated "it depends" or sometimes" a 3 was assigned. The second question of the element was, "On a scale of 1 (NOT SECURE) to 5 (SECURE), how secure are you with your *job*?" When subjects were asked to rate their job security, a job security score of 1 and 2 was assigned a 1 (TQM element not present), a job security score of 3 was assigned a 3, and a job security score of 4 and 5 was assigned a 5 (TQM element present). The responses of both questions were combined for the quantitative analysis of this element.

The sixth element, **fairness**, consisted of the following questions: "Do you feel your supervisor or top management share useful or important information with you?" and "Do you feel there is a climate of fairness and trust between you and your supervisor?". Each response received a score of 1, 3, or 5. That is, a 1 was assigned when the TQM element was not present. Specifically, when subjects stated that they do not feel: 1) their supervisor or top management share useful and important information with them and 2) there is a climate of fairness and trust between their supervisor. A 5 was given when the TQM element was present. Specifically, when subjects answered that they feel: 1) their supervisor or top management share useful and important information with them and 2) there is a climate of fairness and trust between their supervisor. When subjects stated "it depends" or "sometimes" a 3 was assigned. The responses of both questions were combined for the quantitative analysis of this element.

The seventh element, **compensation must be based on equality principles**, consisted of the following questions: "Do you feel people in your organization are paid equally or that pay is dependent on an individuals output?" and "Do you think there is a large difference between lower-level and top management salaries?". Each response received a score of 1, 3, or 5. That is, a 1 was assigned when the TQM element was not present. Specifically, when subjects stated that: 1) they feel pay is dependent on an individuals output and 2) they think there is a large difference between lower level and top management salaries. A 5 was given when the TQM element was present. Specifically, when subjects answered that: 1) they feel people in their organization are paid equally and 2) they think there is not a large difference between lower level and top management salaries. When subjects stated "it depends", "sometimes" or "both" a 3 was assigned. The responses of both questions were combined for the quantitative analysis of this element.

The final element, **ownership**, consisted of the following questions: "Do you feel you have a stake in the firm?" and "Are there employee ownership programs, such as employee stock options plans, in your organization?". Each response received a score of 1, 3, or 5. That is, a 1 was assigned when the TQM element was not present. Specifically, when subjects stated that: 1) they feel they do not have a stake in their organization and 2) there are employee ownership programs in their organization. A 5 was given when the TQM element was present. Specifically, when subjects answered that: 1) they feel they have a stake in their organization and 2) there are no employee ownership programs in their organization. When subjects stated "it depends" or "sometimes" a 3 was assigned. The quantitative responses to the two

questions were analyzed separately because the hypothesis for this element consisted of two parts.

National Culture

An adaptation of the Kuhn and McPartland (1954) method was used to measure national culture. Subjects were asked to complete ten sentences that began with the words "I am..." as if they were talking to themselves. The participants responses were content analyzed to determine whether each response was collectivistic or individualistic in nature. For example, "I am Canadian" refers to a nation, whereas "I am ambitious" does not refer to some social identity or specific group. A percentage of the responses that were related to social entities (%S score) were calculated for every participant. Research has shown that collectivistic cultures have higher mean %S scores than individualistic cultures (Triandis, McCusker & Hui, 1990).

Analysis

Each plant was first analyzed individually to determine whether the TQM elements were present and whether the plants were successful at implementing TQM. Once within-company analyses were completed, a between case analysis was undertaken. In order to triangulate the qualitative data, quantitative analyses were performed. Cross-tabs and X^2 (chi-square) tests were conducted. Emphasis should not be placed on the quantitative results because a small sample size was used (n=20). Unlike survey studies, the main purpose of the case method is to obtain depth rather than breath.

CHAPTER 4- RESULTS

National Culture

The results of the national culture measure suggest that the Canadians are more individualistic than the Mexicans. The number of responses that were linked to social entities (mean %S score) or degree of collectivism for the Canadian sample was 20%. All Canadians obtained %S scores less than 30. Interrater correlation for the %S score was 0.99. The mean %S score or degree of collectivism for the Mexican sample was 43.4%. Seven out of ten subjects obtained %S scores greater than 30. Interrater correlation for the %S score was 1.0. The difference between the Mexican and Canadian sample %S scores was significant, (X^2= 20.45, $p<.05$).

To test the hypotheses within and between case analyses were performed. The results of the qualitative analysis are presented below.

Quality Information for Improvement

In hypothesis 1, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to integratively use information for improvement purposes than a firm in an individualistic culture, such as Canada. When the Canadian interviewees were asked the question whether they will be reprimanded if they do not meet their goals or deadlines, 30% (three interviewees) of the subjects stated that they will be reprimanded. The interviewees felt that they had to have a good reason why the deadlines were not met. Moreover, they were expected to have a recovery plan. A director stated, "Yes, definitely. Will you get fired, no." Half of the sample stated that they will not be reprimanded if they do not meet their goals or deadlines. The

interviewees believed that the employees work hard to accomplish their goals. When the goals are not met, the interviewees will casually meet with their supervisors and discuss the reasons why the objectives were not achieved. Pierrette Montpetit, an operator, stated, "No. But they will ask me why did this not go out on time. I'll answer because of a shortage." Sarah Bernard, another operator commented, "No, not really...We are not stressed out about that." The remaining 20% of the interviewees stated that they will be reprimanded depending on the importance of the goal and the reason why the deadline was not met. An interviewee noted, "Sometimes things have a higher priority. If I should be doing this (high priority objective) and I don't, there is a problem. So, depending."

When the Mexican interviewees were asked the question whether they will be reprimanded if they do not meet their goals or deadlines, ten percent (one interviewee) of the sample said yes. An operator noted, "Yes. I will be reprimanded." As expected, 70% of the sample stated that they will not be reprimanded if they do not meet their goals or deadlines. Interviewees believed that when a goal or deadline is not met, the most important thing to do is bring the issue to the table and discuss the alternatives. Apolonio Vallejo Estrada, a middle manager, commented,

> When there is an objective that you don't reach, you have to have the causes. Sometimes you are not responsible. For example, sometimes in production, the material is not available. But there are times when the worker doesn't follow his instructions, so he is responsible. But they don't blame you. Sometimes you can't accomplish it for some big reason. But you have to justify why.

The remaining 20% of the interviewees stated that they will be reprimanded depending on the reason why the goal or deadline was not met. If the causes

were attributed to the system on the whole, such as lack of material resources, the employees will not be reprimanded. However, if the deadline was not met because of the employees' poor work habits, they will be reprimanded. An interviewee noted, "It will depend on why you didn't meet the deadline. If it was because it was something not in your control. If you explain why, its OK."

When the Canadian interviewees were asked whether measurement centers on the process or the results when obtaining quality data, 40% (four interviewees) noted that the measurement centers on the results. The interviewees believed that they often react to the quality data because the key parameters are not measured during the process. The subjects, however, noted that they are trying to adopt a proactive approach. A person from upper management stated, "Just the results. I think we spend a lot of time in the couple of years gathering results, results. I think we got to focus more on feeding back those results and improving the process." Sixty percent either stated that the measurement centers on the process and the results, or just the process. The subjects noted that the operators on the line are responsible for verifying the work of the previous operator. A person in upper management, however, noted,

> Every inspector should check if the previous work was all right. The inspectors look at the previous operators quality, theoretically. Practically, I think they are doing it 60-70% of the time. My point is that if they would be doing it 100% of the time, we would not need an inspector, or the inspectors would not find any defects.

When the Mexican interviewees were asked whether measurement centers on the process or the results when obtaining quality data, as expected, all ten interviewees either stated that the measurement centers on the results and the

process, or just the process. The interviewees noted that the measurement is during the process in order to prevent problems instead of correcting the problems. Apolonio Vallejo Estrada, a manufacturing manager commented, "We have a control of quality in the process and also in the final results. The most control is in the process. This way you are ensuring that the quality at the end is good." Several interviewees mentioned that the operator is responsible for the workmanship of the quality, as they build their product. Each operator must audit the previous operators quality. If there is a problem, the operators will correct it amongst themselves.

When comparing the results of the Canadian and Mexican samples, 20% more Mexican interviewees than Canadian interviewees felt that they will not be reprimanded if they do not meet their goals or deadlines. In addition, all Mexican interviewees noted that when obtaining quality data, measurement centers on the results and the process, or just the process. Forty percent of the Canadian sample noted that the measurement centers on the results. These results suggest that the Mexican plant more integratively uses quality information for improvement purposes than the Canadian plant.

Authority = Responsibility

In hypothesis 2, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to make authority equal to responsibility than a firm in an individualistic culture, such as Canada. When Canadian interviewees were asked the question whether they would feel comfortable making the necessary changes to improve their work process without asking their supervisor, contrary to what was expected, 60% (six interviewees) of the sample stated that they would feel comfortable making the necessary changes

without asking their supervisors. The interviewees believed that on the whole, employees in their organization are encouraged to make changes without asking their supervisor. An interviewee noted, "Yes. I don't need to speak to my supervisor." Forty percent noted that depending on the situation, they would feel comfortable making the necessary changes without asking their supervisor. For example, if the improvement involved substantial changes, or large amounts of money, the subjects would not feel comfortable making the changes. Pierrette Montpetit, an operator stated,

> I am comfortable (to make the changes) because I want the quality. If it is a big responsibility that costs millions and millions, I won't do that...Like what happened the other time, I was waiting for the engineer to pass the pieces. I called Jean (the supervisor) and said, what do you think about these pieces? Jean said, if you think they are good pass them. If there is a problem, come to me. I did it because I knew they were good. I didn't think so, I wouldn't have done it.

When Mexican interviewees were asked the question whether they would feel comfortable making the necessary changes to improve their work process without asking their supervisor, half (five interviewees) of the Mexican sample stated that they would feel comfortable. The interviewees believed that they are encouraged to make changes without asking their supervisors. Ricardo Ordoñez, manager of New Product Introduction commented, "Yes, I think here in Northern your work is open and you are free to do whatever improvements you make of the process you want." Thirty percent stated that they would not feel comfortable making the necessary changes without asking their supervisor. They felt it would be better to speak to their supervisors. An operator commented, "I need to speak to my supervisor." The remaining 20% mentioned that depending on the situation, they would feel comfortable making the necessary changes. The interviewees would not feel comfortable making substantial changes which involves large amounts of money. A person

from middle management noted, "It depends on the change. If it is big and involves a lot of money, no. But if it is little, I will feel comfortable."

When Canadian interviewees were asked whether they take risks or consult their supervisor regularly when making daily business decisions, 20% (two interviewees) stated that they would consult their supervisors regularly. The subjects felt more comfortable discussing the issues with their supervisors before making daily business decisions. An interviewee commented, "I don't take risks without consulting anyone." Half of the sample stated that they would take risks. The interviewees believed that they are given the authority and responsibility to make decisions. A director commented, "Yes. We operate in a risk mode. I feel comfortable taking risks." The remaining 30% of the sample mentioned that depending on the situation, they will take the risk. The interviewees felt that they would make decisions which involved a minimal amount of risk. A person from middle management commented, "It depends on what the issue is. If it is a big risk, I will assess the risk and discuss it with my supervisor. If it is small, I will take the decision."

When Mexican interviewees were asked whether they take risks or consult their supervisor regularly when making daily business decisions, 40% (four interviewees) stated that they would consult their supervisor regularly. The interviewees felt that they did not have a sufficient amount of knowledge to take risks when making business decisions. An operator commented, "I consult. They know more than me." The same proportion, however, noted that they would take risks. The interviewees felt that it is not necessary to consult their supervisor on daily business decisions. A person middle management commented, "I'll take the risk (because) I know I can do it better." The

remaining 20% stated that depending on the situation, they would take the risk. For example, if the decision involved a substantial amount of money, the interviewees would consult their supervisors. A person from middle management noted, "I think depending on the decision. Sometimes it involves a lot of money and you have to ask your supervisor."

When comparing the results of the Canadian and Mexican samples, it can be noted that ten percent more Canadian interviewees than Mexican interviewees stated that: First, they would feel comfortable making the changes without asking their supervisor; and second they would take risks when making business decisions. These results suggest that the Mexican plant is less likely to make authority equal to responsibility compared to the Canadian plant.

Reward for Results

In hypothesis 3 (a), it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to regularly reward their employees than a firm in an individualistic culture, such as Canada. When the Canadian interviewees were asked whether they are regularly rewarded for good results at work, as expected, 70% (seven interviewees) of the sample stated that they are neither symbolically nor materially regularly rewarded. The majority of upper and middle management believed that Northern Telecom has the mechanism in place, however it is not being utilized. Mario Larose, director of manufacturing and planning and cost accounting commented, "In terms of spot awards, we got the capability, but we are not using them." Similarly, a person from middle management noted, "We have a program spot awards in place, but it's something we don't use. I guess we should use it more."

Managers can recognize and reward their employees whose efforts are exceptional by giving them a spot award. All employees are eligible for this non-monetary award worth $100. The award can be given to an individual or team anytime and the number of awards are unlimited (Publication number: 5704.II/07-94, p.14). Interviewees may not be using the employee-recognition program to the fullest because of the following reasons: First, the awards might create jealousy between the peers. Consequently, decreasing the group motivation and moral. Second, there are no clear guidelines when the individual or group should receive the award. For example, when is the employee going beyond the call of duty? When is he/she just performing his/her job? Finally, difficulties with the timing of the awards. Middle management often must get approval from their superiors to distribute the awards. When their supervisors are not present, the timing may be too late.

Ten percent of the sample stated that good results at work are regularly rewarded. The interviewee believed that all employees in the organization are well paid and rewarded regularly. An upper manager noted, "Yes. We are all well rewarded. We got spot awards... I gave spot awards to a couple of employees last year." The remaining 20% stated that they are not regularly rewarded materially, however they are rewarded symbolically. An interviewee commented, "Financially, no... But there are other rewards. If you do something good he will tell you. That is a reward. There is good positive feedback."

When the Mexican sample was asked whether they are regularly rewarded for good results at work, 40% (four interviewees) said no. Three out of the four individuals were from the cables side of the operations. Jose Almaraz, the

operations manager of cables, however, acknowledged that unlike the telephone set operations, the cables side did not receive rewards regularly. He noted that it was primarily due to budget constraints and insufficient reward and recognition guidelines. Recently, HR designed a system, which they are presently in the process of coordinating. Almaraz concluded, "We have it set now. We know what the guidelines are. Now, we know how to do it and we know what we are going to do with it."

Sixty percent of the Mexican sample stated that they are regularly rewarded for good results at work. Interviewees noted that they receive positive feedback from their supervisors. In addition, they receive a free lunch when they perform at an exceptional level. Daniel Gaytan, a quality engineer, commented, "We receive verbal communication when we do the right things... We receive special bonuses when we do the right things. We receive a free lunch." Similarly, a lower level employee, noted, "When there is good production, I'll get a free lunch or there are competitions where you get prizes, a T shirt if you get quality."

Interestingly, half of the individuals who stated that they are regularly rewarded for good results at work, mentioned their salary in addition to the symbolic and material rewards which they regularly receive. An operator commented, "Everyone receives a salary. They watch you work and improve and how much energy we put in so one day when you ask a raise they will remember it."

When comparing the results of the Canadian and Mexican samples, 50% more Mexican interviewees than Canadian interviewees stated that they are

regularly rewarded for good results at work. These findings suggest that the Mexican plant more regularly rewards their employees for good results at work than the Canadian plant.

In hypothesis 3(b), it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to give group based rewards than a firm in an individualistic culture, such as Canada. When Canadian interviewees were asked whether rewards are usually based on team/department performance or individual performance, 40% (four interviewees) mentioned that rewards are usually based on individual performance. An interviewee noted that despite Northern Telecom's strong emphasis on the teamwork philosophy, good performance is often rewarded on an individual basis. A person from middle management noted, "We are all evaluated on an individual basis. But they want us to work as a team." A couple of people however noted that some departments are effectively using team-based rewards. However, on the whole individual based rewards are more often used. Only ten percent stated that the rewards are usually based on team/department performance. The interviewee believed that Northern Telecom makes an effort to make the rewards group based. An operator commented, "They are very careful to make sure it's the department. It's team." Half of the sample stated that rewards are usually based on both team/department and individual performance. When tasks are performed by a group, the group will be rewarded. If the work is performed by a single employee, the individual will be rewarded. A person from upper management commented, "Teams and individuals. It is balanced 50%-50%."

When Mexican interviewees were asked whether rewards are usually based on team/department performance or individual performance, 30% (three

interviewees) stated that the rewards are based on individual performance. The interviewees, however, noted that group based rewards would be preferable. A member from upper management stated, "It is individual. In order to promote team work we need to think of something else." As expected, half of the Mexican sample stated that rewards are usually based on team/department performance. For example, when a shift obtains zero defects per thousand for a consecutive period of four weeks, the entire shift receives a free breakfast or lunch. In addition, as a means to reward the operators for a quality product, management organizes a series of fun days for the operators. A fun day is when the production lines will stop for approximately an hour and a half so that the operators can play team games and compete for group prizes. An operator commented, "We make teams and we play games against other teams. It is to practice how to work in teams. We cheer each other." The remaining 20% noted that the rewards are usually based on both team/department and individual performance. The type of reward is dependent on whether the task was performed by a group or an individual. Daniel Gaytan, a quality engineer, commented, "Both. It depends on if the results involve one group. Then you will receive the reward in a group."

When comparing the results of the Canadian and Mexican samples, 40% more Mexican interviewees than Canadian interviewees stated that rewards are usually based on team/department performance than individual performance. These results suggest that the Mexican plant has more group based rewards than the Canadian plant.

Cooperation

In hypothesis 4, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to emphasize cooperation than a firm in an individualistic culture, such as Canada. When the Canadian sample was asked whether their co-workers cooperate with each other, 30% (three interviewees) stated that their co-workers do not cooperate. The interviewees noted that there is a lack of cooperation among co-workers because there is some disagreement with respect to the alignment of the objectives of the company. It is believed that when all the organization views quality as a top priority, there will be increased cooperation among co-workers. An operator commented, "In general, no, not everyone." Contrary to what was expected, 60% of the Canadian sample stated that their co-workers cooperate with each other. Interviewees felt that employees are cooperating to achieve the objectives of the company. Mario Larose, director of manufacturing and planning, and product cost accounting commented, "We have improved quite significantly over the past year. Now, people are opening up. People are putting their cards on the table. You see people saying yes, I understand that I am going to weaken myself for the group objectives." The remaining ten percent noted that sometimes co-workers cooperate with each other. When there is a large amount of work to accomplish within a short period of time, there is less cooperation among co-workers. An operator commented, "It depends. It happens when people do not cooperate. We are not a big family. There are too many children inside it."

When the Mexican sample was asked whether their co-workers cooperate with each other, as expected, all ten interviewees stated that their co-workers cooperate with each other. The interviewees believed that teamwork exists

throughout the company. Operators on the production floor assist one another to build quality products. One operator commented, "Yes, we help each other."

When the Canadian sample was asked whether departments or groups often cooperate with each other, contrary to what was expected, 80% (eight interviewees) of the sample said yes. These findings converge with the results of a recent employee feedback survey that indicates that the working level is good. A director commented, "Yes. The feedback from the employee survey is that the working level is very well. We don't see barriers between groups." The remaining 20% noted that sometimes departments or groups cooperate with each other because departmental goals may not be aligned with the organizational objectives. A director commented, "It depends on the project whether you get cooperation between departments. If we have to reduce expenses ten percent in operations, then you will have purchasing and engineering not cooperating. On other projects, you will get excellent cooperation between departments."

When the Mexican sample was asked whether departments or groups often cooperate with each other, 80% (eight interviewees) of the sample said yes. The interviewees noted that in the past there was less cooperation between departments and groups. With the establishment of cross-functional CI teams, the cooperation among departments has increased. A person from middle management commented, "Yes, we have good relations with departments." The remaining 20% stated that cooperation among departments or groups is dependent on the workload of the departments. An operator noted, "Sometimes yes, sometimes no. It depends on the work."

When comparing the results of the Canadian and Mexican samples, 80% of both samples noted that departments or groups cooperate with each other. However, 40% more Mexican interviewees than Canadian interviewees stated that co-workers cooperate with each other. Since there is more cooperation than expected in the Canadian sample, hypothesis 4 receives partial support.

Job Security

In hypothesis 5, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to give their employees job security than a firm in an individualistic culture, such as Canada. When the Canadian sample was asked whether there is a climate of job security in their organization, as expected, 60% (six interviewees) of the sample stated that there is not a climate of job security in their organization. Due to the substantial layoffs in the past, employees are apprehensive with the security of their jobs. Norman Durocher, senior manager in HR commented, "Not at all. You have to understand that in HR, for example, we reduced our staff by 50% last year. You make your own job security." A senior manager highlighted that from an unionized perspective, there is no longer job security because Northern Telecom's unionized employees have inter-island bumping rights. In other words, when there are layoffs in one Northern Telecom plant, an unionized employee with more seniority may take the job of an unionized employee with less seniority. Interviewees believed, however, that job security no longer exists in any organization. The remaining 40% stated that there is a climate of job security in their organization. Interviewees believed that after a couple of difficulty years, Northern Telecom's financial outlook is brighter. A director commented,

> There has always been (a) fear we will be closed next year. I am more confident now than I was a year ago for our chances of success. Simply because the fact senior management wants to look at their business processes from this (TQM) perspective. Yes.

Even though three out of the four shop floor workers stated that there is not a climate of job security in their organization, a middle manager noted that the shop floor workers are very secure with their jobs. He stated that even though there are layoffs, the workers know that they will be rehired when production levels increase.

When the Mexican interviewees were asked whether there is a climate of job security in their organization, ten percent (one interviewee) of the sample stated there is not a climate of job security in the organization. The subject noted that when there are low production levels, the organization will layoff employees. An operator commented, "No. Sometimes we have little work." As expected, 90% of the sample stated that there is a climate of job security in their organization. Even though the plant has recently sold part of their cables operations, the majority of the interviewees believed that there is a climate of job security. Ricardo Ordoñez, manager of new product development commented, "Yes. It was clearly described how they handled the sale. In fact the vice president of the cables side explained to all the people how everything will be working and the agreement with the company. No panic." An operator similarly noted, "Yes. They sold part of their operations. They have cutbacks. They asked volunteers to leave, but we were informed."

When the Canadian and Mexican interviewees were asked to rate their job security on a scale of 1 (NOT SECURE) to 5 (SECURE), the Canadian sample

received a mean job security score of 4.05 out of 5. The Mexican sample received a mean job security score of 4.3 out of 5.

When comparing the results of the Canadian and Mexican samples, there is not a large difference between mean job security scores of Canadian and Mexican interviewees. The Canadian sample received a mean score of 4.05 out of 5, and the Mexican sample obtained a mean score of 4.3 out of 5. In other words, in general all interviewees felt secure with their jobs. The samples, however, largely differed on whether they believed there is a climate of job security in their organization. Fifty percent more of the Mexican interviewees than the Canadian interviewees felt that there is a climate of job security in their organizations. Since there is more job security than expected in the Canadian sample, hypothesis 5 receives partial support.

Fairness

In hypothesis 6, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to instill a climate of fairness than a firm in an individualistic culture, such as Canada. When the Canadian interviewees were asked whether they feel their supervisor or top management share useful or important information, ten percent (one interviewee) said no. The subject believed that top management often withheld important information. An operator commented, "If there is a big rumor it is important that it is told. When there was a chance it (the company) was being sold, everyone knew before the supervisors said anything. We didn't know. They tell us always at the last minute." Contrary to what was expected, 80% of the sample stated that their supervisor or top management share useful or important information with them. The interviewees believed that the "skip level meetings", meetings

which do not include the middle level of management, improved the communication of important information between top management and lower level employees. These meetings enable lower level employees to receive information directly from the level of management above their immediate supervisors. An interviewee commented, "Yes. I know what's going on. I know that it's not like that in every department." The remaining ten percent of the sample noted that sometimes top management share useful or important information. An interviewee noted that top management does not share enough information on long term goals and objectives. A person from middle management commented, "We are very responsible and autonomous, we have to make a lot of decisions. Sometimes if we would have more on what's cooking up, maybe we wouldn't have made the same decision."

When the Mexican interviewees were asked whether they feel their supervisor or top management share useful or important information, 20% (two interviewees) of the sample said no. The interviewees felt that they do not receive useful or important information from top management. The interviewees, both operators, commented, "No. Nothing." As expected, 80% of the sample stated that their supervisor or top management share useful or important information with them. Upper management acknowledged the fact that all employees are interested in the performance of the company. Monthly meetings with engineers and supervisors enable top management to regularly disseminate important information to lower level employees. An interviewee from middle management commented, "They share the long term information, mid-range and short term plans of the company. They share financial information."

When Canadian interviewees were asked whether there is a climate of fairness and trust between their supervisors, 20% (two interviewees) said no. The interviewees, both operators, noted that in general there is a lack of confidence and trust among employees and supervisors. An operator commented, "The reason is that one doesn't trust the other; and the other doesn't trust the other. I know that the employee doesn't trust the boss. I wonder if the boss trusts the employee." Contrary to what was expected, 70% of the sample felt there is a climate of fairness and trust between their supervisors. The interviewees believed that their supervisors treat them fairly. An operator commented, "Yes. There is a climate of trust." The remaining ten percent stated that sometimes there is a climate of cautious trust between their supervisor. The interviewee noted, "I don't think he will take all my recommendations at face value. He will double check it. I would too."

When Mexican interviewees were asked whether there is a climate of fairness and trust between their supervisors, 20% (two interviewees) of the sample said no. The subjects, two operators, felt that their supervisors did not trust them. A shop floor worker commented, "Not that much." As expected, 80% of the sample felt that there is a climate of fairness and trust between their supervisors. The interviewees felt comfortable discussing their problems with their supervisors because their relationships are based on trust. Daniel Gaytan, a quality engineer, commented, "I can trust him and he can trust me."

When comparing the results of the Canadian and Mexican samples, ten percent more of the Mexican interviewees than the Canadian interviewees felt that their supervisor or top management did not share useful or important information with them. In addition, 80% of both samples noted that there is a

climate of fairness and trust between their supervisors. Since there is more of a climate of fairness and trust than expected for the Canadian sample, hypothesis 6 receives partial support.

Compensation Based on Equality Principles

In hypothesis 7, it was proposed that a firm in a collectivistic culture, such as Mexico, will more likely have a compensation system based on equality principles than a firm in an individualistic culture, such as Canada. When the Canadian sample was asked whether they feel people in their organization are paid equally or that pay is dependent on an individuals output, 20% (two interviewees) of the sample stated that pay is dependent on individuals output. The interviewees believed that they receive salary increases when their performance improves. A manager commented, "People will get more money if they perform better." Forty percent of Canadian sample stated that people in their organization are paid equally. The interviewees, all shop operators, noted that everyone receives the same salary. An operator commented, "People at Northern show their salaries (pay cheques) to each other. They are sure that it's the same hourly wage. It would be an injustice if there are differences." Another 40% stated that people in their organization are paid equally and that pay is dependent on an individuals output. It was noted that unionized employees are usually paid equally. There is often not a big difference between the salaries of unionized employees. A manager commented, "The unions have a flat rate and they try to get everybody at the same center level." The pay of non-unionized employees, on the other hand, is dependent on an individuals output. A person from middle management noted, "For non-unionized ones, yes, you are rated strictly under performance. Salary goes with it." Some interviewees stated that people are paid equally because each

employee is part of a salary range. Those employees who are part of the same range will have similar salaries. Within the specific range, individual performance will determine any differences within the range, consequently pay is also dependent on individuals output.

When the Mexican sample was asked whether they feel people in their organization are paid equally or that pay is dependent on an individuals output, contrary to what was expected, 70%(seven interviewees) of the sample stated that pay is depended on individuals output. The interviewees believed that pay is dependent on the performance of each employee. An operator commented, "Individual. It depends on your ability." The remaining 30% noted that people are paid equally, however pay is also dependent on an individuals output. These interviewees highlighted that every employee is part of a range, however individuals performance will determine ones salary increases. A director commented, "Most people are paid equally. Your individual performance will make a difference." The distinction between salaried and hourly workers was highlighted. It was noted that salaried workers can begin anywhere on the salary range, depending on the market and the employees experience. However, all hourly workers start at the beginning of the salary range. If they are performing well, they will move up to the next salary range. A director commented, "For salaried (employees), they get in the company in the middle, beginning, end of the range. Hourly (employees) start at the beginning always. Depending on their performance they move up."

When Canadian interviewees were asked whether there is a large difference between lower-level and top management salaries, 90% (nine interviewees) of the sample said yes. The interviewees noted that a large difference also exists

in the availability of other benefits, such as profit sharing plans and stock option programs. Unlike lower level employees, top management receives other benefits beyond their base salary. An operator commented, "Yes. They (top management) are paid more than us but they work more hours." The remaining 10% did not know if there is a large difference between lower-level and top management salaries.

When the Mexican interviewees were asked whether there is large difference between lower-level and top management salaries, contrary to what was expected, 90% (9 interviewees) of the sample said yes. The interviewees stated that there is a big difference in salaries because of the market. A middle manager commented, "Yes. Big difference." The remaining ten percent did not know if there is a large difference between lower level and top management salaries.

When comparing the results of the Canadian and Mexican samples, 40% of the Canadian interviewees felt that people in their organization are paid equally. Conversely, 30% of the Mexican interviewees noted that people in their organization are paid equally and that pay is dependent on an individuals output. In addition, 90% of both samples thought there is a large difference between lower-level and top management salaries.

The salary ranges for the Canadian and Mexican plants were obtained. Top management in Canada, earn approximately six times as much as the lower level employees. Top management in Mexico, excluding expatriates, earn approximately 14 times as much as the lower level employees. Since the salary ranges for the Mexican plant were reported in U.S. dollars, the figures were

converted at an exchange rate of 1.3650/U.S.$ (the average exchange rate for 1994).

The archival data illustrates that the salary differentials among the employees in Mexico are much higher than those in Canada. These figures suggest that the compensation system in Mexico is based on equity principles, as opposed to equality principles. The data obtained from the interviews also support these findings. In sum, the results suggest that the Mexican plant is not more likely to regularly have a compensation system based on equality principles than the Canadian plant.

Ownership

In hypothesis 8(a), it was proposed that a firm in a collectivistic culture, such as Mexico, will more likely feel as though they have a stake in their company than a firm in an individualistic culture, such as Canada. When the Canadian interviewees were asked whether they feel they have a stake in the firm, ten percent (1 interviewee) of the sample said no. Due to the fact that the stock option plan is not offered to unionized employees, the interviewee, an unionized worker, did not feel that he/she had a stake in the company. The operator commented, "No. I'd like to buy shares. (Because I can't buy shares) It makes me have less ownership." Ninety percent of the sample stated that they feel they have a stake in their organization. The interviewees believed that it is important for employees to develop feelings of belongingness for their organization. If the employees feel they have a stake in the company they will get more involved in the continuous improvement efforts. Damian Hanel, director of quality commented, "I do. That is why I take this stuff (TQM) so

seriously." An operator also noted, "Yes. It's my business. I work like this is my own business."

When the Mexican interviewees were asked whether they feel they have a stake in the firm, 90% of the sample stated that they feel as though they have a stake in their organization. The interviewees felt as though they are owners. An operator commented, "Yes. I feel this is my home." The remaining ten percent, one interviewee, felt that from time to time he/she had a stake in the company. The subject commented, "Lately I've been having problems with a certain department. That makes me feel badly with Northern."

When comparing the results of the Canadian and Mexican samples, 90% of both samples felt that they had a stake in their firm. These results suggest that both the Mexican and Canadian plant equally feel as though they have an ownership stake in their organization.

In hypothesis 8(b), it was proposed that a firm in a collectivistic culture, such as Mexico, will less likely need to have employee ownership programs for employees to feel as though they have a stake in their company than a firm in an individualistic culture. When the Canadian sample was asked whether there are employee ownership programs in their organization, all ten interviewees said yes. As noted in hypothesis 8(a), 90% of the Canadian sample felt they had an ownership stake in the company. It is possible that the reason why the Canadian sample felt this way is because they have employee ownership programs. This view is further substantiated by a comment of an interviewee who does not have the option to buy stocks from the employee stock option plan. "No. I'd like to buy shares. It makes me have less ownership."

When the Mexican sample was asked whether there are employee ownership programs in their organization, all ten interviewees said no. As noted in hypothesis 8(a), 90% of the Canadian sample felt as though they had an ownership stake in the company. Unlike the Canadian sample, it is possible that the Mexican sample did not need employee stock options to feel as though they had an ownership stake. Moreover, the interviewee who remarked, "Sometimes I feel as though I have a stake in the firm" made no reference to the fact that there are no employee ownership programs.

These results suggest that compared to the Canadian plant, the Mexican plant does not need to have employee ownership programs for employees to feel as though they have a stake in their company.

TQM Implementation

In hypothesis 9, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more successful at implementing TQM than a firm in an individualistic culture, such as Canada because a firm in a collectivistic culture will have more of the eight TQM cultural elements to a greater degree than a firm in an individualistic culture. Nine out of ten Canadian interviewees believed that the implementation of Excellence! in 1991 was a disappointment. A director noted that the overall performance of the company did not improved because of Excellence!. One interviewee, however, believed that the Excellence! program was a real success because "the new values became normal values". On the most part, interviewees were not overly enthusiastic with the outcome of the initiative.

Interviewees commented that when the initiative was implemented, the objectives of the CI teams were not closely linked to the major business issues. In addition, sometimes the projects were not related to the immediate work processes of the CI team members. For example, operators were working on projects that should have been at the directors level. Furthermore, it was noted that the CI teams were often disbanded at the implementation process because senior management was looking for short term results and the implementation of the recommendations would have taken more time.

Despite the cynicism associated with Excellence!, interviewees on the most part believed that employees are presently using some of the tools and concepts acquired from the Excellence! training courses. Mario Larose, director of manufacturing and planning and cost accounting commented, "Even though there was a reduction of CI teams, underground CI teams still exists." These CI teams are utilizing the CI team methodology which was taught in the courses. The majority of the teams in the plant, however, are not using the formalized procedures on how to conduct a CI meeting, analyze, and solve problems. A person from middle management noted, "We figured out that we don't have to go through the formal type of procedures."

Half of the sample (five interviewees) noted that some team leader meetings still exist. A team leader can be an operator, with leadership qualities, who has received training to lead a group of operators within a particular section in the production line. A team leader is responsible for charting quality results and informing the group of any problems. When an operator was asked about the team leader meetings in his/her section, the interviewee noted, "We almost never have meetings."

When interviewees were posed the question whether they are satisfied with the results of TQM, seven out of ten interviewees stated that they are partly satisfied with the present results. The subjects felt that more progress needed to be made with respect to the TQM process. A person from middle management noted, "I am not convinced that people see TQM as a philosophy, and not a program." Another interviewee noted, "No. I don't believe in teamwork at Northern Telecom. It's too big. If you want teams you will have to divide up your company in 45 pieces."

When interviewees were asked what is the biggest barrier to achieving quality in their organization, the following barriers were most often mentioned: mixed signals from top management on quality issues (five out of ten interviewees), lack of ownership (four out of ten interviewees), employees lack of involvement and resistance to TQM (three out of ten interviewees), short term orientation (three out of ten interviewees).

All four interviewees from upper management are optimistic for the future because of the renewed interest in the Excellence! program. In November 1994, senior management created several CI teams to work on certain key quality related issues. Unlike the previous CI team efforts, these topics are closely related to major business objectives. The steering committee is scheduled to meet every three months to ensure the members are meeting with their teams.

The entire Mexican sample viewed the Excellence! initiative in a positive light. Interviewees believed that the quality of their products have improved since

the Excellence! initiative. Even though only one out of the four operators received the two day training course, all of the operators felt Excellence! was very important. An operator commented, "I think it (Excellence!) is very good. We have to do the product right the first time. We started to find out that most of the things had rules, and norms." Another operator noted, "Excellence! helps us improve the product."

In addition, all interviewees had something positive to say about CI teams. Even though, a director noted that the plant is only in its infancy of CI teams and the Excellence! initiative, numerous groups are using the problem solving techniques and tools to solve quality problems in their own area until the problems are implemented. In addition, there are many other teams that have not gone through the formalized CI registration process to become an official CI team.

When interviewees were asked whether they are presently satisfied with the results of TQM, eight out of ten interviewees stated that they are satisfied with the results. Half of the middle managers (two interviewees) noticed that the number of defects per thousand has drastically reduced. Apolonio Vallejo Estrada, a manufacturing manager commented, "Yes. The quality is in the people, the service for the clients are better, the quality is better. We want to produce a good quality product for the clients." The remaining two interviewees noted that one can never be satisfied with the results because the process can always be improved. A director commented, "You are never satisfied. There is always something to improve. That's what we are finding."

When interviewees were asked what is the biggest barrier to achieving quality in their organization, the following barriers were most often mentioned: lack of training (nine out of ten interviewees), lack of communication between upper management and lower level employees (four out of ten interviewees), lack of empowerment (three out of ten interviewees).

When comparing the results of the two samples, we see that even though there are presently some "underground" CI teams in the Canadian plant who use the CI team methodology, in general the teams are not using the formalized CI procedures. In the Mexican plant, numerous groups are using the CI team problem solving techniques and tools to solve quality problems. These groups may be registered as CI teams, or teams who have not gone through the formalized CI registration process to become an official CI team.

The findings also suggest that Mexican interviewees are more satisfied with their present results of the TQM process than the Canadian interviewees. Some Mexican interviewees felt that "quality is in the people", on the other hand, a couple Canadian interviewees were not convinced that "people see TQM as a philosophy, and not a program".

Moreover, the Canadian and Mexican interviewees views differ on what they thought is the biggest barrier to achieving quality goals in their organization. Canadian interviewees most often mentioned mixed signals from top management on quality issues, lack of ownership, employees lack of involvement and resistance to TQM, and short term orientation to TQM to be the largest obstacles. On the other hand, Mexican interviewees most often mentioned the lack of training to be the greatest deterrent.

In sum, in 1991 the Canadian plant tried to implement TQM and the initiative was not a complete success. Interviewees commented that when the initiative was implemented, the objectives of the CI teams were not closely linked to the major business issues. In addition, sometimes the projects were not related to the immediate work processes of the CI team members. Furthermore, it was noted that the CI teams were often disbanded at the implementation process because senior management was looking for short term results and the implementation of the recommendations would have taken more time.

In the Mexican plant, the implementation of TQM is in its infancy. Even though many employees have not been trained, the implementation appears to be successful. Unlike the Canadian plants first effort to implement TQM, the objectives of the CI teams are closely linked to the major business issues. Moreover, CI teams work on solving problems in their own area. These CI teams may continue for several months until the problems are implemented.

The data above provides support in line with hypothesis 9. The results of hypothesis one through eight lead us to believe that the Mexican plant has more of the eight TQM elements to a greater degree than the Canadian plant. The findings suggest that at the present moment, the Mexican plant is more successful at implementing TQM than the Canadian plant. It should be noted, however, that since the Mexican plant is only in its infancy, the novelty and enthusiasm associated with new ideas and concepts may contribute to the successful implementation of TQM in the Mexican plant. A summary of qualitative results is presented in Table 3.

TABLE 3: SUMMARY OF QUALITATIVE RESULTS

HYPOTHESIS	TQM CULTURAL ELEMENT	RESULTS
1	Quality Info for Improvement	H 1 is receives support.
2	Authority = Responsibility	H 2 does not receive support.
3 (a)	Reward for Results (Regularly Rewarded)	H 3(a) receives support.
3 (b)	Reward for Results (Team vs Indi Rewards)	H 3(b) receives support.
4	Cooperation	H 4 receives partial support.
5	Job Security	H 5 receives partial support.
6	Fairness	H 6 receives partial support.
7	Compensation Based on Equality	H 7 does not receive support.
8 (a)	Ownership (Stake in the Firm)	H 8(a) does not receive support.
8 (b)	Ownership (Ownership Programs)	H 8(b) receives support.
9	Implementation of TQM & 8 TQM elements	H 9 receives support.

In order to triangulate the qualitative data, cross-tabs and X^2 tests were conducted. Refer to Tables 4 through 13 for cross-tabs and X^2 tests for each hypothesis. The results of the quantitative analysis are presented below.

Quality Information for Improvement

In hypothesis 1, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to integratively use information for improvement purposes than a firm in an individualistic culture, such as Canada. The findings suggest that there is not a significant difference on whether the Canadian and Mexican plants integratively use information for improvement purposes (X^2= 6.14, p>.05).

TABLE 4: CROSS-TABS & X^2 FOR HYPOTHESIS 1

Score	Canada	Mexico	TOTAL	%
2	2		2	10
4	1		1	5
6	2	1	3	15
8	2	2	4	20
10	3	7	10	50
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	6.14	4	.19 (not sig)

Authority = Responsibility

In hypothesis 2, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to make authority equal to responsibility than a firm in an individualistic culture, such as Canada. The findings suggest that there is not a significant difference on whether the Canadian and Mexican plants make authority equal to responsibility (X^2= 6.77, p>.05).

TABLE 5: CROSS-TABS & X^2 FOR HYPOTHESIS 2

Score	Canada	Mexico	TOTAL	%
2		3	3	15
4	1	1	2	10
6	1		1	5
8	6	3	9	45
10	2	3	5	25
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	6.77	4	.15 (not sig)

Rewards for Results

Hypothesis 3 (a) stated that a firm in a collectivistic culture, such as Mexico, will be more likely to regularly reward their employees than a firm in an individualistic culture, such as Canada. The findings suggest that the Mexican plant significantly more regularly rewards their employees than the Canadian plant (X^2= 7.56, p<.05).

TABLE 6: CROSS-TABS & X^2 FOR HYPOTHESIS 3 (a)

Score	Canada	Mexico	TOTAL	%
1	7	4	11	55
3	2		2	10
5	1	6	7	35
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	7.56	2	.02 (sig)

In hypothesis 3(b), it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to give group based rewards than a firm in an individualistic culture, such as Canada. The findings suggest that there is not a significant difference on whether the Canadian and Mexican plants have group based rewards (X^2= 4.38; p>.05).

TABLE 7: CROSS-TABS & X^2 FOR HYPOTHESIS 3 (b)

Score	Canada	Mexico	TOTAL	%
1	4	3	7	35
3	5	2	7	35
5	1	5	6	30
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	4.38	2	.11 (not sig)

Cooperation

In hypothesis 4, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to emphasize cooperation than a firm in an individualistic culture, such as Canada. The findings suggest that the Mexican plant does not significantly emphasize more cooperation than the Canadian plant (X^2= 4.79, p>.05).

TABLE 8: CROSS-TABS & X^2 FOR HYPOTHESIS 4

Score	Canada	Mexico	TOTAL	%
4	2		2	10
6	1		1	5
8	1	2	3	15
10	6	8	14	70
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	4.79	3	.19 (not sig)

Job Security

The fifth hypothesis stated that a firm in a collectivistic culture, such as Mexico, will be more likely to give their employees job security than a firm in an individualistic culture, such as Canada. The results suggest that the employees in the Mexican plant have significantly more job security than the Canadian plant (X^2= 14.23, p<.05).

TABLE 9: CROSS-TABS & X^2 FOR HYPOTHESIS 5

Score	Canada	Mexico	TOTAL	%
3	1		1	5
4		1	1	5
6	5		5	25
8	1		1	5
10	3	9	12	60
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	14.23	4	.01 (sig)

Fairness

In hypothesis 6, it was proposed that a firm in a collectivistic culture, such as Mexico, will be more likely to instill a climate of fairness than a firm in an individualistic culture, such as Canada. The results suggest that there is not a significant difference on whether the Canadian and Mexican plants have a climate of fairness (X^2= 4.79, p>.05).

TABLE 10: CROSS-TABS & X^2 FOR HYPOTHESIS 6

Score	Canada	Mexico	TOTAL	%
2	1	2	3	15
6	1		1	5
8	2		2	10
10	6	8	14	70
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	4.79	3	.19 (not sig)

Compensation Based on Equality Principles

In hypothesis 7, it was proposed that a firm in a collectivistic culture, such as Mexico, will more likely have a compensation system based on equality

principles than a firm in an individualistic culture, such as Canada. The results suggest that there is not a significant difference on whether the Canadian and Mexican plants have a compensation system based on equality principles (X^2= 6.59, p>.05).

TABLE 11: CROSS-TABS & X^2 FOR HYPOTHESIS 7

Score	Canada	Mexico	TOTAL	%
1		1	1	5
2	2	6	8	40
4	4	2	6	30
5	1		1	5
6	3	1	4	20
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	6.59	4	.16 (not sig)

Ownership

In hypothesis 8 (a), it was proposed that a firm in a collectivistic culture, such as Mexico, will more likely feel as though they have a stake in their company than a firm in an individualistic culture, such as Canada. The results suggest

that there is not a significant difference on whether the Canadian and Mexican plants feel as though they have a stake in their company (X^2= 2.77, p> .05)

TABLE 12: CROSS-TABS & X^2 FOR HYPOTHESIS 8 (a)

Score	Canada	Mexico	TOTAL	%
1	1		1	5
3		1	1	5
5	9	9	18	90
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	2.77	2	.25 (not sig)

In hypothesis 8(b), it was proposed that a firm in a collectivistic culture, such as Mexico, will less likely need to have employee ownership programs for employees to feel as though they have a stake in their company than a firm in an individualistic culture. The results suggest that there is a significant difference on whether the Canadian and Mexican plants offer employee ownership programs (X^2= 27.73, p<.01).

TABLE 13: CROSS-TABS & X^2 FOR HYPOTHESIS 8 (b)

Score	Canada	Mexico	TOTAL	%
1	10		10	50
5		10	10	50
TOTAL	10	10	20	100

CHI-SQUARE	VALUE	DF	SIGNIFICANCE
Likelihood Ratio	27.73	1	.00 (sig)

In sum, the quantitative results show support for Hypothesis 3(a), 5, and 8(b). The analyses suggest that there are not significant differences in the TQM elements between the Canadian and Mexican plants. It should be noted, however, that the likelihood ratio chi-square for all the hypotheses were approaching significance.

CHAPTER 5- DISCUSSION

The qualitative results suggested that a firm in a collectivistic culture, such as Mexico, will be more successful at implementing TQM than a firm in an individualistic culture, such as Canada because the Mexican firm will have more TQM cultural elements, to a larger degree, than the Canadian firm. Compared to the Canadian plant, the Mexican plant: 1) more integratively used information for improvement purposes; 2) more regularly rewarded their employees for good results; 3) had more group based rewards; and 4) did not need to have employee ownership programs for employees to feel as though they had a stake in the company.

Several hypotheses received partial support because there was more cooperation, job security, and fairness than expected in the Canadian plant. Even though on the whole, more Mexican interviewees than Canadian interviewees stated cooperation existed in their plant, more than half (six out of ten interviewees) of the Canadian sample noted that there was cooperation among their co-workers. Moreover, 80% of the interviewees believed that departments or groups cooperated with each other. It is possible that the organizational culture of Northern Telecom, which emphasizes cooperation overrode the national culture.

The findings also suggested that there was more job security in the Canadian plant than the Mexican plant. Both samples, however, received job security scores above four out of five. Possible explanations may be that numeric rating scales have alternative meanings in various cultures. In other words, the Mexican and Canadian samples could have interpreted a four out of five

differently. In addition, Mexicans are less likely to use the extreme ends of scales. Therefore, instead of rating their job security a five out of five, the Mexicans stated that a four out of five best described their degree of job security.

Moreover, as hypothesized, more Mexican interviewees than Canadian interviewees stated that there was a climate of fairness in their plant. The results, however, suggested that more than half (eight out of ten interviewees) of the Canadian sample noted that their supervisor or top management shared useful or important information. Moreover, 70% of the interviewees believed that there was a climate of fairness and trust between their supervisors. It is possible that Northern Telecom's strong organizational culture, which emphasizes fairness and trust, overrode the influence of the national culture in the Canadian plant. Unlike the characteristics of an individualistic culture, the Canadian plant has instilled a climate of fairness, and developed trust, aspects of fairness which strongly resemble the attributes of a collectivistic culture. In the case of the Mexican plant, it is possible that Northern Telecom's corporate culture further intensified the climate of fairness which usually exists in collectivistic cultures.

Several hypothesis, however, did not receive support. The results of the second hypothesis suggested the Canadian plant was more likely to make authority equal to responsibility compared to the Mexican plant. Mexican employees may not have been as empowered as their Canadian counterparts because of their lower educational level or lack of training. The Mexican employees have received less training compared to the Canadian employees. As a result, top

management in Mexico possibly may have felt less comfortable giving their employees the authority and responsibility to make quality products.

Contrary to what was expected, the results of the seventh hypothesis suggested that the Canadian plant more likely had a compensation system based on equality principles than the Mexican plant. Canadian interviewees felt that people in their organization were paid equally because of the unionized environment. As highlighted by the interviewees, large salary differences between unionized workers did not exist. Unionized workers or individuals who closely worked with the shop floor employees stated that people in their organization were paid equally. The majority of non-unionized employees noted that people in their organization were paid equally and pay was dependent on individuals output. Unionized workers were paid equally, on the other hand, pay was dependent on an individuals output for non-unionized employees. A minority of the interviewees believed that pay was dependent on individuals output.

On the other hand, none of the Mexican interviewees stated that people in their organization were paid equally. It should be highlighted that there were no unions in the Mexican plant. The majority of the Mexican sample noted that pay was dependent on an individual's output.

When interviewees were asked whether large pay differentials between lower-level and top management existed, 90% of both the Canadian and Mexican samples said yes. The archival data illustrated that the salary differentials among the employees in Mexico are much higher than those in Canada. Top management in Mexico, excluding expatriates, earn approximately

earn 14 times as much as the lower level employees. Top management in Canada, earn approximately six times as much as the lower level employees. A possible explanation may be that the salaries for upper level managerial positions have increased because of the demand for skilled and experienced personnel. Due to the increased number of foreign firms entering Mexico, there may be a shortage of top level managers. Moreover, Mexican businesses may also be recognizing that in order to compete globally, the most talented personnel is needed.

Finally, in hypothesis 8 (a), the findings highlighted that both Canadian and Mexican interviewees equally felt as though they had a stake in their organization. The data suggested, however, that the Canadian interviewees felt as though they had a stake in their firm because their plant had employee ownership programs. Mexican interviewees, on the other hand, felt as though as they had a stake in their organization despite their plant did not offer employee ownership programs to their employees. These results suggested that even though the Canadian and Mexican samples equally stated that they feel as though they had a stake in the company, the Mexican interviewees more intrinsically had feelings of ownership for their organization than the Canadian interviewees.

In sum, the findings suggested that national culture influenced the successful implementation of TQM in Canada and Mexico. It appeared that the firm in the collectivistic culture, such as Mexico, was more successful at implementing TQM than the firm in the individualistic culture, such as Canada. While the results are somewhat preliminary, the data suggested that since the Mexican firm was more likely to have a greater number of TQM cultural elements to a

larger degree than the Canadian firm, the implementation of TQM was facilitated.

It should be noted that this study viewed the influence national culture on the successful implementation of TQM in Canada and Mexico. In this case, the organizational culture of the Canadian parent company may have influenced the organizational culture of the Mexican subsidiary, in turn affecting the implementation process in the subsidiary. In addition, educational, political-legal, and economic elements of the country could have also affected the implementation process. Future research should examine these other factors.

Limitations

As with any research project, this study has its limitations. First, due to the field study approach, the investigator's own predisposition and bias could have influenced the research findings. The researcher, however, attempted to be as objective as possible throughout the research process.

Second, data was primarily obtained from interviews. Efforts were made to collect documents and archival data, however the information from these other sources were minimal. More triangulation with different sources would have increased the explanatory power of this study.

Third, due to the nature of the product lines, the sophistication and the technology of manufacturing processes in the two plants were different. The Canadian plant was more automated than the Mexican plant. In the Canadian plant, the operators on the floor were mainly responsible for reading the test

patterns from the equipment which they were in charge of. In the Mexican plant, many operators worked manually on assembly lines. These differences could have influenced the research findings. Specifically, the degree to which interviewees felt that their co-workers cooperated with each other, may have been affected.

Fourth, the implementation of TQM in the Canadian and Mexican plants took place at different times. Since the Excellence! initiative started in the Canadian plant two years before the Mexican plant, the comparison between the two plants is not exact. There are usual greater improvements and excitement in the beginning of any initiative. Especially, since TQM is one of the first initiatives that have been introduced in the Mexican plant, there may have been even more enthusiasm. Approximately one year and a half after the adoption Excellence!, enthusiasm faded in the Canadian plant. It should be noted, however, that it has already been more than two years since the Mexican operations have introduced the Excellence! initiative and there has not been a decrease in excitement.

Fifth, the corporate culture of the Canadian parent company may have influenced the TQM culture of the Mexican subsidiary. Since Northern Telecom is relatively a new player in Mexico, the Canadian parent company may be dictating certain procedures that should be followed in the Mexican subsidiary. As a result, the Canadian multinational's short-term goal oriented approach to conducting business may have been imposed on the Mexican plant. Consequently, Mexican companies may possess more of the eight TQM elements.

Finally, the Mexican subsidiary was located in Monterrey, which is close to the Texas border. The interviewees may have been influenced by the American individualistic culture. Perhaps, Mexicans who live further south of the border are more collectivistic than those Mexicans who reside near the American border. It is possible a plant in southern Mexico may have been even more successful at implementing TQM than the plant in this study.

Implications

The results of this study suggest that much hope exists for implementation of TQM in collectivistic cultures. Firms in collectivistic cultures may have an easier time implementing TQM than firms in individualistic cultures because their national cultures are more congruent with the TQM philosophy.

These findings can be particularly useful to developing countries. Research has shown that developing cultures are characterized as highly collectivistic (Jaeger & Kanungo, 1990). If firms in developing countries implement TQM, they will be more likely to improve the quality of their products and services, and therefore be competitive in today's business environment. With the increased globalization of the marketplace, it is essential for organizations to make quality their priority. The implementation of TQM will provide developing countries with the opportunity to develop and maintain a competitive edge in the global economy.

These findings also have an important implication for firms in individualistic cultures. Organizations in individualistic cultures should concentrate their efforts on recruiting and selecting employees who possess collectivistic

qualities. The leaders will instill TQM values and beliefs in their organization, and the members will enable the organization to sustain a TQM culture. For example, organizations may want to select people who prefer working in teams. Organizations with strong TQM cultures will facilitate the successful implementation of TQM.

Future Research

Several areas have been identified for future research. First, it would be interesting to study a Mexican company which is not a subsidiary of a Canadian parent company. The investigation of a Mexican company would provide information on the TQM culture of a Mexican company, without the influence of the parent company.

Second, this study viewed the influence of national culture, specifically the individualism/collectivism dimension, on the implementation of TQM. Future research should investigate other cultural dimensions such as, power distance, uncertainty avoidance, and masculinity/femininity. The aggregate influence of these cultural dimensions on the implementation of TQM will build upon our knowledge on the role of national culture in the implementation of TQM.

Third, the present study investigated the implementation of TQM in the telecommunications industry. Future comparisons should be made on the implementation of TQM in Canada and Mexico in other industry sectors. Further research can identify both the general factors and industry specific considerations which may influence the implementation of TQM in other cultures.

Fourth, further research can investigate the influence of economic, political, and educational considerations on the implementation of TQM in other countries to better understand the implementation of TQM in different countries. This data would provide researchers with additional insights specifically relating to the development of management appraisals, the recruitment and selection of employees in different countries. Moreover, the information will enable researchers to formulate conclusions on the implementation of TQM.

Finally, this study focused on Sashkin and Kiser's (1993) eight TQM cultural elements as a measure of TQM culture. Future researchers, viewing the implementation of TQM in other cultures, may want to investigate specific HRM practices which most effectively support a total quality culture. The information on HR characteristics, such as training, performance appraisal, and selection and development will broaden our understanding of the total quality paradigm in other cultures.

In conclusion, the results of this study suggest that a firm in a collectivistic culture, such as Mexico will be more successful at implementing TQM than a firm in an individualistic culture, such as Canada. Since a Mexican firm will more likely have a greater number of TQM cultural elements to a larger degree than a Canadian firm, the implementation of TQM will be facilitated. The findings highlight that much hope exist for the implementation of TQM in collectivistic cultures. Implementation efforts in individualistic cultures, however, are not hopeless. The findings suggest that a strong organizational culture, which possesses the TQM cultural elements may override the

influence of an individualistic culture. Consequently, organizations in individualistic cultures should concentrate their efforts on recruiting and selecting collectivistic employees who will support the TQM values and beliefs in their organization. A strong TQM culture will facilitate the implementation of TQM.

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APPENDIX A- CONSENT FORM

This is to state that I agree to participate in the interview being conducted by Bella Galperin. This project is being sponsored by the Management Department at Concordia University.

I have been informed that the purpose of this research is to examine the implementation of TQM in Mexico and Canada. I know that there is no hidden motive of which I have not been informed.

I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences.

I understand that this interview will be kept strictly confidential and will be available only to the members of the research team.

I understand that excerpts of this interview may be part of the final research report,

| | Yes, I agree to have my name quoted in the final research report.

| | No, I do not agree to have my name quoted in the final research report.

I understand that the aggregate data from this study will be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

WITNESS SIGNATURE _____

DATE _____

APPENDIX B- FORMULAIRE DE CONSENTEMENT

J'accepte par la présente de participer à l'entrevue menée par Bella Galperin. Ce projet est commandité par le département de management de l'Université Concordia.

J'ai été informé(e) que le but de cette recherche est d'examiner la mise en place de la gestion de la qualité totale au Mexique et au Canada. Je sais qu'il n'y a aucun motif caché desquets je n'ai pas éte informé(e).

Je comprends que je suis libre de retirer mon consentement et mettre fin à mon participation à tout moment sans conséquences négatives.

Je comprends que cette entrevue est strictement confidentielle et seuls les membres de l'équipe de recherche y auronts accès.

Je comprends que certains extraits de cette entrevue pourraient faire partie du rapport final de recherche,

| | Oui, j'accepte de faire mentionner mon nom dans le rapport final de recherche.

| | Non, je n'accepte pas de faire mentionner mon nom dans le rapport final de recherche.

Je comprends que l'aggrégat des données de cette étude sera publié.

J'AI ETUDIE AVEC SOIN CE QUI EST MENTIONNE CI DESSUS ET JE COMPRENDS CETTE ENTENTE. JE DONNE LIBREMENT MON CONSENTEMENT ET J'ACCEPTE DE PARTICIPER A CETTE ETUDE.

NOM (en lettres moulées) _____

SIGNATURE _____

SIGNATURE DU TEMOIN _____

DATE _____

APPENDIX C- FORMULARIO DE CONSENTIMIENTO

A continuación afirmo mi consentimiento de participar en la entrevista que dirije Bella Galperin. Este proyecto ha sido apoyado por el Departamento de Administracion de la Universidad de Concordia.

He sido informado que el fin de ésta investigación es examinar la filosofía Japonesa en Méjico y en el Canada. Comprendo que no hay información desconocida del cual no he sido informado.

Comprendo que tengo la libertad de retirar mi consimiento y descontinuar mi participación en cualquier momento sin consecuencias adversas.

Comprendo que ésta entrevista será mantenida estrictamente confidencial y accesible solamente a los miembros del equipo de investigación.

Comprendo que porciones de ésta entrevista pueden pertenecer al reporte final de la investigación,

| | Si, consiento tener mi nombre mencionado en el reporte final de la investigación.

| | No accepto tener mi nombre mencionado en el reporte final de la investigación.

Comprendo que la información añadida a este estudio será publicada.

HE ESTUDIADO CUIDADOSAMENTE EL MATERIAL ARRIBA MENCIONADO Y COMPRENDO EL ACUERDO. CONSIENTO LIBREMENTE PARTICIPAR EN ESTE ESTUDIO.

NOMBRE (por favor letras mayúsculas)_____

FIRMA _____

TESTIGO FIRMA _____

FECHA _____

APPENDIX D-INTERVIEW PROTOCOL

SECTION 1: DEMOGRAPHIC INFORMATION
Today's Date:
Place:
Time:
Subject's Name:
Subject's Position:
Sex:
Age:
Education:
Born:

SECTION 2: TQM IMPLEMENTATION

1. What is your typical day like in your company?

2. How has your organization attempted to implement TQM?

3. Are you satisfied with the results of TQM? Has it fulfilled its promise?

4. What is the biggest barrier to achieving quality in your organization?

SECTION 3: TQM CULTURAL ELEMENTS

1) QUALITY INFO FOR IMPROVEMENT

1. If you do not meet your goals or deadlines will you be reprimanded?

2. When obtaining quality data, does measurement center on the process of work or just the outcome?

2) AUTHORITY = RESPONSIBILITY

3. Imagine this scenario: One day you notice that you are able to improve your work process. Would you feel comfortable making the necessary changes without asking your supervisor?

4. When making daily business decisions, do you take risks or do you need to consult your supervisor regularly?

3) REWARD FOR RESULTS

5. Are you regularly rewarded for good results at work? How?

6. Are rewards usually based on team/department performance or individual performance?

4) COOPERATION

7. Do you feel your co-workers cooperate with each other?

8. Do departments or groups often cooperate?

5) JOB SECURITY

9. Is there a climate of job security in your *organization*?

10. On a scale of 1 (NOT SECURE) to 5 (SECURE), how secure are you with your *job*?

6) FAIRNESS

11. Do you feel your supervisor or top management share useful or important information with you?

12. Do you reel there is a climate of fairness and trust between you and your supervisor?

7) COMPENSATION BASED ON EQUALITY PRINCIPLES

13. Do you feel people in your organization are paid equally or that pay is dependent on an individuals output?

14. Do you think there is a large difference between lower-level and top management salaries?

8) OWNERSHIP

15. Do you feel you have a stake in the firm?

16. Are there employee ownership programs, such as employee stock options plans, in your organization?

SECTION 4: NATIONAL CULTURE

Complete ten sentences that begin with the words "I am ..." as if you were talking to yourself.

I am 1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

APPENDIX E-PROTOCOLE D'ENTREVUE

SECTION1: RENSEIGNEMENTS DEMOGRAPHIQUES
Date D`aujourd`hui:
Endroit:
Heure:
Nom du sujet:
Poste du sujet:
Sexe:
Âge:
Scolarité:
Lieu de naissance:

SECTION 2: MISE EN PLACE DE LA GESTION DE LA QUALITE TOTALE

1. Pouvez-vous décrire votre journeé typique dans la compagnie?

2. Comment l`organisation a-t-elle tenté de mettre en place la qualité totale?

3. Etes-vous satisfait(e) des résultats de la qualité totale? Les objectifs ont-ils été atteints?

4. Quel est le plus grand obstacle empèchant à l'atteinte des objectifs de qualité dans la compagnie?

SECTION 3: ELEMENTS CULTURELS DE LA QUALITE TOTALE

1) AMELIORATION DE L`INFORMATION SUR LA QUALITE

1. Si vous ne rencontrez pas vos objectifs, serez-vous réprimandé(e)?

2. Quand vous obtenez de l`information sur la qualité, est-ce que la mesure est concentrée sur la méthode de travail ou seulement sur les résultats?

2) AUTORITE = RESPONSABILITE

3. Imaginez ce scénario: Un jour, vous réalisez que vous seriez capable d`améliorer votre processus de travail. Seriez-vous confortable de faire les changements nécéssaires sans en discuter avec votre superviseur?

4. Dans vos décisions d`affaire quotidiennes, prenez-vous des risques ou consultez-vous votre superviseur régulièrement?

3) RECOMPENSE POUR RESULTATS

5. Les bons résultats sont-ils récompensés? Comment?

6. Les récompenses visent-t-elles la performance d`une équipe/département ou d`un individu?

4) COOPERATION

7. Sentez-vous qu`il existe de la coopération entre les employés?

8. Est-ce que les groupes ou départements coopèrent souvent?

5) SECURITE D`EMPLOI

9. Existe-t-il un climat de sécurité d`emplois dans votre *organisation*?

10. Sur une échelle de 1 (INSECURE) à 5 (SECURE), décrivez votre sécurité *d`emploi*?

6) JUSTICE

11. Trouvez-vous que votre superviseur ou le personnel cadre partage l`information utile et importante avec vous?

12. D`après vous, existe-t-il un climat de justice et de confiance entre vous et votre superviseur?

7) COMPENSATION BASEE SUR LES PRINCIPES D'EGALITE

13. Pensez-vous que les employés dans votre organisation sont payé d`une manière égale ou que le salaire dépendent sur les efforts individus de chaque employés?

14. Penvez-vous qu`il y a une grande différence entre les salaires des opérateurs et le personnel cadre à la tête de l`organisation?

8) PROPRIETEE

15. Sentez-vous que vous avez une participation dans l`entreprise?

16. Existe-t-il un programme permettant aux employés d`acquerir des actions ou des parts de l`organisation?

SECTION 4: CULTURE NATIONALE

Completez dix phrases qui commence avec les mots "Je suis ..." comme si vous vous adressiez à vous même.

Je suis
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

APPENDIX F-PROTOCOLO DE ENTREVISTA

SECCION1: INFORMACION DEMOGRAFICA
Fecha de hoy:
Lugar:
Hora:
Nombre:
Cuál es su posición:
Sexo:
Cuántos años tiene:
Cual es su educación:
Dónde nació:

SECCION 2: IMPLEMENTACION DE LA FILOSOFIA JAPONESA

1. Describa un día típico en su compañía?

2. De qué manera su organización trata de implementar la filosofía Japonesa?

3. Está satisfecho con los resultados de la filosofía Japonesa? Se realizan los objetivos?

4. Cuál es el obstáculo más grande para llevar acabo el objectivo de calidad en su organización?

SECCION 3: ELEMENTOS CULTURALES DE LA FILOSOFIA JAPONESA

1) CALIDAD INFORMATIVA PARA MEJORAMIENTO

1. Si no alcanza el objetivo o el límite de tiempo, va a ser culpado?

2. Al obtener información sobre la calidad, el centro de medida está en el proceso de trabajo o en el resultado?

2) AUTORIDAD=RESPONSABILIDAD

3. Imagínese ésta escena: en un día no determinado usted se da cuenta de poder mejorar el proceso de trabajo. Se sentiría cómodo de hacer cambios necesarios sin consultar su jefe?

4. En el transcurso del día, toma usted riesgos de decisión o necesita consultar con su jefe?

3) REMUNERACION POR LOS RESULTADOS

5. Tiene recompensa regularmente en el trabajo por buenos resultados? Cómo?

6. La remuneración está basada en función de equipo o individual?

4) COOPERACION

7. Usted cree que sus colaboradores de trabajo cooperan entre si?

8. Existe cooperación de departamentos o grupos?

5) SEGURIDAD DE TRABAJO

9. Existe un clima de seguridad de trabajo en su *organización*?

10. En una escala de 1 (SIN SEGURIDAD) a 5 (CON SEGURIDAD), qué seguridad tiene en su *trabajo*?

6) JUSTICIA

11. Su jefe o la dirección comparten información importante o útil con usted?

12. Existe un clima de reciprocidad y confianza entre usted y su jefe?

7) COMPENSACION BASADA EN PRINCIPIOS DE IGUALDAD

13. Cree usted que los empleados en su organización estan pagados al igual o depende del individuo?

14. Cree usted que hay gran diferencia en salarios entre los trabajadores y la dirección?

8) PROPIEDAD

15. Cree usted que tiene propiedad en la compañía?

16. Existe programas de propiedad para empleados, por ejemplo un plan de propriedad de trabajo?

SECCION 4: CULTURA NACIONAL

Complete 10 frases que empiece con las palabras "yo soy o estoy, como si usted estuviera charlando consigo mismo?

Yo soy/ estoy

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____