



Pergamon

Technovation 20 (2000) 539–550

technovation

www.elsevier.com/locate/technovation

The adoption of continuous improvement and innovation strategies in Australian manufacturing firms

Milé Terziovski ^{a,*}, Amrik S. Sohal ^b

^a Euro–Australian Centre for Global Innovation Management, Faculty of Business and Economics, Monash University, PO Box 197, Caulfield East, VIC 3145, Australia

^b Quality Management Research Unit, Faculty of Business and Economics, Monash University, PO Box 197, Caulfield East, VIC 3145, Australia

Received 12 August 1999; accepted 24 September 1999

Abstract

The purpose of this study was to investigate the adoption of Continuous Improvement (CI) strategies of a large random sample of Australian manufacturing firms. The study was undertaken as part of a wider international survey investigating continuous improvement practices in Australia, Denmark, Finland, Sweden, the Netherlands, and the UK. The survey was mailed to 1200 managers responsible for manufacturing organisations in Australia. A response rate of 32 per cent was obtained. The quantitative data was analysed using a Statistical Package for Social Sciences (SPSS). The data analysis revealed that the motivation to adopt CI was related to improved quality conformance, increased productivity, reduced costs, and improvement in delivery reliability. Past experiences of CI were positively correlated with the length of time the process had been in use; the breadth of its application; the percentage of employees actively involved in the program (for operators and non-operators) and training in problem solving. Therefore, the critical implication for managers is that future management development initiatives need to include strategies to assist managers with their understanding of the potential benefits of the CI process, based on “soft” management practices. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Continuous Improvements; Innovation; Manufacturing; Australia

1. Introduction

1.1. Background

Organisations can build competitive advantage through superior manufacturing or service delivery, but sustaining the competitive advantage over time requires comparable skills in developing a continual stream of new products and services. The increasing pace of technological change and the accelerating globalisation of business has meant that competitive advantage for many corporations now lies in their ability to effectively

implement on-going product, service, and process innovations. As product innovation cycles become shorter and more frequent, and innovation becomes a dominant strategic weapon, companies will be forced to exploit synergies between products, services and processes. As product innovation is a knowledge-based process, this requires mastering the overall process of knowledge creation, dissemination and application. This progressive accumulation and sharing of knowledge fosters the process of organisational learning that is the essential engine for the continuous improvement process. Hence, long term competitiveness is increasingly dependent on how well a company can continuously improve its product development capabilities by fostering organisational learning and utilising individual and group knowledge within the company.

1.2. The continuous improvement concept

The continuous improvement concept is driven by the Deming Cycle (Evans and Lindsay, 1999) and the

* Corresponding author.

E-mail address: mile.terziovski@buseco.monash.edu.au (M. Terziovski).

¹Present address: Euro-Australian Cooperation Centre—Melbourne and Senior Lecturer, Department of Management, Faculty of Economics and Commerce, University of Melbourne, Royal Parade, Parkville, Victoria 3052, Australia.

Kaizen concept (Imai, 1986). This is a methodology for continuous improvement, composed of four stages: Plan, Do, Check, and Act. The Plan stage consists of studying the current situation, gathering data and planning for improvement. In the Do stage, the plan is implemented on a trial basis. The Check stage is designed to determine if the trial plan is working correctly and if any further problems or opportunities are found (Imai, 1986). The last stage, Act, is the implementation of the final plan to ensure that the improvements will be standardised and practiced continuously. This leads back to the Plan stage for further diagnosis and improvement.

Imai's best selling book, *Kaizen: The Key to Japan's Competitive Success* (Imai, 1986) shows how the original Western concepts have been adapted to the Japanese culture to provide the key to Japan's post war success. As a direct consequence of the Total Quality Control (TQC) philosophy (Feigenbaum, 1983), Kaizen (continuous improvement) strategy has a large-scale participatory dimension by all employees in an organisation. This participatory dimension is not entirely new (Merli, 1990). Western authors such as Likert (1967) had already formulated participatory management before it developed in Japan. However, Likert's participatory management theory is one example. Kaizen is more strongly oriented towards continuous improvement than towards management. Imai (1986) broadly described the Kaizen strategy to include concepts, systems, and tools within the bigger picture of leadership involvement and people culture — all driven by the customer. Imai (1986, p. 3) defined Kaizen as follows:

The essence of Kaizen is simple and straightforward: Kaizen means improvement. Moreover, Kaizen means ongoing improvement involving everyone, including both managers and workers.

The outcome of the Kaizen Strategy are improvements in Quality, Cost, and Delivery. The underlying principle of the Kaizen strategy is the recognition that management must seek to satisfy the customer and serve customer needs if it is to stay in business and make a profit. Improvements in such areas as quality, cost, and scheduling (meeting volume and delivery requirements) are essential. Kaizen is a customer-driven strategy for continuous improvement. Therefore, it is assumed that all Kaizen activities should eventually lead to increased customer satisfaction.

1.3. *Implementing Kaizen*

The underpinning principle of Kaizen is the use of various problem-solving tools for the identification and solution of work-based problems. The aim is for improvement to reach new "benchmarks" with every problem that is solved. To consolidate the new bench-

mark, the improvement must be standardised. In many Australian firms this standardisation has been attempted via the ISO 9000 quality systems certification. Kaizen generates process-oriented thinking (P criteria) since processes must be improved before improved results (R criteria) can be obtained. Improvement can be broken down between continuous improvement and innovation. Kaizen signifies small improvements made in the status quo as a result of ongoing efforts. On the other hand innovation involves a step-change improvement in the status quo as a result of a large investment in new technology and/or equipment.

There is one significant difference between Kaizen and Innovation. Kaizen does not necessarily call for a large investment in capital to implement the strategy. However, the Kaizen strategy does call for continuous effort and commitment from all levels of management. Thus Kaizen calls for a substantial management commitment of time and effort. Investing in Kaizen means investing in people. According to Imai (1986, p. 217) the Kaizen initiatives that have been implemented in Japan have had one key practice in common. That is, overcoming employees' resistance to change. This was achieved by addressing the following critical issues:

1. Constant effort to improve industrial relations.
2. Emphasis on training and education of employees.
3. Developing informal leaders among the workers.
4. Formation of small-group activities such as QC circles and improvement teams.
5. Support and recognition for workers' Kaizen efforts (P criteria).
6. Efforts for making the workplace a place where employees can pursue goals.
7. Bringing social life into the workplace as much as practical.
8. Training supervisors so that they can communicate better with workers and can create a more positive involvement with workers.

According to Imai (1986, p. 204). "Unless top management is determined to introduce Kaizen as a top priority, any effort to introduce Kaizen into the company will be short-lived."

This paper investigates the adoption of Continuous Improvement (CI) strategies and their impact in Australian manufacturing firms. This is the first empirical study conducted in Australia that has focussed on CI. Data was collected by means of a postal questionnaire survey that was mailed to 1200 manufacturing firms. This survey is part of a global study that has examined CI strategies in over ten countries. The Australian survey resulted in 385 responses. Our analysis focuses on the following six aspects of CI in Australian manufacturing firms:

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات