

CHAPTER I

Introduction



1.1 Background

The Company

ABC Company was founded in 1979 and has been developing the technology and manufacturing the products, at the core of ABC's success is its advanced development of hard disc drive products, hard disk drive picture show in Figure 1.1. ABC is the market leader with products in 2.5-inch and 3.5-inch form factors in internal and external formats. In capacities ranging from 2.5 gigabytes to 500 gigabytes, this comprehensive line includes products for the price-sensitive desktop market, consumer electronics devices (handheld to in-home audio/video), pocket and portable storage, notebook computers and enterprise-class network servers.

Magnetic recording heads and rotating media are critical enabling technologies for advanced storage devices, and ABC's strength in these areas allows it to supply the vast majority of its own components internally. ABC's recording head operations manufactures advanced read/write heads for disc drives and tape drives, and it is recognized as the world's third highest volume manufacturer of magnetic recording heads.

To make a fast, reliable hard drive, it takes a great hard drive maker. Only the very biggest and best have the financial backing, the technology, and the manufacturing facilities. Only the best have an established track record for quality. Because the technology changes so fast, none know that a particular drive will stand the test of time and hard usage. By the time the drive itself is proven, it's too old, too small and too slow as the product line cycle is very short (1-2 years).

ABC has successfully relied on a strategy of ownership and vertical integration of key underlying technologies: designing, developing and producing the

components that underpin its storage products, rather than relying solely on outside suppliers. This is not easy, because building disc drives is widely recognized as the leading edge of the technology industry. It requires expertise in physics, tribology, aerodynamics, fluid mechanics, information theory, magnetic, process technology and numerous other disciplines.

ABC has R&D and product sites in: Lake Forest and San José, California. Manufacturing and customer service sites are located in: Malaysia and Thailand. ABC Thailand was established in 2002, the manufacturing sustaining products with total employee around 5,000 people.

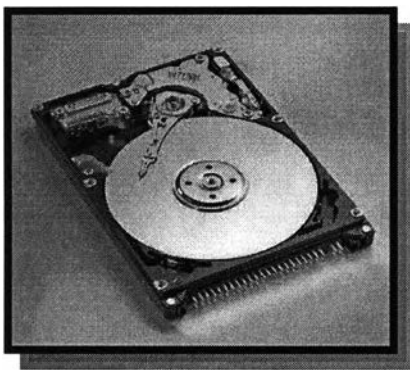


Figure 1.1: Hard Disc Drive

The top three largest exporters in Thailand are companies involved in Hard-Disk Drives (HDD) and parts production, the value of direct exports of Hard-Disk Drives and parts in 1998 totaled about US\$ 5.3 billion or 10% of Thailand total exports¹. The HDD industry has played an important role in exports, employment and the future of Thai economy. According to the Board of Investment report, Value added in the HDD and parts industry in 1990 is estimated to be about Bt 35 Billion or about 0.8 percent of Gross Domestic Product. About Bt 9 Billion is value added in the form of income for employees.

Competitive Environment Industry

Disk / trend and Data Quest, the independent market analysis firms represented historical trend by showing a track record of several hundred drive makers established in early 1980 during the beginning of computer era.

By the late eighties, the list went down to 62. Those 62 drive makers shipped just under 16 million drives in 1988. In 1995, only 26 firms in this business remained active or survived and as recently as 1998, the number of drive makers are down to eight compared to 144 million drives shipped and these analysts predicted as we will have fewer drive makers around in the new millennium.

Technology Driven

On technology development side in this industry, the product life cycle becomes shorter and shorter with presently projected as a six months time span and capacity, as tracked by area density is increasing between 60 to 100 percent per year on the past two years when GMR head technology invented and the product must have no room for error as it will content more and more of vital information in there. In the latest battle, ABC announced world first recording density of 16.3 billion bits per square inch (16.3 Gb/in²) in May 99. A month later, IBM claiming to have already achieved 20 Gb/in² in a laboratory demonstration and follow on by other drive maker and component manufacturer, Fujitsu and Read/Rite. In July 1999, ABC again announced a new world record of 23.8 Gb/in² which equate to a storage capacity of 32 Gigabytes on a single 3.5 inch disc and they have manufacturing process capability to build into a tangible product not just in a laboratory demonstration. In the meantime, US based international disc drive equipment and materials association (IDEMA) and Trend Focus Inc. forecasts that the hard disc drives market will grow between 15 to 17 percent to about 160 million units worldwide in 1999.

Pricing

The average cost per megabyte of HDD has fallen down very rapidly, started from the late eighties where cost vary from about 100\$ per megabyte to currently 2 cents per Megabyte and forecast for the year 2001, the average cost per megabyte is estimated at 0.5 – 0.8 cent.

The ongoing battle in pricing for hard disk drive has been led to an across-the-board change in industry forecast for 1999. Shipments are higher than prediction causes revenues for the most of the drive makers are not meeting expectations.

PC makers have finished shifting to the build-to-order paradigm and hurt hard disk drive industry demand and prices early this year as the HDD makers failed to find home for their products to fill in the gap of the booming sub \$ 1,000 PC space.

1.2 Statement of Problem

Since ABC Thailand was established in 2002, the strategy from US corporate head quarter did not directly deploy to ABC Thailand. At that time, there are no goals or key performance indicators to measure the efficiency and performance of the plant. Employees did not know their own targets and there was no guidance in what they should do, because of unclear direction would let lead employee to lack of initiative and work process scattering in difference directions even in or between departments. From the information collected by the company, from questionnaire and suggestion box, most of the employees requested management to use KPIs to set their goals to lead them to the right direction and thus will motivate the employee and enable the company to measure their performances against the set target.

In 2005, the corporate plan to set the new company strategy and deploy plan to each plant to set their individual goals and key performance indicators. From this change, ABC Thailand, Assembly department prepare to support this change by using Blueprint for Change Technique to manage the change by encourage employees to

understand the whole processes and direction with clear vision, strategic issues, goals and objectives to achieve the targets effectively.

1.3 Objective of Research

To improve processes and find the appropriate tool for Assembly Department to serve the company goals.

1.4 Scope of the Research

The thesis will focus on only Assembly Department in order to set it in the right direction to achieve the goals and key performance indicators. The thesis will selected the critical project which will make the company benefit the most, to be implemented as a case study. The project objective is to scrap cost reduction in assembly process that is one of the key success factors of the engineering department and ABC Thailand. The successful project will be used as an example of best practice for future project and for the other departments.

1.5 Expected benefits

1. To Contribute ABC company successes according to top management targets
2. Employee understand how to measure performance with the systematic approach, and has a guideline for future project

1.6 Research Procedure

1. Collect the related literature, the information of related content for this thesis from internet and academic documents
2. Analysis Blueprint for Change Technique in order to correlate with thesis contents
3. Analyze company vision, strategic issues, goals and objectives
4. Create Company Holistic Plan
5. Create Engineering Holistic Plan

6. Selected the most critical process to implement by priority list
7. Assess selected process situation and problems
8. Interview and brainstorming to find out the problems solving solutions
9. Implementation and evaluation according to improvement plan
10. Create control plan
11. Provide conclusion and suggestion
12. Write up the thesis