



UNIVERSITI PUTRA MALAYSIA

**Technology Transfer in Software
Development and Business Solutions**

Yoganathan Sivapragasam

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And
Business Solutions**

**Yoganathan Sivapragasam
51393**

**Master Of Business Administration(MBA) Program
Faculty of Economics And Management
Universiti Putra Malaysia
Serdang, Selangor
1997/1998**





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Project Paper On

**Technology Transfer In Software Development
And
Business Solutions**

**Prepared by
Yoganathan Sivapragasam
Matric No : 51393**

**Supervised by:
Christopher M.Alcantara, Ph.D.
Associate Professor, MBA Program**

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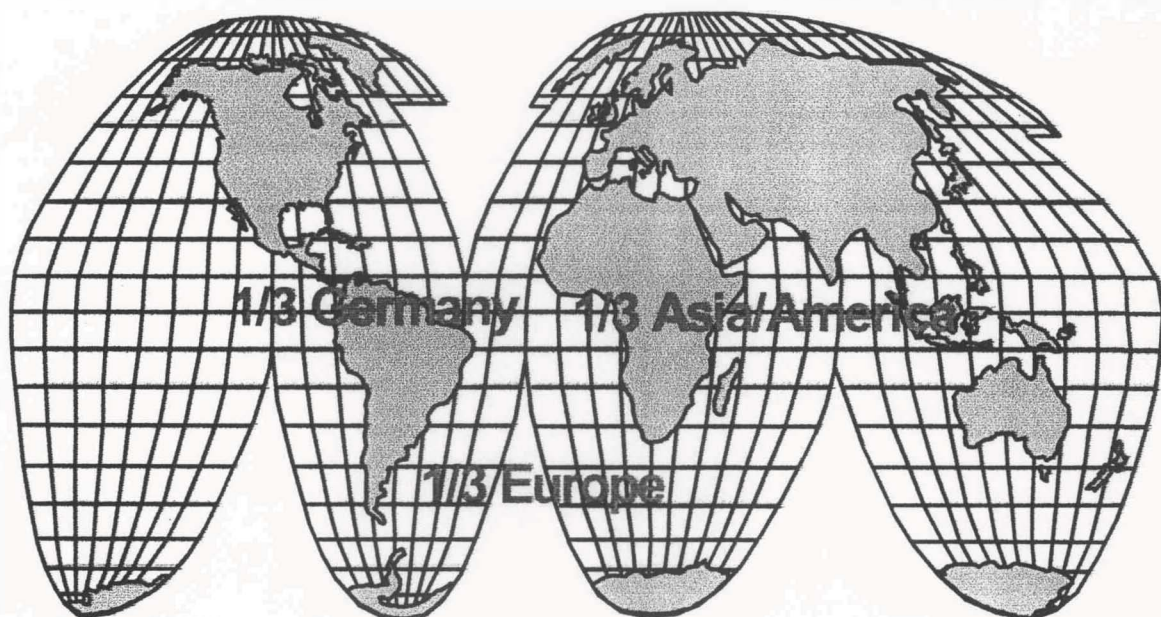
I would also like to thank my family who has been very understanding and supportive in the due course of my studies.

Also my fellow coursemates, friends, the staff of Economic and Management Faculty and Mr.Kuan(Head of Centre of Excellence Asia Pacific Siemens Nixdorf) who have made this report possible.

CHAPTER ONE

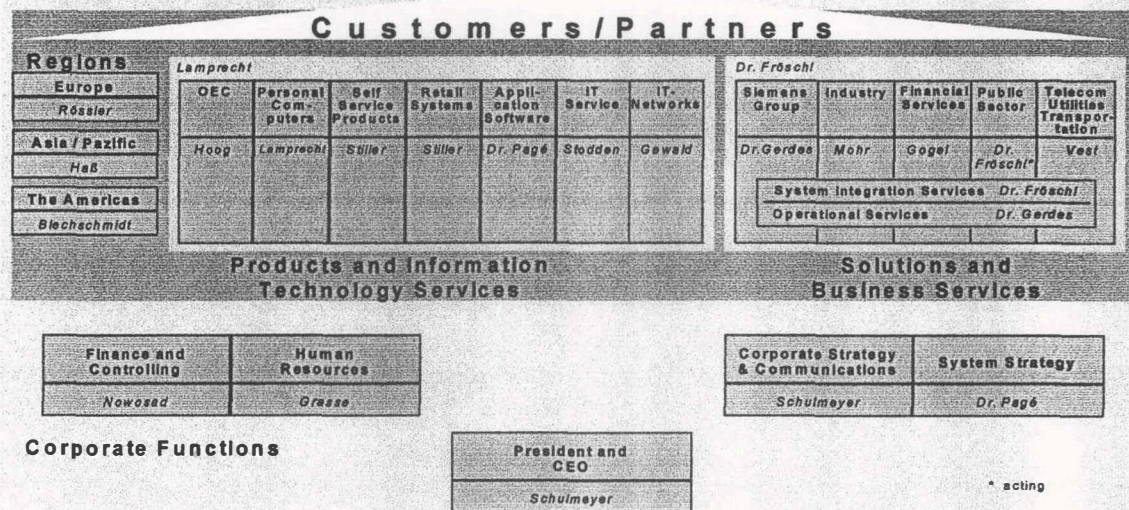
Company Background

In October 1990, Siemens AG - a German Electronic giant, through its Data and Information Division System Group merged, with Nixdorf Computer AG. Out of the merger, emerged what is today the No. 1 European IT Corporation: Siemens Nixdorf Informationssysteme AG (otherwise known as SNI). Siemens Nixdorf is one of the fastest growing players in the global IT arena. SNI's success is directly attributable to its ability to realign itself to meet the market changes that present such a great challenge to the entire information technology (IT) industry.



With our User Centered Computing concept, Siemens Nixdorf has put our users in the focal point of our product and solution developments. It is Siemens Nixdorf's conviction that User Centered Computing, which affords simple, user friendly handling of tomorrow's IT infrastructure, will be the paradigm in the years to come. With our portfolio of offerings, Siemens Nixdorf will be helping our customers to evolve in paving the way for this paradigm.

Corporate Management Responsibilities November 1997



Siemens Nixdorf, is an integral part of the over 370,000 Siemens international employees. With its vision of achieving one-third sales in Germany, one-third in the rest of Europe, one-third in the other markets, Siemens Nixdorf is pressing ahead with the internationalization of its business. Siemens Nixdorf's business focus is directed through 10 Lines of Business (LoBs) for all activities in its two principal business areas: Products & Technology Services and, Solutions & Business Services as depicted in organization chart in Appendix 1.

The Customer Pays our Salary - Understanding this is the key to our success. Siemens Nixdorf Malaysia has invested more than 7% of the gross wages in Training and Education of staff and management. Every new employee will have to undergo the Siemens Nixdorf Appointment Program (SNAP) which is held every quarter. The four day program will cover all aspects of Siemens Nixdorf, and he or she will be briefed on

- Products
- Solutions
- Services

designed with “Customer Satisfaction” as the primary objective.

Siemens Nixdorf has represented in Malaysia for the last 13 years with a paid up and authorized capital of RM10.0 million and RM35.0 million respectively.



With the corporate backing, today the company is better focus to address the changing and complex requirements of the Malaysian IT market - one that has long been registering double digit growth focussing on the 3 main areas of businesses: Solutions, Products & Services.

Siemens Nixdorf - The Friendly Company. *A Leader in Quality, Technology, Services, Education & Training* - Siemens Nixdorf Malaysia's Management & Staff are committed to this.

CHAPTER TWO

Current Situation

SNI is represented in the area of utilities software solutions through Centre of Excellence(CoE) Utilities. Utilities here means the utilities industries as such as Electricity(power), Water and Gas. CoE Utilities Malaysia is headed by a manager who is also heading CoE Utilities Asia Pacific.

Company - Siemens Nixdorf Information Systems(M) Sdn.Bhd. – Centre Of Excellence Utilities

CoE Utilities has its roles focussed to several clearly defined areas(see Appendix 3).

They are:

- To develop a world class software for utilities business.
- To release versions of the software with correction level and enhanced features.
- To integrate software products with the developed utilities applications.
- To ensure products are saleable and implementable by providing training and consultancy on implementation.
- Provide marketing and sales support to SNI's business partners.

CoE Utilities objective is to provide solutions to the various business area in the utilities. Serving the needs of Utility business in the Asia Pacific Region, our Line of Business Utilities focuses on 2 main areas :

- Process Streamlining - Business re-engineering with specific Methodology
- Software Solution for Utilities - Customer Information & Billing Systems (CIBS), Geographical Information Systems (GIS).

Our strategy builds upon world-class open systems and user centered solutions that provide competitive advantages for our customers. In order to achieve leading positions, we rely on innovation, improvement of our processes, continual expansion of our business, and close cooperation with our strategic partners.

Each of our Lines of Business has to compete independently and successfully in its own specific market segment and therefore pursues its own goals and strategies. Beyond this, our product, solutions, and service businesses are complementary to each other, and use the synergy potential of the company as a whole. In this way, each Line of Business makes its contribution to the success of Siemens Nixdorf. Our structure creates the ideal conditions for entrepreneurial behavior and for working closely with customers.

The basis for this, which involves each and every one of us, is provided by continuous processes, understanding linkages within the company, and open communication. In this

way, we can respond faster, more accurately and more individually to the needs of existing and future customers. Our ability to change is a prerequisite for long-term success.

The more we establish long-term customer and partner loyalty, the broader our base for success will be. The added value that we create for them is our yardstick for success. The need to think and act towards results does not release us from our obligation to act in an environmentally responsible manner. Anyone who takes environmental protection seriously and applies it intelligently will quickly recognize that economics and environmentalism can function well together.

We intend to consult our customers in terms of changing markets (customer driven company) to cooperate very close with Simmons AG to address the complete value chain of our customers to understand and to consult our customers in terms of their business processes. We will increase our market shares in Europe and ASP from less than 3 % to more than 5 % in the next five years realize more than 70% of our business on international level.

Market

Changing Utilities In The Market

The process of industrialization continues throughout the developed and developing world. Productive industrial and agricultural expansion, increasing population growth, the trend towards mass urbanization and the development of mega-cities are only some of the factors that have led to an even greater demand for more efficient and more productive supplies of energy and water. Undoubtedly, new demands and requirements are constantly arising from rate payers, regulators, competitors, and stockholders as the business environment facing public utility companies is growing to be more complex than ever.

In balancing these demands, large-scale capital investment programs by almost all utility companies have successfully ensured more productive and efficient supplies, sensible economies of scale and, perhaps most importantly, a dramatic improvement in the reliability of the delivery mechanism.

The need for more flexibility to react to changing business needs is clearly a pressure-laden priority among most utility organization. Nowhere is this pressure felt more severely than on the information systems – in particular, the Customer Information Systems (CIS) – The lifeblood of most utility enterprises. The information contained by



the CIS, and the systems with which it interfaces, is vital to the ongoing business concerns of virtually every utility. Some would say it is a company's most valuable asset.

Facing Up to New Challenges

As companies address the formidable challenge of developing a new customer information system, it is critical that they avoid the "corner" into which the older systems often painted their owner. Today's CIS system, after all, must be more than a passive enabler with a finite life, limited scope, and fixed interfaces to other applications. Instead, it needs to be the focal point of a new, integrated way of doing business. The recipe of success is the integrated, process-oriented synergistic performance of Call Centers, Data Warehouse Solutions as well as Customer Information and Billing Systems. Flexibility is key, with an emphasis on efficiency and integration, not just automation. Equal critical is a built-in receptivity to change – the antithesis of planned obsolescence. In short, today's best CIS must also aspire to being tomorrow's best CIS; and to making quantifiable short and long term impacts on the complete organization. Appendix 4 and 5 show the complexity spider of the market.

Today, successfully managing even greater numbers of customers and even greater volumes of Customer Information in the Utilities sector requires a completely new way of thinking – a truly Customer oriented approach to satisfying the demands of the modern day consumer.



Information as the Key Factor of Success in Competitive Markets

The speed of change is increasing; cycles of innovations are shortening, changes to tariff rate structures are more frequent, contractual relations with customers and characteristics of the successful company in such scenario. Information processing is the key factor in all this. The quicker innovations can be adapted by the existing IT solutions and can make a contribution to adjusting the existing business processes, the more business processes of the company – in its commercial, financial and technical functions.

On the commercial side, customer information systems are becoming more important (this include billing systems). Solutions for business operation are crucial – these range from financial accounting through to fixed-asset accounting. Other solutions are for resource planning and the maintenance sector, which hold great potential for cost savings. Call Centers, data Warehouse Solutions and remote meter readout via utility networks are amongst the new innovative fields of applications. Solutions for energy trading are also becoming increasingly important in the deregulated market. In term of Power, Asia's surging power needs have led to fundamental changes within the continents power sector. The majority of the countries have either initiated the liberalization of their respective power markets or are taking steps towards this goal.

Escalating power demand in Asia has left many countries with no option but to offer incentive to foreign investors to install independent power plants, so that electricity demand can be satisfied. The market is structured in four distinct ways. They are the

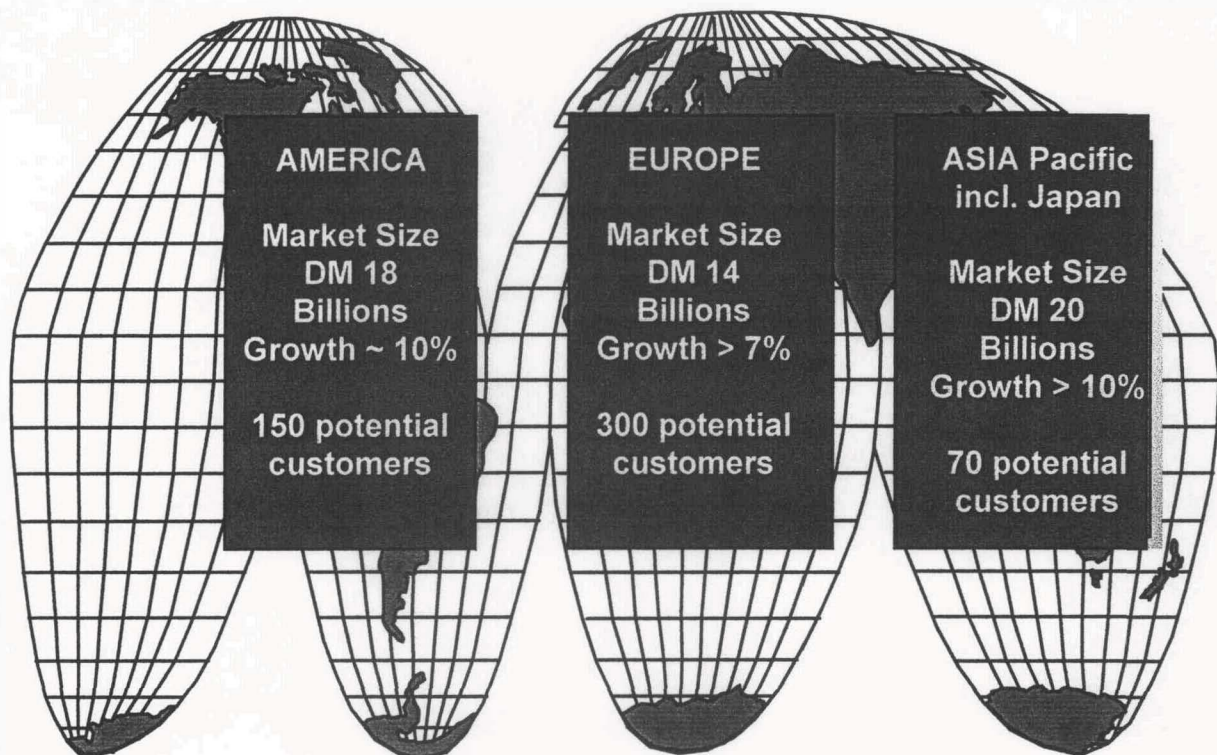
Production, Transport, Distribution and Supply/Retail. At each level, there is a market for business solution offerings has the requirements changes over time and the need for faster and efficient systems required to monitor various events. Thus creating a very large and lucrative market for software business. These types of business is also available with other types of utilities as such as Gas, Water , Heating and Sewerage.

In Asia, the market portfolio can be divided into three areas. They are Regulated Market as such as in India where most of the utilities companies are state owned; the Privatized Market as such as in Malaysia and Deregulated Market as in Australia. In all these three categories, they can be serving a small number of customers from 100,000 to middle size of about 1,000,000 customers to large of more than 1,000,000 customers.

In Malaysia, the changes took place from state own utilities companies to privatized. However, further changes are expected to happen in this industry to allow more competition. From competition, it is expected to create more efficient companies providing cheaper services and products to the consumers. Changes has already taking place in various part of the world and in this term, business solution of today may not be suitable for tomorrow's need if the future needs are not taken into account.

As the diagram on the next page shows, the world can be seen from three different market are. They are America, which provides a base 150 potential customers in a market size of DM18 billions(*Note:Aug 1998:1DM about RM2.41*). This area has a market growth rate of 10% a year. This market is currently not touched by SNI.

The second area is in Europe with 300 potential customers. It provides a market size of DM14 billions with a annual growth rate above 7%. Some of the companies here are of the nature of being multi utilities companies in many such companies competing against each other.



Numbers in Billion DM in 1995 (Note: Aug 1998: 1DM about RM2.41).

Source: Input, Datamation, Baselining '96

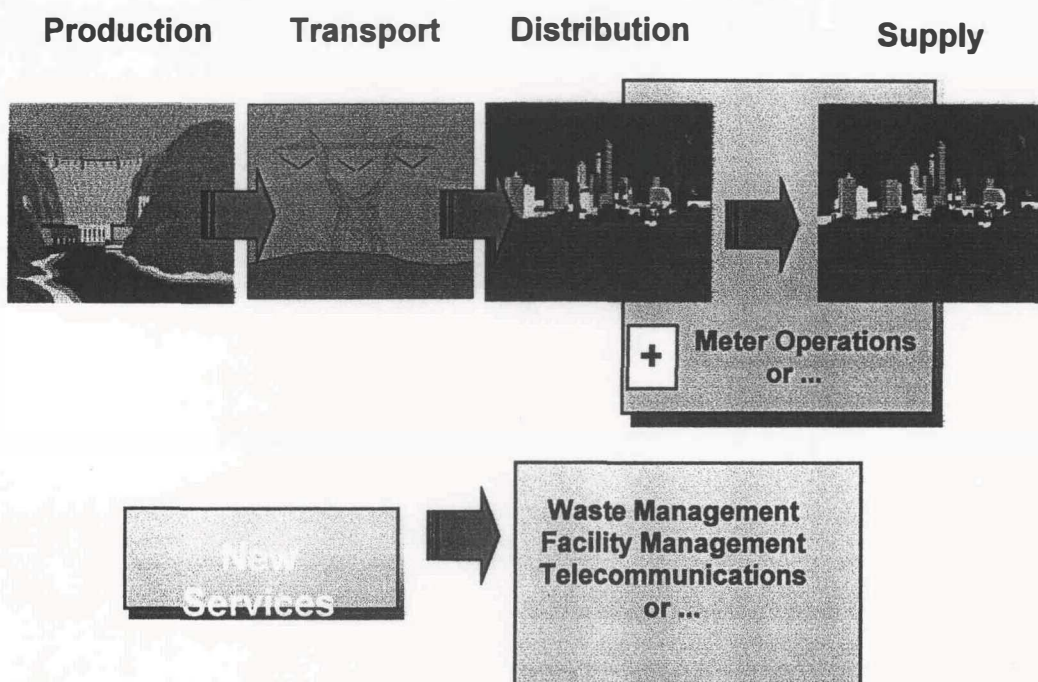
Finally the Asia Pacific region including Japan has DM 20 billions market size. This is higher figure compared to the rest of the two other areas. However, it has only 70 potential customers where mostly are still state owned or regulated companies.

A competent and reliable Information system would be adding value to the utilities companies when selling their products to the customer. In the case of billing system, it would benefit the customer of utilities companies on top of their consumption of electricity to be served with excellent and reliable information especially billing. However, in the area of utilities, information system can play a role in the upstream too. This leads us back to the point where the power is first generated, the production and even transport.

**Classical:Vertical organized companies
(Electricity - Gas - Water- Sewerage)**

**Market-Mix:One supplier to many suppliers within one country
(e.g. Malaysia-TNB; Italy - ENEL; Germany >2.000 companies; . . .)**

***In Future from vertical integrated companies to specialists
(Customer Value Chain)***



CHAPTER THREE

Business Plan

Internal Factors

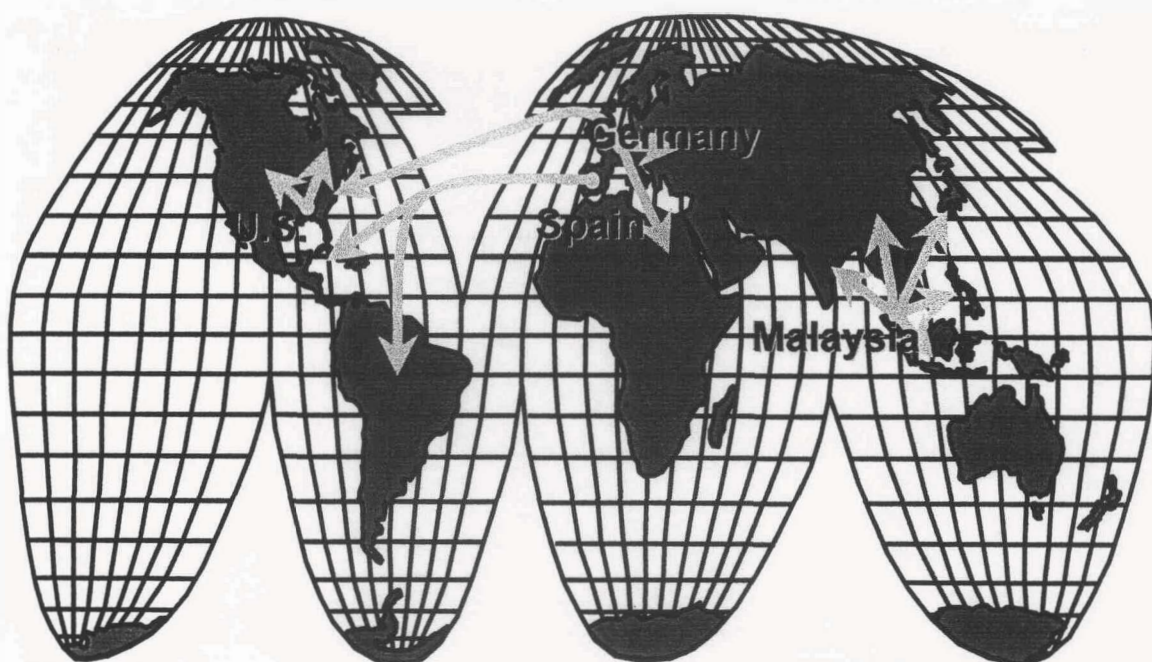
CoE Utilities plan in order to be customers favourite choice as business partner is to know customer business well and be part of their value chain. By understanding current and future customer's business, it would put CoE Utilities in a best situation to serve customers as the knowledge base would be with CoE Utilities. CoE Utilities also uses good idea from LoB TTU at headquarters as such as making use of global/regional agreement/co-operation with partners for example with various Siemens group entities as well as use developed concepts as much as possible to leverage available expertise. We also look for experienced partner within Malaysia as to have our own team of experts.

We have engaged several system designers who are well versed in the utility business. A few from the previous Tenaga project are brought back to carry out the major design work. Their vast experience makes up the lack of business knowledge among our own employees.

As part of TTU, we add value to our customers business by offering Utilities process knowledge and internal delivery capabilities. As part of Siemens with its focus on Utilities business we offer the entire value chain of Design, Build and Operate. Without preconfigured industry solutions, our methodology and the Integrated Business Solution Framework approach we support our customers to become really customer driven.

Competitors for CoE Utilities come from various organizations around the globe. In solution business as such as ours, we face competitors from Australia, Germany and other countries who are seeking their share of the market.

Once the software is able to penetrate one single Europe country, it would be a launch base for the product to expand its operations in utilities market throughout Europe through Germany which is SNI's home country and another targeted customer in Spain. The Spain version is hoped to cater for Spanish speaking countries which will enable the



software to be marketed in South American countries. A launch pad from two different locations in Europe will help to propel the product into targeted customers. In the area of Asia Pacific, Malaysia stays as the launch pad into other countries in the region. Being in a monopolistic utility companies country, CoE Utilities looks for customers in Indonesia, India and China. However, the recent economic crisis has brought to an abrupt stop for marketing of the software within Asia Pacific.

External Factors

Market deregulation in various part of the world has significant effect on the business nature of CoE Utilities. This has prompted us to be aware and prepared for any kind of changes that might or has taken place on our business sites. As of Malaysia, it is expected several changes may take place in near future over the Utilities market especially Electricity and Water.

Customers especially power based utilities companies are in large quantity in Europe. The former Soviet Union's countries too offer a large base of customer prospect as they begin to open up their markets. This is proven during a Business Solution exhibition in Germany earlier this year where we received quite a number of interested parties from delegates of those countries.

CHAPTER FOUR

Management Composition

Key Officers in CoE Utilities Malaysia for 'SABAH Software Product'

The CoE Utilities management team consists of(see Appendix 2):

- Mr. Kuan Chee Kok

He is the head of the CoE Utilities Malaysia since October 1997, taking over from Mr.Juergen Krause. Mr. Kuan is also the head of CoE Utilities Asia Pacific thus overseeing the activities of SNI within the region as well. Prior to becoming the head of CoE Utilities he was formerly responsible for R/3 business in Asia Pacific. He has been with the company for the past 12 years. He has vast experience in sales as well as market development.

- Ms. Ching Ling Ling

She is the Unit Manager in CoE Utilities. She is overseeing two business projects namely Tenaga Nasional Berhad and 'SABAH' . She has been manager since October

1997. Previously she was the head of the software development team as the principal consultant. She has been with the company for 4 years. She has experience in software development and was responsible to see through the successful cut of the Tenaga Nasional Berhad project.

- Mr. Chandradevan Subramaniam

Mr.Chandradevan is the project manager for the SABAH product. He was brought into CoE Utilities specifically to manage the project in February 1997. He has been in project management field for over 7 years.

- Mr. Juergen Krause

He is now the product owner of the 'SABAH' product. He is based in Germany He was formerly the head of CoE Utilities Malaysia since January 1992. He is responsible in seeing the product being marketed in Europe. He has the final say on what the SABAH product represents.

They all realize the importance of focusing on product development, and of limiting the sales forces and project teams requirements towards the CoE.

The management in Transport, telecommunication and Utilities(TTU) headquarters in Germany, has assigned Mr.Henning Vest to monitor the progress of the project. His role