

DEVELOPMENT OF QUALITY IMPROVEMENT FRAMEWORK BASED ON
JAPANESE PRACTICES FOR ELECTRICAL AND ELECTRONICS
INDUSTRIES

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ABSTRAK

Pengurusan kualiti menyeluruh (*TQM*) adalah penting untuk memastikan sesebuah syarikat dapat berkembang dalam persaingan pasaran global. Kejayaan syarikat Jepun pada hari ini adalah kerana penggunaan falsafah dan amalan *TQM*. Kajian ini berkaitan tentang perbandingan amalan *TQM* di antara syarikat Jepun dan bukan Jepun di Malaysia. Soalan kaji-selidik telah disediakan dan dihantar ke 370 syarikat dan mendapat respon sebanyak 21.9%. Analisa telah dibuat untuk mencari perbezaan yang ketara dalam amalan dan kepentingan *TQM* di antara syarikat Jepun dan bukan Jepun. Keputusan kajian mendapati terdapat perbezaan yang ketara dalam amalan *TQM*. Kepimpinan pengurusan, pengukuran dan penilaian, rekabentuk produk dan latihan adalah perbezaan yang ketara dan menunjukkan kelebihan syarikat Jepun. Tiada perbezaan yang ketara dari segi persepsi kepentingan *TQM* kecuali faktor rekabentuk. Syarikat Jepun mempunyai persepsi yang tinggi terhadap faktor kepentingan pembangunan produk. Lima aktiviti kualiti yang menunjukkan amalan tertinggi adalah kumpulan kawalan kualiti (*QCC*), penambahbaikan vendor, Analisis Mod Kegagalan dan Kesan (*FMEA*), Kejuruteraan Nilai (*VE*) dan penganggaran kos kualiti. Hasil utama kajian ini adalah rangka kerja untuk Garis Panduan Penambahbaikan Kualiti (*QIG*) untuk pelaksanaan *TQM* dalam sektor industri elektrik dan elektronik di Malaysia. Kepimpinan pengurusan, kesedaran *TQM*, penyelarasan, strategi kepuasan pelanggan dan aktiviti kaizen merupakan lima bahagian utama dalam rangka kerja tersebut. Rangka kerja tersebut disokong dengan faktor kritikal kejayaan untuk memastikan kejayaan pelaksanaan *TQM*. Rangka kerja ini akan dapat membantu syarikat bagi memenuhi kepuasan pelanggan, kepuasan pekerja dan perkembangan perniagaan syarikat.

ABSTRACT

Total Quality Management (TQM) is crucial in ensuring that a company can survive in the continuously growing competition in the global market. Japanese companies are very successful today because of adoption and implementation of TQM principles. This research studies the TQM practices between the Japanese and non-Japanese electrical and electronics companies in Malaysia. Questionnaires were prepared and sent to 370 companies and the response rate was 21.9 per cent. Analyses were made to find significant difference in TQM practices and importance between Japanese and non-Japanese companies. The results showed that there are significant differences in TQM practices. Management leadership, measurement and feedback, product design and education and training showed significant difference in favor of Japanese companies. There is no significant difference in perception on the importance of TQM except for product design. Japanese companies have high perception on the importance of product development. The top five quality activities implemented are: quality control circle, supplier improvement, Failure Mode Effect Analysis (FMEA), Value Engineering (VE) and quality costing. The main outcome of this study is a proposed Quality Improvement Guidelines (QIG) framework for TQM implementation in electrical and electronics companies in Malaysia. Management leadership, TQM awareness, standardization, customer satisfaction strategies and kaizen activities are five major parts in the framework. The framework is also supported by Critical Success Factors (CSFs) to ensure the success of TQM implementation. The framework can assist companies in meeting customer satisfaction, employee satisfaction and business growth.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Research

TQM (Total Quality Management) is crucial in ensuring that a company can survive in the continuously growing competition in the global market. Continuous efforts in improving quality, productivity, cost and timely delivery can enhance their competitiveness. Japanese companies are very successful today because of the TQM principles adoption and the implementation of TQM and quality practices, which are expounded by quality gurus such as Deming, Juran, Taguchi and others. TQM is an essential element that ensures business will meet the demands of customers well into the twenty first century (Talha, 2004). Yusof (1999) views TQM as not only bringing benefit to a nation's community and employee but also to the wide range of the world's community through the provision of excellent products from excellent organization at affordable price.

The electrical and electronics sector is one of the most important industrial sector in Malaysia where it is the largest export earner, netting receipts amounting to 256 billion or 47.8% of the country's total export revenue in 2006 (Statistic Department,

January 2007). In Malaysia, electrical and electronics industrial sector consists of multi-national companies and small medium sized enterprise (SMEI). Besides local-based companies, many investors from Japan, Hong Kong, Singapore, America and Taiwan have invested in the electrical and electronics sector.

The ASEAN Free Trade Agreement (AFTA) was established in January 1992, which has opened up unlimited opportunities for co-operation in trade and investment among countries and communities. Tariff rates levied on a wide range of products traded within the region are reduced to 0-5% and it causes companies in Malaysia to face new challenges and competition from other countries and enterprises.

Malaysia has realized the importance of adopting and learning from Japan and South Korea in terms of their work-culture and technology, in its effort to become an industrialised country. The Look East Policy was adopted in 1980's with the purpose of learning from Japan and South Korea on how they have developed their industries.

The Japanese government have also contributed through the Japan/ASEAN TQM project which was established in 1995, mainly to facilitate the implementation and promotion of TQM activities in ASEAN countries including Malaysia in order to develop their industries and promote international trade (Onitsuka, 1999).

Previous studies on quality in Malaysia focuses on TQM implementation and implementing ISO in SMEs (Sohail *et al*, 2003), Thiagaragan *et al*. (2003) and Idris, *et al*, (1996)). On the other hand, previous researchers have given less attention to compare the TQM practices between Japanese and non-Japanese companies in Malaysia.

This study focus on a comparing of TQM practices between Japanese and non-Japanese electrical and electronic companies in Malaysia. This study will also develop recommendation for Quality Improvement Guideline (QIG) for companies to improve their TQM practices in order to compete in the global market. This research will help top management, consultants, managers of a company and also government by providing a

QIG framework for improving TQM practices in electrical and electronic companies in Malaysia. This research is important as a short cut for the companies to compete and survive in the global market. Indirectly, it will contribute to the increasing of Malaysia export earnings and competitiveness among the region.

1.2 Problem statement

The research questions for this study are as follows:

1. Are there significant differences in perception on the importance of TQM between Japanese companies and non-Japanese companies?
2. Are there any significant differences in terms of TQM practices between Japanese and non-Japanese companies?
3. What are the differences of quality practices between them?
4. Are there any significant differences between the importance and practices of TQM practices in Japanese companies?
5. Are there any significant differences between the importance and practices of TQM practices in non-Japanese companies?
6. What are quality practices which contribute to excellent TQM practices in Japanese companies?

1.3 Objective of the Research

The main objective of this research is to develop Quality Improvement Guideline (QIG) framework for companies to improve their TQM practices based on Japanese companies TQM practices to guide local companies to compete in the global market. This research will help top management, consultants and managers of organizations providing a guideline for improving TQM practices in electrical and electronics companies in Malaysia.

1.4 Importance of This Research

In order to survive in the global market with intense competition among regions and enterprises, the adoption of TQM practices is essential to ensure business excellence. Many non-Japanese companies particularly Malaysian companies are still in the initial stage of TQM implementation and they need guidance to compete with other long-term established Japanese companies (Eng and Yusof, 2003).

This research attempts to determine the weaknesses of non-Japanese companies in their TQM practices as compared to Japanese companies.

1.5 Scope of the research

1. This research will focus on TQM practices in Japanese and non-Japanese electric and electronic companies in Malaysia.
2. The research will be confined to the top managers of quality department.
3. Respondent of this survey are Japanese companies and non-Japanese companies, which have more than 50 employees and above.

1.6 Layout of Thesis

This research thesis is organized into seven chapters:

1. Chapter 1 : Introduction
2. Chapter 2 : Literature Review
3. Chapter 3 : Research Methodology
4. Chapter 4 : Result And Analysis
5. Chapter 5 : Case Study Result
6. Chapter 6 : Quality Improvement Guideline Framework Implementation
7. Chapter 7 : Conclusion and Recommendations

Chapter 1 describes the background of research, problem statement, purpose of the research, importance of the research, scope the research and layout of the thesis.

Chapter 2 presents a review of the literature to understand the issues and formulate the research problems. The review covers definition of quality, Total Quality Management (TQM), Critical Success Factors (CSFs), TQM in Malaysia and quality practices.

Chapter 3 describes the research methodology employed in conducting the study. Two main approaches are adopted, survey and case study. The survey method is used to determine the perception and practices of TQM level in Japanese and non-Japanese companies. Questionnaires are developed in order to obtain data on TQM and quality practices level in Japanese and non-Japanese companies. The case study results will be used to find out problems faced in implementing TQM and quality practices.

Chapter 4 presents the results and findings from the survey by using SPSS software, data were processed to determine frequency analysis, Cronbach's alpha, factor analysis techniques, mean rank and t-test. This chapter explained the results were relevant to the research questions. The results and findings will be used in the case study and to develop the Quality Improvement Guideline (QIG).

Chapter 5 presents the case study results regarding details on the problems faced in implementing TQM, the application of TQM and procedure in implementing TQM. One company have been selected from the survey as a case study. Results and findings from the case study will be used to develop Quality Improvement Guideline (QIG).

Chapter 6 presents Quality Improvement Guideline (QIG) for a company to implement TQM and quality practices in Malaysia based on Japanese companies approach.

Chapter 7 presents the conclusions of this study. The report culminates with some suggestions and discussions for future research. It also presents the limitation of the study.

1.7 Conclusion

This study focused on comparing of TQM practices between Japanese and non-Japanese electrical and electronic companies in Malaysia and development of quality improvement framework. This chapter has described the overview of the research introduction, objective and importance.

REFERENCES

- Ahire, S.L., Waller, M.A., and Golhar, D.Y. (1996). Quality Management in TQM versus non-TQM firms: An Empirical Investigation. *International Journal of Quality and Reliability Management*. 13(8), 8-27.
- Abdullah, A.R. (1993). *TQM in The Public Sector Towards Continuous Improvement in Quality Management : Human Resource Development for Quality & Competitiveness in the Global Era*. MAMPU, Prime Minister Department.
- Ahmed, S., Hassan, M. (2003). Survey and case investigation on application of quality management tools and technique in SMIs. *International Journal of Quality and Reliability Management*. 20(7), 795-826.
- Azizan, B. (2007). *Sistem Pengurusan Kualiti*. Malaysia: Prentice-Hall.
- Besterfield, D.H. (2004). *Quality Control*. USA: Prentice-Hall.
- Berry, T.H. (1991). *Managing Total Quality Transformation*. New York: McGraw-Hill Book Company.
- Black, S.A. and Porter, L.J. (1996). Identification of the Critical Success Factors of Quality Management. *Decision Sciences*. 27(1), 1-21.
- BS7850 (1992): *Part 1. Total Quality Management. Guide To Management Principle*: British Standard Institution.
- Cooper, Donald R. and Schindler, Pamela S. (2001). *Business Research Method*. New

York:McGraw-Hill International Edition.

- Chang, Tsung-Sang.(2002). *Six Sigma: A Framework for Small and Medium-Sized Enterprises to Achieve Total Quality*. Cleveland State University: Published PhD Dissertation.
- Dahlgaard, J.J., Kristensen, K., Kanji, G.K., Juhl, H.J. and Sohal, A.S.(1998). Quality Management Practices:a comparative study between East and West. *International Journal of Quality & Reliability Management*. 15(8/9), 812-826.
- Dale, B.G.(1994). *Managing Quality*. London: Prentice Hall.
- Damanpour, S.M.P.(1988). The impact culture on management: a comparison of Japanese versus US management. *Advances in competitiveness research*. 6(1), 39-57.
- Dyer, J.(1996). Does governance matter? Keiretsu alliances and asset specificity as source of Japanese competitive advantage. *Organization Science*. 7(6), 649-666.
- Deming, W.E.(1986). *Quality, Productivity and Competitive Position*:MIT Press.
- Eng, Q.E and Yusof, S.M.(2003). A survey Of TQM Practices In The Malaysian Electrical And Electronic Industry. *Total Quality Management*. 14(1), 63-77.
- Eisenhardt, K.M.(1989). Building theories from case study research. *Academy of Management Review*. 14(4), 532-50.
- Feigenbaum, A.V.(1986). *Total Quality Control*. Singapore: McGRAW-HILL.
- Foster, S.T.(1991). *Managing Quality*. USA:Prentice-Hall.

- Garvin, A.G. (1988). *Managing Quality*. New York : The Free Press.
- Gevirtz, Charles.(1994). *Developing New Products with TQM*. USA: McGraw-Hill, Inc.
- Hashim, Mohd Khairuddin and Wafa, Syed Azizi.(2002). *Small and Medium Sized Enterprises in Malaysia*. Malaysia: Prentice Hall.
- Huck, Schuyler W. and Cormier, William H.(1995). *Reading Statistic and Research*. second edition. New York. Harper Collins Publisher Inc.
- Hosotani, K.(1992). *Japanese Quality Concept*. New York: Quality Resource.
- Idris, M.A.,McEwan W. and Belavendram N.(1996). The adoption of ISO9000 and total quality management in Malaysia. *The TQM magazine*. 8(5), 65-68.
- Imai, M.(1997). *Gemba Kaizen: a common sense, low-cost approach to management. International Edition 2001*. McGraw-Hill: Singapore.
- Inokuchi, S.(2006). From knowledge engineering to Kansei engineering-a study on musicperformance. 4th IEEE International Workshop. 7 Jul 1995. Tokyo.7 - 14.
- Ishikawa, K.(1995). *What is Total Quality Management*. USA: Prentice-Hall.
- ISO 8402. *Part 1: Quality Vocabulary. International terms*: British Standard Institution.
- Juran, J.M.(1998). *Juran's Quality Handbook*. Singapore: McGRAW-HILL.
- Juran, J.M., Gryna,F.M.(1993). *Quality Planning and Analysis*. 3rd.ed. McGraw-Hill Book Company: Singapore.

- Jeffrey, K.T.(2005). *The Toyota way, 14 Management Principles From the World's Greatest Manufacturer*.USA: McGraw-Hill Book.
- Kanji, G.K.(1990). Total Quality Management: The Second Industrial Revolution. *TQM*, 1(1),3-12.
- Kanji G.K. & Tambi A.M.(1998). Total Quality Management and Higher Education in Malaysia. *Total Quality Management*. 9 (4/5), 130-132.
- Khaliq, A.A.(1996). Quality Management Foundation, An Agenda for Islamization of Management Knowledge. Malaysian Management Review. *Malaysian Institute of Management*. 31(1), 10-20.
- Kanuk and Berenson (2005).Mails Survey and Response Rate. *The Journal of Marketing Research*. American Marketing Association. 30(1), 450.
- Kondo, Y.(1969). Internal Quality Control Audit In Japanese Companies. *Quality*. 10(4), 97-103.
- Kuang, K.H.(2004).*Quality improvement and management*. Kuala Lumpur. FMM.
- Lee, C.C., Lee, T.S. and Chang, C.(2001). Quality/productivity practices and Company performance in China. *International Journal of Quality & Reliability Management*. 18(6), 604-625.
- Leonard, Denis and McAdam, Rodney.(2003). An Evaluative Framework for TQM Dynamics in Organizations. *International Journal of Operation and Production Management*. 23(6), 652-677.
- Li, J.H. Anderson, A.R. and Harrison, R.T.(2003). Total quality management principles and practices in China. *International Journal of Quality & Reliability Management*.

20(9), 1026-1050.

Malaysian Government. Malaysia Export.

<http://www.statistic.gov.my>, 15th February 2005.

Maheswari, S.K. and Zhao, X. (1994). Benchmarking Quality Management Practices in India. *Benchmarking for Quality Management and Technology*. 1(2), 5-23.

Mark, W.M.(1999). Cultivating a quality mind-set. *Total Quality Management*. 10(4/5), 662.

Mizuno, S.(1967). *Execution Of Internal Quality Control Audit. Hinsicu Kanri*. (18), 835-839.

Monden, Y.(1993). *The Toyota Management System. Portland: Productivity Press*.

Motwani, J.G., Mahmoud,E. and Rice, G.(1994). Quality practices of India organizations. *International Journal of Quality and Reliability Management*. 11(1), 38-52.

Najmi, Monoochehr and Kehoe, Dennis F.(2000). An integrated framework for post ISO 9000 quality development. *Integrated Journal of Quality and Reliability Management*. 17(3), 226-258.

Nakamura, K., Husudo, Z.A. and Hadiwijoyo U.M.(2001). *Management Comparison and Localization*. 1(3), 100-115.

Naser,K.,Karbhari, Y., Mokhtar,M.Z.(2004). *Emerld Group Publishing limited*. 19(4), 509-516.

- Nunnally, Jum C.(1978). *Psychometric Theory*. McGraw-Hill: New York.
- Oakland, J.S.(2003). *TQM*. UK: Butterworth Heinemann.
- Onitsuka,T.(1999). Japan/ASEAN TQM Project. *The TQM Megazine*. 11(1), 41-48.
- Ong, P.N.(1996). *TQM in Siemens : A Case Study. Unpublished Undergraduate Project Paper*. Kuala Lumpur: University of Malaya.
- Othman, S.(1995). *Quality and Productivity*. Malaysia. Institute of Islamic Understanding Islam (IKIM).
- Quazi,H.A., Padibjo, S.R.(1997). ISO certification – a Singapore experience. *The TQM Magazine*. (9/5), 364–371.
- Riege, Andreas M.(2003). Validity and reliability test in case study research: a literature review with “hands-on” applications for each research phase. *Qualitative Market Research: An International Journal*. (6/2), 75-86.
- Saraph, J.V., Benson,P.J., and Schroeder,R.G.(1989). An Instrument for Measuring the Critical Factors of Quality Management. *Decision Sciences*. 20(4), 810-829.
- Sohail, M. Sadiq and Hong, Teo Boon.(2003). TQM practices and organizational performances of SMEs in Malaysia: some empirical observation. *Benchmarking and International Journal*. 10(1), 37-53.
- Sohal, S.A.(1998). Assessing manufacturing/quality practices culture and practices in Asian companies. *International Journal of Quality & Reliability Management*. 15(8/9), 920-930.

Talha, M.(2004). Total Quality Management (TQM). *Total Quality Management (TQM): an overview*. Emerald Group Publishing limited. 17(1), 15-19.

Thiagaragan, T., Zairi, M., and Dale, B.G.(2001). A proposed model of TQM implementation based on an empirical study of Malaysian industries. *International journal of quality and reliability management*. 18(3), 289-306.

Toyota Homepage.

<http://www.Toyota.com>, 25th February 2008.

Yusof, S.M.(1999). Critical Review of Total Quality Management. *Fakulti Kejuruteraan Mekanikal*. 2(8), 54-74.

Yusof, S.M. and Aspinwall, E.M.(1999). Critical Success Factors for Total Quality Management Implementation in small and Medium Enterprises. *Total Quality Management*. 10(4&5), 803-809.

Reichheld, F. (1996). *The Loyalty Effect*. Boston Harvard Business School Press.

Scipioni, A., Arena, F., Villa, M., Saccarola, G.(2001). *Integration of management systems*. *Environmental Management and Health*. 12 (2), 134-145.

Watanabe, I.(1999). *World Class Management Practice: Enduring Methods For Competitive Success*. Crisp Publication.

Weiers, Ronald M.(2002). *Introduction to Business Statistics*. 4th edition. Belmont. CA: Duxbury Thomson Learning.

Yin, Robert K.(1984). *Case Study Research: Design and Methods*. Beverly Hills: Sage

Publications, Inc.

Yin, Robert K.(1993). *Applications of case study research: Applied social research method series*. Newbury Park: Sage Publications, Inc.

Yin, Robert K.(1997). *The Abridged Version of Case study Research: Design and Method*.

Yusof, Sha'ri Mohd, (2000a). *Development of a framework for TQM implementation in Small Business*. Unpublished Ph.D. thesis, University of Birmingham, UK.

Zairi, M.(1991). *Total Quality Management For Engineers*. England. Woodhead. Publishing Ltd.

Zhao, X.,Maheshwari, S.K. and Zhang, J.(1995). Benchmarking Quality Management Practices in India, China and Mexico. *Benchmarking for Quality Management & Technology*. 2(3), 20-4.

Zutshi, A. and Sohal, A.S.(2005). Integrated management system: the experiences of three Australian organisations. *Journal of Manufacturing Technology Management*. 16 (2), 211-2.