

**PROFIT THROUGH COST OF QUALITY (COQ) IN ASSEMBLY
LINE OF MALAYSIAN SUBCONTRACTOR BASED
SEMICONDUCTOR COMPANIES IN MALAYSIA.**

A thesis submitted to the Executive Development Centre in partial
fulfillment of the requirements for the degree
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by

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FAKULTI PENGURUSAN PERNIAGAAN
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Table of contents

<u>Chapters</u>	<u>Page</u>
1.0 Introduction	1
1.1 Brief idea of the topic	
2.0 Literature review	1
2.1 Relationship between cost and quality	1
2.2 What is assembly line	2
2.3 What is IC (integrated circuit)	3
2.4 Semiconductor assembly process flow	3
2.5 What is subcontractor based semiconductor (SBSC)	7
3.0 Statement of topic	9
3.1 Total Quality Management (TQM)	9
3.2 Cost of quality (COQ)	11
3.3 Cost of quality categories	13
3.3.1 Preventive costs	13
3.3.2 Appraisal costs	14
3.3.3 Failure costs	15
3.3.4 Internal failure costs	15
3.3.5 External failure costs	16
3.4 Total COQ	16
3.5 What is COQ programs or improvement activities	17
3.6 Implementation principles and processes through COQ	17
3.7 The concept of continuous quality improvement activities in Malaysian based SBSC	19
4.0 Objectives	22
4.1 Profits through COQ	22
4.1.1 Quality from the customers' perspective	22

4.1.2	Quality from the producers' perspective	24
5.0	Methodology	25
5.1	The purpose of methodology	25
5.2	Research design	25
5.3	Research and data collection	26
5.4	Preliminary and secondary data	29
5.5	Application of data in SBSC	30
5.5.1	Principles of TQM	30
5.5.2	Tools & techniques	31
6.0	Theory application in SBSC	33
6.1	Projects	33
6.2	Profit through COQ projects in SBSC	34
6.3	Profit through COQ approach in SBSC	35
6.4	Elements involving profit through COQ	36
6.4.1	Leadership	37
6.4.2	Empowerment	38
6.4.3	The customers	38
6.4.4	Delivery	41
6.5	Measurement and metric system	41
6.5.1	Implementation of a metric system	42
6.6	Benchmarking	44
6.7	Quality circles	44
6.8	Statistical process control	45
6.9	Tools and techniques	45
6.9.1	Affinity diagram	45
6.9.2	Tree diagram	47
6.9.3	Flowchart and deployment flowchart	48
6.9.4	Pareto diagram	49
6.9.5	Cause and effect diagram	50
6.9.6	Process decision program chart	51

7.0	Analysis on SBSC	53
7.1	Obstacles and differentiation among SBSC in implementing COQ	53
7.1.1	Financial back-up	53
7.1.2	Customer base	54
7.1.3	Experience	54
7.1.4	Lack of management interest and support	55
7.1.5	Company economic conditions or status	56
7.1.6	Lack of knowledge	57
7.1.7	Did not see the benefit of COQ	58
7.1.8	Research and design	59
7.2	How will COQ help to improve profit in SBSC	60
7.2.1	Based on obstacles in chapter 6.0	60
7.2.2	Through analysis quality cost	62
7.2.2.1	By type of quality	62
7.2.2.2	By quality index	63
7.2.3	Quality improvement and role of employees	64
7.2.4	Through quality improvement tools	65
7.2.5	Actions based on facts	66
8.0	Example model of a company – Carsem profit through COQ	68
8.1	Carsem main tasks and future	68
8.2	Commitment and leadership of Carsem top management	69
8.3	Quality productivity Program (QPP) and team activities	71
8.4	Employee participative	75
8.5	Training and development	77
8.6	Benefits through COQ in Carsem semiconductor	81
8.6.1	Understand root cause	81
8.6.2	Quality improvement	82
8.6.2.1	Breakthrough improvement	83
8.6.2.2	Continuous improvement	83
8.6.3	Action based facts	85
8.6.4	Customer driven quality and satisfying customers need	87

8.6.5	Fast response and cycle time of IC units / lots	87
8.6.6	Improvement in product development	88
8.6.7	Teamwork	88
8.6.8	Measurement to quantify COQ	90
8.6.9	Respect for people and employee satisfaction	90
8.6.10	A TQM culture	90
9.0	Conclusion	91
10.0	Bibliography	92

Figures

1.	Sample of IC unit	3
2.	Assembly process flow	3
3.	Flows of activities use to achieve TQM	10
4.	Quality-cost relationship	12
5.	Profit through quality improvement activities	18
6.	Other benefits through quality improvement activities	19
7.	Two ways quality can improve profitability	22
8.	Model for improving customer satisfaction	40
9.	Affinity diagram	46
10.	Tree diagram	47
11.	Deployment flowchart	48
12.	Pareto diagram	50
13.	Cause and effect diagram	51
14.	Process decision program chart	52
15.	Lewins Force Field change	55
16.	Economic condition continuum	56
17.	P-A-F model for COQ	66
18.	Four steps model for PDCA	72

19.	Carsem logo	74
20.	Carsem QPP logo	74
21.	Carsem TPM logo	74
22.	QPP team basic steps of projects	76
23.	Ishikawa diagram – possible causes of lead frame wastage	82
24.	Changes of lead frame box phase 2	83
25.	Bar chart – monitoring results	84
26.	Pareto chart 2 nd level – selecting a team project	85
27.	Pareto chart 3 rd level - selecting a team project	86
28.	Example of self-examination chart	89

Table

1.	A contingency framework of managing quality	60
2.	Type of quality cost	63
3.	Summary of type of quality cost	63
4.	Employee involvement practices in Carsem	79

List of abbreviations

1. COQ – Cost of quality
2. SBSC – Subcontractor based semiconductor companies
3. TQM – Total Quality Management
4. IC – Integrate Circuit
5. QPP – Quality Productivity Program
6. P-A-F – Preventive – Appraisal – Failure
7. PDCA – Plan Do Check Act
8. FOL – Front of Line
9. EOL – End of Line
10. MNC – Multi National Companies
11. ISO – International Standard Organization
12. FEL – Front end loading
13. SPC – Statistical Process Control
14. NPC – National Productivity Council
15. ESS – Employee Suggestion Scheme
16. TPM – Total Productivity Maintenance
17. CIM – Computer Integrate Management
18. DOE – Design of experience
19. APQP – Advanced product quality planning
20. KOK – Kursus Orientasi Kumpulan
21. TOP – Team orientation program

Abstract

Bahasa Malaysia

Thesis ini adalah berkenaan 'Cost of quality' iaitu bagaimana kualiti kerja yang bermutu dapat menyumbang kepada peningkatan jualan dan seterusnya meningkatkan keuntungan tanpa peningkatan pada kos di syarikat-syarikat semiconductor yang beasaskan subcontractor di Malaysia. Untuk meningkatkan quality kerja dan produk, berbagai kaedah telah digunakan, antaranya memahami PAF model iaitu kaedah pencegahan, penilaian dan kaedah pengagalan. Selain itu penggunaan konsep 'Total Quality Management' mempercepatkan tujuan utama iaitu keuntungan melalui kualiti. Pada masa yang sama thesis ini juga membincangkan masalah-masalah yang di hadapi oleh sesebuah syarikat dalam memperlaksanakan 'cost of quality' dan cara mengatasinya serta langkah-langkah yang perlu diambil oleh sebuah pengurusan syarikat semiconductor untuk memperkembangkan perniagaan, keuntungan serta berada dalam kedudukan persaingan yang lebih kompetatif berbanding dengan syarikat lain.

English

This thesis is discussing about profit through cost of quality in subcontractor based semiconductor companies in Malaysia. The purpose of this thesis is to show how quality works able to increase the sales and profit without increasing the cost. In order to achieve quality works and product, many methods have been discussed. Among the methods are PAF model which is preventive, appraisal and failure and TQM approaches, which help to speed up the process of profit through cost of quality activities. There are also discussion on why many companies not able to implement COQ fully, suggestion on how to overcome the barriers, steps to implement COQ and approaches to be used in making COQ successful in semiconductor industries. This will help a company to be more competitive in market which eventually will help a company to expand their business and increase the profit margin.

1.0 Introduction

This thesis is about how a management specifically in subcontractor based semiconductor companies (SBSC) in Malaysia able to increase their profitability while reducing their operation costs. Through a proper direction and set-up by the higher level management and through team or project activities by the employees of the companies involving cost of quality (COQ) which are preventive costs, appraisal costs, internal and external failure, the SBSC able to provide excellent quality integrated circuit (IC) unit to their customers and expand their business that eventually increase profitability. During the implementation COQ process, commitment from the higher management team is very vital in order to make the profit through COQ successful. This research will mainly involved in assembly line of SBSC.

2.0 Literature review

2.1 Relationship between cost and quality

In recent years, many companies have recognized the important relationship between cost and quality. In the past, companies generally underestimated the costs of quality because they were difficult to quantify. Quality costs are now defined in two major categories: the cost of achieving good quality and the cost of poor quality. Generally when the cost dedicated in achieving good quality product increase, the costs of poor quality will decrease. Concepts about quality cost categorization are major contributions of Joseph M. Juran who introduced "Gold in the Mine", in which he likened costs resulting in defects to a gold mine in which profitability could be enhanced (*J.M. Juran 1951, Quality Control Handbook, 1st ed. New York: McGraw-Hill*). Joseph M. Juran is a pioneer in teaching the Japanese how to improve quality. Juran believes strongly in top management commitment, support and involvement in the quality efforts. He is also believer in teams that continually seek to raise quality standards. Although research into the relationship

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