Implementation of Self-assessment Evaluation for Total Quality Management: A Case Study of Wholesale Sectors

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Abstract

A competitive strategy in wholesale sector especially in traditional trading business is very important task for sustainable business. Weaknesses of traditional wholesale sector compose of experience based business without new technology, lack of knowledge/knowhow transferring, and independent management without cluster group. The study involves shop owners as respondents and uses Total Quality Management (TQM) checklist, observational study and interview for data gathering. From the results, the researchers found that there is a big gap between traditional trade and modern trade. Also, continuous improvement, breakthrough and standardization using total quality management (TQM) play a key role as impact procedure to increase competitiveness in this sector to modern trade. The overall improvement in traditional wholesale sector based on government activities were activated and strongly improved the score in each criterion. In addition, TQM in four models of traditional wholesale sectors including Kaitsin (KK), Leng Seng (LS), Samorn Paiboon (SMP) and Khay Chuan (KC) were input using workshop, on the job training, self assessment evaluation, implementation and standardization.

Introduction

Business competitiveness is one of the most strategies to sustainable rolling management in the sector, especially in wholesale sector with high competition in both national and international trades. Total quality management (TQM) in individual private sector is a very important tool to continuously improve the long-term competitiveness and sustainability of the business. However, the weak point of TQM is that it is very complicated to implement in the individual sector. Also, the self assessment evaluation derived from awarding system; for

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example, Thailand Quality Award (TQA) has been well established and driven to overall management. TQA serves as a symbol of quality [1-5].

The development of criteria and assessment scoring system has been well investigated and implemented [6-13]. For example, a validated process of TQM related to Malcolm Baldrige National Quality Award (MBNQA) has been well implemented [8-9, 14]. However, there is no report in the wholesale sector. Overall improvement in this sector is a challenging topic. It depends on experience-based business without new technology, lack of knowledge/knowhow transferring and independent management without cluster group. The objective of this investigation is to compare the nature of wholesale sectors in Thailand and to implement the self assessment evaluation to wholesale sectors after setting the improvement program.

2. Methodology

Four modern trade and 45 traditional trade wholesale traders (15 developed traders and 30 underdeveloped traders) in Thailand were selected as sample population to pre-evaluate the score of self assessment evaluation modified from the quality award criteria (Table 1). The major evaluation criteria are composed of 1) Leadership and clustering, 2) Strategic policy, 3) Customer and marketing, 4) Information system and analysis, 5) Human resources, 6) Business management and supply chain, 7) Logistic management, 8) Safety, health/sanitation and environment, and 9) Business results. To evaluate, a range of score from 1 to 5 is utilized; 1 = Strongly weak, 2 = Weak, 3 = Neither weak nor competitive, 4 = Competitive and 5 = Strongly competitive. A wholesale scoring was collected as well as the average of score in each major and minor criteria were demonstrated. The score in each criterion were inputted to classify the group using Hierarchical Cluster Analysis in SPSS software. Then, the activities including workshop, on the job training, self assessment evaluation, implementation and standardization were lunched to the four models of traditional wholesale sectors i.e. Kaitsin (KK), Leng Seng (LS), Samorn Paiboon (SMP) and Khay Chuan (KC). The initial (1) and final implementation scores (2) in each criterion were recorded and demonstrated.

Table 1 Score levels in each major criterion for a self assessment evaluation in wholesale sector.

| Major criteria | Score |
|----------------|-------|
|                | 1     | 2     | 3     | 4     | 5     |
| 1. Leadership and clustering | | | | | |
| 1.1 Leadership and clustering | | | | | |
| 1.2 Friendly environments and corporate social responsibility | | | | | |
| 2. Strategic policy | | | | | |
| 2.1 Development of strategic policy for competitive efficiency | | | | | |
| 2.2 Implementation of strategic policy | | | | | |
| 3. Customer and marketing | | | | | |
| 3.1 Customer servicing and countermeasure for complaint | | | | | |
| 3.2 Customer relationship and satisfaction | | | | | |
| 4. Information system and analysis | | | | | |
| 4.1 Data collection, evaluation and analysis | | | | | |
| 4.2 Implementation of information system management | | | | | |
| 5. Human resource | | | | | |
| 5.1 Well organization and professional skill | | | | | |
| 5.2 Education, training and development concerning quality | | | | | |
| 5.3 Happiness, motivation and award system | | | | | |
| 5.4 Unique and innovative strategy concerning utilization of human resource as organization culture | | | | | |
| 6. Business management and supply chain | | | | | |
| 6.1 Develop and design of novel product process and servicing | | | | | |
| 6.2 Measurement, standardization and utilize information system | | | | | |
| 6.3 Innovative approach to quality assurance of product and servicing | | | | | |
| 7. Logistic management | | | | | |
### 3. Results and Discussion

Self evaluation scores in modern trade, developed traditional and under-developed wholesale traders in each criterion were compared. The scores in the 1) Leadership and clustering 2) Strategic policy 6) Business management and supply chain 8) Safety, health/sanitation and environment 9) Business results are significantly different \(p \leq 0.01\). A score in under-developed traditional sectors is lowest in all criteria when compared to developed and modern trade sectors (Table 2). Therefore, those scores in each criterion were input to make a cluster ranking. A significant result showed that modern trade is evidently separated from traditional trade in both developed and under-developed traders (Fig. 1).

#### Table 2 Score ranking evaluation of wholesale nature in Thailand.

| Major criteria                              | Modern trade | Developed traditional trade | Under developed traditional trade | ANOVA |
|---------------------------------------------|--------------|------------------------------|-----------------------------------|-------|
| 1. Leadership and clustering                | 3.38a        | 2.88ab                       | 2.09b                             | *     |
| 2. Strategic policy                         | 3.73a        | 2.85ab                       | 2.17b                             | **    |
| 3. Customer and marketing                   | 3.13         | 2.72                         | 2.14                              | NS    |
| 4. Information system and analysis          | 3.48         | 2.93                         | 2.46                              | NS    |
| 5. Human resource                           | 3.29         | 2.63                         | 2.41                              | NS    |
| 6. Business management and supply chain     | 3.72a        | 3.04ab                       | 2.21b                             | **    |
| 7. Logistic management                      | 4.07         | 3.32                         | 3.22                              | NS    |
| 8. Safety, health/sanitation and environment| 4.27a        | 2.17b                        | 2.38b                             | **    |
| 9. Results                                  | 3.39a        | 2.55b                        | 2.34b                             | **    |

NS = non significance; * = significance at \(p \leq 0.05\) (95%); ** = highly significance at \(p \leq 0.01\) (99%)

Different letters in each row represent the significant difference at \(p \leq 0.05\) and \(p \leq 0.01\).
The initial (1) and final implementation scores (2) in each criterion of Kaitsin (KK), Leng Seng (LS), Samorn Paiboon (SMP) and Khay Chuan (KC) are demonstrated in Fig 2&3. Overall improvement in each criterion of KK and LS after implementation is closely related to modern trade sector (Fig. 2). In addition, the scores of self assessment in SMP and KC improve in some criteria but are lower than those in modern trade sectors (Fig. 3).

In the education sector, the MBNQA including 1) Leadership; 2) Strategic planning; 3) Student stockholders and market focus; 4) Measurement, analysis and knowledge management; 5) Faculty and staff focus; 6) Process management; and 7) Organizational performance results have been implemented for universities in Malaysia [14]. In the municipal government in the USA, the criteria of MBNQA have also been realized [9-10]. However, the most important task in the implementation system of self assessment evaluation is adopted and validated as well as continuously improved in the target sector. Also, the wide distribution of knowledge and knowhow from the research into breakthrough and standardization will be further developed through both private sector driving force and government policy. In present study, the self assessment evaluation derived from TQA and other awards is established and implemented to a large population of wholesale traders as well as to validate the four model wholesale leaders as initial target.

In conclusion, the first step of implementation of TQM in wholesale sector is requested for independent continuous improvement, breakthrough and standardization (Fig. 4). The self assessment evaluation, on the job training, implementation and standardization play a key role as effective tool for enhancing competitiveness of traditional wholesale sector in Thailand.

***HIERARCHICAL CLUSTER ANALYSIS***

Dendrogram using Average Linkage (Within Group)

| CASE | 0 | 5 | 10 | 15 | 20 | 25 |
|------|---|---|----|----|----|----|
| Label Num | +-----------------------------+-----------------------------+-----------------------------+-----------------------------+-----------------------------+-----------------------------|
| Developed | | | | | | |
| Undeveloped | | | | | | |
| Modern Trade | | | | | | |

Fig. 1 Dendrogram of cluster ranking of wholesale sectors in Thailand using Ward’s method of Hierarchical Cluster Analysis.

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Fig. 2 Implementation of self assessment evaluation in the KK wholesale (A) and LS wholesale (B), Northeast region of Thailand with before (1) and after improvement (2) by expertise consultants for one year.
Fig. 3 Implementation of self assessment evaluation in the SMP wholesale (A) and KC wholesale (B), Southern region of Thailand with before (1) and after improvement (2) by expertise consultants for one year.
Fig. 4 Essential tasks of strategic policy for further business improvement in individual case and clustering standardization.

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