

A CROSS-CULTURAL COMPARISON OF TOP MANAGEMENT PERSONALITY FOR THE TQM IMPLEMENTATION

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Abstract

Top management is the most important single entity to the implementation of cultural and philosophical changes within an organization. This study investigates the effects of top management personality on the implementation of TQM across two very diverse cultures, Taiwan and USA. We use the Myers Briggs Type Indicator (MBTI) to classify top management personality types. Surveys are then performed to study the relationship between the top management personality and TQM practices in these two countries.

The preliminary results indicate that top managers in both countries with a strong N-preference can be statistically associated with organizational environments that exhibit characteristics conducive to TQM. These N-preference top managers are more apt to long-term planning, will continually considering new possibilities or opportunities rather than accepting status quo, will try new venues, and will be more likely to have a flexible structure in their organization. All of these characteristics are desirable for a culture conducive to TQM in an organization.

1. Introduction

Over the last two decades many companies around the world has been implementing Total Quality Management (TQM), or Continuous Improvement (CI), as a way to enhance their competitive edge in the global market. While there have been some successful stories reported, most companies have not received the expected benefits from this effort. In fact, research indicates that two out of three TQM implementations fail. Research has suggested many possible reasons for this failure. Among them, the lack of top management support is often credited as one of the primary factors attributing to the failure of the TQM implementation [20]

According to Deming, TQM is a management philosophy that requires a radical cultural change from the tradition to new management style in an organization. Since top management is responsible for the transition of the existing culture, they must accept this new concept and make the commitment to this cultural change [21]. Forsha pointed out that the personality and behavior of top management affects the acceptance of new ideas and philosophies. It is therefore, critical to understand top management personality in order to make the necessary cultural transition to implement TQM. Krumwiede et al [12] suggested the use of MBTI as a tool to identify top management personality types and behavioral characteristics. Based on Deming's well-known 14 points, they developed a theoretical base to associate certain top management personality and leadership style with the development of TQM culture. For example, the success of TQM implementation advocates top management's long term vision, commitment to creativity and innovation, and support for employee's training. The understanding of top management personality provides useful information for current management in adjusting its behavior to that necessary for successful TQM implementation.

From the aspect of international management, another important factor to the TQM implementation is the impact of national cultural difference. As management personality and leadership style is culture dependent, the TQM practice

is expected to vary in a different cultural environment. Several studies have found that cultural differences could affect the effectiveness of the TQM implementation in different countries [4][7][9]. Companies are finding improvement programs easily implemented in one country could be encountered with strong resistance in other countries. Considering the increasing level of internationalization in business world, managers undoubtedly are more likely to be responsible for quality improvement on global operations. The understanding of cultural difference and its impact on top management personality and TQM practices is necessary for effective global operations. The fit of national culture and TQM practices definitely becomes an increasingly important issue in international management.

The purpose of this study is to investigate the effects of top management personality on the implementation of TQM across two very diverse cultures, Taiwan and USA. We use the Myers Briggs Type Indicator (MBTI) to classify top management personality types. Surveys are then performed to study the relationship between the top management personality and TQM practices in these two countries. Specifically, we seek to answer the following two questions:

- (1) How do top management personality and leadership style affect the TQM practices and success in both Taiwan and USA?
- (2) How would the national culture affect, through the differences in top management personality and leadership style, the TQM practices and success?

This paper is organized into five sections, the first of which is this introduction. Section 2 provides a literature review on (1) the implications of cultural differences to TQM implementation, and (2) the association of the MBTI with top management personality and TQM practices. In Section 3, the research design and methodologies are presented. We will describe the survey questionnaires, sampling process, and the statistical methodologies applied in this study. Section 4 reports the statistical results from both countries. We conclude in Section 5 with a summary of findings and conclusions.

2. LITERATURE REVIEW

2.1 National Culture and TQM Implementation

National culture could very much affect the attitudes and behavior of workers [8]. As the TQM philosophy begin to be implemented at different countries, it is expected that management would face different challenges. Shadur [16] studies Australia firms and confirms the effects of national culture on TQM implementation. Knotts and Tomlin [10] found that certain aspects of TQM philosophy such as worker participation needs to be carefully implemented in Mexico plants. Dobbins [6]) suggests that the international companies must adapt the TQM process to the host country culture.

Hofstede [8] surveyed managers across 70 countries and proposed four cultural dimensions to study how workers perceive and conduct business in different countries. These four dimensions are power distance, uncertainty avoidance, individualism, and masculinity. In light of these four dimensions, many studies have then analyzed the fitness of TQM adoption with specific culture. Overall the literature suggest the adoption of TQM to be consistent with a culture having a higher level of power distance, collectivism, femininity, uncertainty avoidance. Theoretically, the fit between TQM philosophies and national culture could be used to explain the resistance to TQM adoption and results in certain countries.

Other than these four dimensions, we believe that top management personality and leadership behavior in different culture is an important factor to consider in implementing TQM philosophy. For instance, Japanese management displays very different leadership style from American management. Many studies have credited the success of TQM implementation in Japan to its management style [9]. As previously discussed, top management personality is likely to affect their leadership. Therefore, this study intends to investigate how would top management in different countries affect the TQM practice and success

2.2 MBTI and TQM Implementation

During 1930s, Myers and Briggs developed a psychological instrument, known as the Myers-Briggs Type Indicator (MBTI) to measure and categorize the personality of individuals. Since its development, MBTI has been extensively used in industry as a valid and effective tool to explain management's personality characteristics as related to its leadership style [14][18][19]. The MBTI produces four preference groups and a total of sixteen different personality types. The preference describes how an individual is motivated, thinks, and acts. The intention of MBTI is to establish individual preferences and then promote a more constructive use of the differences among people. Table 1 provides a brief review of categories and associated preferences.

Table 1. Myers-Briggs Type Indicator (MBTI) Preferences and Types

| Four Preferences Categories that Make up a Person's Personality Type The Person Is | |
|---|---|
| Either Or: | |
| EXTROVERTED (E) This person prefers the outer world of actions, objects and other people. | INTROVERTED (I) This person prefers the inner world of concepts and ideas. |
| SENSING (S) This person prefers the immediate, real practical facts or experiences of life. | INTUITING (N) This person prefers the possibilities, relationships and meanings of experiences. |
| THINKING (T) This person prefers to objectively and impersonally consider causes of events and where decisions may lead. | FEELING (F) This person prefers to subjectively and personally weighted values of choices and how they matter to others. |
| JUDGING (J) This person prefers a decisive, planned and orderly way, aiming to regulate and control events. | PERCEIVING (P) This person prefers to live in a spontaneous, flexible way, aiming to understand life and adapting to it. |

Resource: Lawrence [13]

To determine an individual's personality, each individual is assigned a score for each preference throughout the personality survey. The top choice within each group becomes the assigned preference associated with that person. Once preferences from each group are determined, they are combined to determine that individual's personality type (i.e., ESTJ, INFP, etc.)

In the MBTI, each of the preferences within each grouping is associated with leadership characteristics. The combination of four preferences forms personality types that may or may not be consistent with the characteristics associated with TQM implementation [12]. For instance, the two preferences of the second grouping, Sensing (S) and Intuitive (N), reflect either short- or long-term commitment from top management. Top management personality types made up of an "N" are consistent with long-term commitment to goals and objectives of a corporation since they value new ideas and challenges, seeing them as opportunities to be pursued from a long-term perspective.

In considering the S/N category, 66% of top managers have personality types that contain an S from the S/N preference category of the Jungian typology. Top managers with preferences containing an N represents 34% [1]. This two-thirds (2/3) fraction is interesting as it also represents the percentage of firms that report TQM failure in their organization [2].

Previous studies have suggested the use of the MBTI for various management purposes. Moore [14] reported using the MBTI to facilitate activities such as team building, career planning, improving customer service, and analyzing troublesome behavior among employees. All of these activities are necessary to the implementation of TQM. Mills, Robey, and Smith [11] studied the personality of project managers using MBTI. They found specific personality types, ESTJ and ISTJ, to be associated with traditional managers who would be hard-nosed and insensitive to workers' needs. They are very goal-oriented and tend to be impatient with any ideas that would slow down the progress toward their goals. Moro[3] found the relationship between top management personality types and decision making style. For instance, managers with the combined preferences "Sensitive (S) – Feeling (F)" tends to seek consensus from the group forming decisions. Krumwiede et al [12] discussed the theoretical relationship between top

management personality and TQM implementation using MBTI. They suggested that the understanding of personality types, by means of MBTI, could help adjust top management behavior to that necessary for successful TQM implementation. However, no empirical evidence is offered to verify the use of MBTI in TQM environment.

Overall, previous research supported the application of MBTI to the field of management even though no specific case found in TQM implementation. Kroeger and Thuesen [11] found that two thirds of all top managers in the United States have the personality types, ISTJ and ESTJ, which are contradictory to those behavior characteristics required to implement TQM. This may be one of the reasons for the high rate of TQM failure. This study utilizes MBTI to study the effects of top management personality on TQM implementation across Taiwan and USA. The next section describes the research design and statistical methods used.

3. Research Methodology

3.1 Research Hypothesis

In this study, S/N preference set of the MBTI is used to test the relationship between top management and TQM implementation due to its link to long and short term corporate commitment or strategic planning. The implementation of Deming's philosophical approach to quality management requires a long-term goal setting (Briggs and Myers 1993). N preference top managers do not rely primarily on quarterly results to establish long term objectives (Lawrence 1993). It would appear then that an MBTI N-preference top manager should create a corporate culture/environment conducive to Deming's philosophy. Consequently, the following two hypotheses are tested.

H₁: The (N) MBTI preference from the S/N preference will be statistically significant in organizations in Taiwan that actively create a culture of TQM when considering the entire population of N's surveyed.

H₂: The (N) MBTI preference from the S/ N preference will be statistically significant in organizations in USA that actively create a culture of TQM when considering the top 20 to 25% of the population of N's surveyed.

3.2 The Tamimi/Gershon Questionnaire

A survey tool developed by Tamimi and Gershon and translated into traditional Mandarin (to be referenced in this study as the MT/G) was used to measure the specific organizational characteristics of the top managers' companies in Taiwan that participated in the study. Meanwhile, the English version of Tamimi/Gershon (ET/G) questionnaire was used to survey top managers in the States. Both ET/G and MT/G survey tool consists of a set of 50 questions which assess an organization's environment based on the degree to which Deming's 14 Principles are being utilized or operationalized.

Tamimi and Gershon [18] developed and tested their T/G questionnaire for test-retest reliability and validity and the translated version was given to over ten professional individuals to validate the translation. The questionnaire generally has scales with coefficient alphas that are acceptable for experimental research [3][5]. Tamimi and Gershon performed content validity tests on their T/G questionnaire by interviewing qualified professionals in the field and found that their questionnaire adequately captured the responses of those surveyed.

The MT/G and ET/G were enclosed in the packet mailed to top managers. These top managers were asked to respond to questions indicating agreement or lack of agreement with the 50 questions. A 5-point Likert scale was used for each question.

3.3. Survey

The top managers, from companies in Taiwan from different industries, market segments and from firms with different company demographics were provided with a survey packet. The survey packet was based on survey methodologies documented in Dillman [5]. This survey packet was provided to all top managers in traditional Mandarin Language formatted. The packet had a cover letter to inform the respondents as to the importance of the research and the need for their diligent response. The letter also addressed the importance of sincerity in filling out the enclosed surveys. A set of instructions for completing the enclosed surveys was provided to obtain consistent data from all participants. Also included in the packet was the traditional Mandarin version of the MBTI survey the Tamimi/Gershon (T/G) Survey translated into Mandarin as well as an Organizational Survey written in Traditional Mandarin containing additional questions pertaining to company demographics. Pre-paid self addressed envelopes were provided for ease of return. Similar process was followed to the survey in the States.

Sample Mandarin Management Survey

| # | Statement | Not at all True | Slightly True | Somewhat True | Mostly True | Completely True |
|----|--|--------------------|------------------|------------------|----------------|--------------------|
| 1 | Top management makes long-term plans. | 1 | 2 | 3 | 4 | 5 |
| 2 | Top management provides for research and development. | 1 | 2 | 3 | 4 | 5 |
| 3 | Top management provides for new technology. | 1 | 2 | 3 | 4 | 5 |
| 4 | Top management promotes employee training/education. | 1 | 2 | 3 | 4 | 5 |
| 5 | Top management is committed to quality improvement as a way to increase profits. | 1 | 2 | 3 | 4 | 5 |
| • | • | • | • | • | • | • |
| • | • | • | • | • | • | • |
| • | • | • | • | • | • | • |
| 48 | Top management takes action towards executing its quality improvement policies. | 1 | 2 | 3 | 4 | 5 |
| 49 | Top management makes its quality improvement policies visible to all employees. | 1 | 2 | 3 | 4 | 5 |
| 50 | Top management relies on internal or external consultants to implement its quality improvement policies. | 1 | 2 | 3 | 4 | 5 |

Figure 1. Example Questions from Tamimi/Gershon Survey

4. Statistical Results

151 surveys were sent via the Taiwanese mail system. Eighty-seven subjects responded providing 57% return rate. This return rate was substantially higher than the 23% return rate that the U.S. study obtained and the expected rate of 20%. Of the 87 respondents, 75 or 86% of the top managers had the (S) preference and 12 or 14% of top managers had the (N) preference as shown in exhibit 4. This finding is different than the U.S. study where 66% of the top managers were S's and 33% were N's. It should be noted that the S/N ratio reported in the U.S. study is consistent with the findings of Myers and McCaulley [15] for U.S. top managers. The median size of the responding organizations was 60 employees. Table 2 also demonstrates that overall there were more ESTJ top managers in Taiwan than in the United States.

The same method of statistical analysis was used to obtain results as those used for the U.S. study performed by Krumwiede and Lavelle [12]. Once again, two statistical techniques were used to decipher results of the two hypotheses for this research. Principal Component Analysis was employed to reduce the outcome variables of the Mandarin Version of the Management Survey to one overall outcome rather than 14 outcomes. In other words, Principal Component Analysis was used to group the high number of dependent variables (i.e. Deming's 14 points) into the single response variable for the Taiwanese dataset. Table 3, which illustrates the Principal Component results, shows that there was no significance in top manager S/N characteristic and TQM environment score for the component called Overall Deming Score at a level of significance of 0.05 for the Taiwanese dataset. As with the U.S. study, this principal component represented approximately 40% of the variation in the response variables. This table also illustrates the U.S. study results and reveals similar findings for both countries.

As with the U.S. study and consistent with hypothesis H₂, further investigation involving the strength of the personality preferences S and N was conducted. Using approximately the strongest 20 to 25% of each of the (S) and (N) "strength of

preference” data points from the top manager dataset (this group was composed of approximately 3 top managers) the ANOVA was re-run. In this iteration a marginal statistical difference between managers with a (S) preference and those with a (N) preference emerged in the Taiwanese dataset. Even though the sample size is small, this finding was marginally consistent with the U.S. study indicating that N-preference managers in this test were potentially associated with organizations whose environment is conducive to TQM success. Table 4 illustrates the test statistics at the 0.05 significant level.

Table 2. List of Preference Percentages Based on the MBTI.

| Preference | Frequency | | Percentage | | |
|------------|-----------|---------------|------------|---------------|-----------------------------|
| | Taiwan | United States | Taiwan | United States | % Difference Taiwan to U.S. |
| E | 54 | 60 | 62.1 | 54.1 | 8.0 |
| I | 33 | 51 | 37.9 | 45.9 | -8.0 |
| S | 75 | 73 | 86.2 | 65.8 | 20.4 |
| N | 12 | 38 | 13.8 | 34.2 | -20.4 |
| T | 85 | 96 | 97.7 | 86.5 | 11.2 |
| F | 2 | 15 | 2.3 | 13.5 | -11.2 |
| J | 83 | 74 | 95.4 | 66.7 | 28.7 |
| P | 4 | 37 | 4.6 | 33.3 | -28.7 |

Taiwan, n=87 top managers who accurately responded to the Mandarin Version of the MBTI

United States, n=111, top managers who actually, accurately responded to the English version of the MBTI.

Table 3. Difference Between (S) and (N) Preference of Taiwanese and United States Top Managers Using Principal Component called Overall Deming Score

| Country | Dependent Variable | p-value (Statistic F) | | Conclusion |
|---------------|----------------------|-----------------------|-------|---------------|
| Taiwan | Overall Deming Score | .67 | (.18) | No Difference |
| United States | Overall Deming Score | .59 | (.20) | No Difference |

Taiwan, n=87 managers who responded accurately to the surveys.

United States, n=108, managers who responded accurately to the surveys.

Table 4. Difference Between (S) and (N) Preference Top Managers of Taiwan and the United States Using Principal Component called Overall Deming Score

| Country | Dependent Variable | p-value (Statistic F) | | Conclusion |
|---------------|----------------------|-----------------------|--------|------------------------------------|
| Taiwan | Overall Deming Score | .08 | (3.29) | Marginally Significantly Different |
| United States | Overall Deming Score | .05 | (2.08) | Significantly Differently |

Taiwan, n=12 managers from the top 25% of the S and N preferences

United States, n=21 managers from the top 20% of the S and N preferences.

Company size was analyzed to determine if there was a difference between small and large companies as they relate to

TQM implementation. There was no statistical significance based on company size (number of employees) in this study. Gender of the top manager for both the U.S. study and this study was not analyzed as the number of responding female top managers was too few for statistical comparison.

5. CONCLUSION

The top manager is the most important single entity to the implementation of cultural and philosophical changes within an organization. Therefore, it appears that if a TQM philosophy of management is desired in an organization, the abilities, talents, and personalities of top managers need to be taken into consideration.

This study has marginally supported the U.S. study (Krumwiede and Lavelle 1999) that indicates top managers who have a strong MBTI measured N-preference can be statistically associated with organizational environments that exhibit characteristics conducive to TQM. These N-preference top managers are more apt to look long-term in their planning, will continually considering new possibilities or opportunities rather than accepting status quo, will try new venues, and will be more likely to have a flexible structure in their organization. All of these characteristics are desirable for a culture conducive to TQM in an organization.

As with the the U.S. study, it must be noted that the authors are not interpreting the results to suggest that top managers with an (S) preference are incapable of developing a culture conducive to success in TQM. It would appear however that those S-preference top managers trying to implement such a philosophy should, if possible, attempt to emulate, or shadow, some of the characteristics of the N-preference top manager. This should improve the success of efforts to implement TQM as a philosophy.

A better understanding of top managers will aid middle managers in effectively communicating with such people. Also, middle managers, or any persons involved with the selection process for a top manager should find this study informative. This study does not suggest that a top manager should or can be hired based on personality, it does indicate however that the selection process could include questions that would be based on those characteristics desirable of an N-preference manager. If the S-preference candidate can effectively answer those questions, they are capable of shadowing the N-preference desirable characteristics. This shadow effect makes them just as likely a candidate for the top manager's position as does the N-preference candidate. The knowledge of what is being sought after is as important as the personality preference of the candidate.

Further cross-cultural research in this area should include larger datasets across a broader area to include Japan. These enlarged and growing datasets may reveal different results and could include consideration of other personality preference types (other than just the S/N preference). The present research should reveal the potential for further study of top manager personalities and their effect on the implementation of the philosophy of TQM.

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