

CHAPTER VI

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

From the interview of the experts on quality management system that suit Thai telecommunication companies, the results can be concluded below:

1. Based on the assessment model of ISO 9000 (see Table 6.1)

- **Quality management** criterion is the most important compared to the other same-level criteria. **Production, problem identification and correction, vendor assurance, design and development, quality documentation, product definition** criteria are the second, third, fourth, fifth, sixth and seventh most important, respectively. **Handling and delivery** criterion is the least.

- Under quality management, **management responsibility** subcriterion is the most important among the same-level subcriteria. **Quality system and training** subcriteria are the second and the third most important, respectively. **Internal quality audit** subcriterion is the least important.

- Under product definition, **contract review** subcriterion is more important than **design input** subcriterion.

- Under design and development, **design control** subcriterion is the most important. **Design and development planning, design verification, and design changes** subcriteria are the second, third and fourth most important, respectively. **Design output** is the least.

- Under quality documentation, **document control** subcriterion is more important than **quality records** subcriterion.

- Under vendor assurance, **purchasing** subcriterion is the most important. **Receiving inspection and testing** subcriterion is the second most important. **Customer-supplied products** subcriterion is the least important.

- Under handling and delivery, **inspection and test status** subcriterion is the most important. **Handling, storage, packing and delivery** subcriterion is the second most important. **Product identification and traceability** subcriterion is the least.

- Under production, **process control** subcriterion is the most important. **Inspection, measuring and test equipment**, and **inspection and test** subcriteria are the second and third most important, respectively. **Statistical techniques** subcriterion is the least.

- Under problem identification and correction, **corrective action** subcriterion is the most important. **Servicing** subcriterion is the second most important. **Control of non-conforming product** subcriterion is the least.

2. Based on assessment model of the Baldrige Award (see Table 6.2).

- At the criterion level, **senior executive leadership** criterion is the most important. **Management of process quality**, and **quality and operational results** subcriteria are the second and third most important. **Information and analysis** subcriterion is the fourth most important as well as **strategic quality planning** subcriterion. **Customer focus and satisfaction** subcriterion is the second least important. **Human resource development and management** subcriterion is the least.

Table 6.1 Results of the 1st questionnaire

criteria	subcriteria	rank	
quality management	management responsibility	1	1
	quality system	2	
	internal quality audit	4	
	training	3	
product definition	contract review	1	7
	design input	2	
design and development	design control	1	5
	design and development planning	2	
	design output	5	
	design verification	3	
	design changes	4	
quality document.	document control	1	6
	quality records	2	
vendor assurance	purchasing	1	4
	customer-supplied product	3	
	receiving inspection and testing	2	
handling and delivery	product identification and traceability	3	8
	inspection and test status	1	
	handling, storage, packaging and - delivery	2	
production	process control	1	2
	inspection and test	3	
	inspection , measuring and test equipment	2	
	statistical techniques	4	
problem identification and correction	control of nonconforming product	3	3
	corrective action	1	
	servicing	2	

- Under senior executive leadership, **public responsibility** subcriterion is the least important. **Management for quality** subcriterion is the second least important. **Senior executive leadership** subcriterion is the most.

- Under information and analysis, **scope and management of quality and performance data and information** subcriterion is the most important. **Analysis and uses of company-level data** subcriterion is the second most important. **Competitive comparisons and benchmarks** subcriterion is the least.

- Under strategic quality planning, **strategic quality and company performance planning process** subcriterion is more important than **quality and performance plan** subcriterion.

- Under human resource development and management, **human resource management** subcriterion is the most important. **Employee education and training, employee performance and recognition, employee well-being and morale** subcriteria are the second, third and fourth most important, respectively. **Employee involvement** subcriterion is the least.

- Under management of process quality, **process management or process quality control** subcriterion is the most important. **Design and introduction of quality products and services, business process and support services, and supplier quality** subcriteria are the second, third and fourth most important, respectively.

- Under quality and operational results, **product and service quality results** subcriterion is the most important. **Company operational results and supplier quality results** subcriteria are the second and third most important, respectively. **Business process and support service results** subcriterion is the least important.

Under customer focus and satisfaction, **customer relationship management** subcriterion is the most important. **Customer satisfaction determination**, **customer satisfaction results** and **customer satisfaction comparison** subcriteria are the second, third and fourth most important, respectively. **Future requirements and expectations of customers** subcriterion is the least.

It cannot be claimed that such rankings on quality management system exactly suit Thai telecommunication industry. However, most rankings can be regarded as a good indicator, representing current trends in importance of individual quality criteria, Thai telecommunication companies should consider.

The two assessment models in this study are dynamic. The resulting weight of each criterion and subcriterion can be adjusted depending upon the changes in external and internal environment.

From the second questionnaire surveying ABC Electronic Ltd., the final results show that it is very good at process management and management leadership. It is not so strong at design and development, information and analysis, and strategic quality planning. It is comparatively bad in handling and delivery.

Nevertheless, it cannot be claimed that all of those results above are the actual strengths and weaknesses of the company. There are many other considerations to be taken into account such as the viewpoint of the President and so on.

Table 6.2 Results of the 1st questionnaire

criteria	subcriteria	rank	
senior executive leadership	senior executive leadership	1	1
	management for quality	2	
	public responsibility	3	
information and analysis	scope and management of quality and performance data and information	1	4
	competitive comparisons and benchmarks	3	
	analysis and uses of company-level data	2	
strategic quality planning	strategic quality and company performance planning process	1	4
	quality and performance plans	2	
human resource development and management	human resource management	1	7
	employee involvement	5	
	employee education and training	2	
	employee performance and recognition	3	
	employee well - being and morale	4	
management of process quality	design and introduction of quality products and services	2	2
	process management	1	
	business process and support services	3	
	supplier quality	4	
	quality assessment	5	
quality and operational results	product and service quality result	1	3
	company operational results	2	
	business process and support service results	4	
	supplier quality results	3	

Table 6.2 (next)

criteria	subcriteria	rank	
customer focus and satisfaction	customer relationship management	1	6
	customer satisfaction determination	2	
	customer satisfaction results	3	
	customer satisfaction comparison	4	
	future requirements and expectations of customers	5	

Considering the sensitivity analysis, it is evident that if several criteria (such as **production and management of process quality** criteria) are either more or less important, ABC Electronic Ltd. is still good at quality management and senior executive leadership. Moreover, the weight and score of many subcriteria (such as **management responsibility** and **senior executive leadership** subcriteria) have little effect on degree of the stability for decision-making on which issues the company is good at and bad in.

The assessment model of ISO 9000 and the Baldrige Award can work well together. ISO 9000 is a prerequisite to quality management practices standardisation; whereas, the Baldrige Award is utilised for achieving the quality improvement target.

The proposed selection system of outranking methods scopes only some widely-used outranking methods . It is not the universal system which can be utilised in all applications. Nonetheless, it behaves as a quick guide to choose the most appropriate outranking methods.

6.2 Recommendation

6.2.1 Recommendation for ABC Electronic Ltd.

The market for voice communications-the straightforward manual use of the telephone-will no longer grow significantly. By contrast, mobile communications will initially make a big splash, followed by image communications. Beyond the year 2000, multimedia communications will take over in a big way. [Berger, 1992] A company which can survive in the business must respond well to this timely and highly changing situations.

ABC Electronic Ltd. has already recognised those things. It attempts to implement TQM (total quality management) so as to not only meet the customer satisfaction, but also exceed it. It is approaching the registration process ISO 9000 in order to make its products well-known. It reorganises its office to respond the customers more quickly and efficiently.

ABC Electronic Ltd. has many strengths. However, there are some weak points which have not been improved yet or even have been improved with slow speed. The following list identifies the areas of improvement:

- Many people have been responsible for both functional and cross-functional tasks. To overcome such workload, many simple, straightforward but useful techniques such as so called reorganisation, simultaneous engineering (SE) and just-in-time (JIT) should be applied.

- More strict systems and methods for handling and delivery of products should be established.

- Experienced document writers are needed for some divisions.

- Information technology (IT) department is proposed.

6.2.2 Recommendation for further study

The following recommendations may be considered for further study in the field of quality management practice assessment:

- Since this study uses the qualitative approach, some quantitative data is not included in the results. A more in depth assessment using quantitative data to estimate value of each subcriterion and criterion is recommended.

- Due to time limitation, data collection was done with a small-size sample. More samples are to be collected to ensure the sample characteristics represents the population characteristics. Besides, the viewpoint of non-respondents should be taken into account.

- This study just developed the conceptual framework for quality management practice assessment at company level. Further studies at higher level such as industry level and national level should be done.

- A sensitivity analysis was conducted manually which required too much time. Thus, it would be more effective to develop a software program for this task.