CHAPTER 3

METHODOLOGY

3.1   INTRODUCTION

The methodology includes a combination of collecting "hard" empirical data like documents, tape recordings, computer print-outs, written descriptions, interviews and first hand observation and participation. The objective is to see or attempt to see process:

> the process through which the perceivably
> stable features of socially organised
> environments are continually created and
> sustained (Rogers, 1983:88).

The commitment of the research style is to investigate the phenomenon - computer technology, which is now very much a part of the everyday life of the business community. It is a dogma free methodology, that aims at empirically demonstrating formal properties of practical activities. (Rogers, 1983). Therefore, naturally occurring situations become the valid research sites as it favours direct first hand observation. What is required for the purpose of this investigation is the development of a way of examining and interpreting the technology and the discourse related to it by situating it within business practice and the wider social and political concerns of the

community. What this study seeks to do is spell out the ways in which positions are set up and taken up by participants and technology in actual business practice with the view to:

> pay[ing] close attention to the smallest detail of social life and attempt to describe how it is produced (Benson & Huges 1983:129).

The different interpretations and their particular focuses are not separate or distinct from one another. Rather, as new aspects become evident, the interpretations serve to supplement each other. The results are overlaid to build up a picture of communication in one business community. The picture becomes clear as more details are gleaned. It also becomes increasingly complex as the many different aspects of the meaning - making processes surface. The business organisation and its practices, therefore, go through different analyses and interpretations. This is because of the belief that it is only through looking at the perhaps over-familiar phenomenon of language and communication from new perspectives that we are able to discover new and significant facts, and in turn new ways of explaining them (Ventola, 1986).

If the overall pattern of communication is to be researched from actual social practices, we need a view point that is not bound to 'a text' but one that can analyse relations that connect across texts, people, and technology as well as describe the resources of language in not only formal terms of its own, but also in terms of what people do and can do with these resources. The notion of text is broadened from the "bounded" text in an attempt to evoke a complex sense of context within which these business "texts" are embedded and which they help to constitute. Or, to see content as "a multilevelled discourse" (Eco 1976:57).

The data is analysed in a reflexive and interpretative process that focuses on our every day taken for granted forms. The methodology invites the reader and persuades him/her to affirm or confirm the account of the complexity of the question of business communication within a sense of the mundane everyday life of one or more participating member (s) of the business community. It seeks to work with zones of uncertainty. As a report of the investigation, this study does not seek or claim transparency but attempts to give an account of the community in question, as it really was. It is an approach that lets the "communication" and "situations" speak for themselves. This research is about naturally occurring communication that is computer- enabled and is called so to emphasise that the materials investigated have not been contrived for any sociological or linguistic purposes but are taken so to speak as they come and as they occur naturally in the specific sites in the community investigated.

A single case study approach is adopted because this is an empirical study, answering the research questions of "how" and "why". (Yin 1989). The case study approach, as Yin has indicated, allows one to:

> investigate a contemporary phenomenon
> within its real-life context; when the
> boundaries between phenomenon and
> context are not clearly evident; and in
> which multiple sources of evidence are
> used (Yin, 1989:23).

It will be a kind of close view of the everyday natural world observed by the investigator where the emphasis is not just on statistically significant results but one that allows an in-depth investigation from multiple sources of data which allow a thick description of the social phenomenon under investigation. At the same

time the case study strategy allows for the exploration of the business organisation where the computer and its related discourse and have no clear, single set of outcomes.

3.2   PRELIMINARIES

Answering the research issues mentioned in chapter one meant that successful Malaysian organisations be surveyed first to determine which organisations have successfully integrated the new communication technologies in their overall operations. Of the companies surveyed, Perdana Sdn Bhd. proved to be in the forefront in terms of success and innovation.

(Refer chapter one). Visits to Perdana, the holding company, were made and through interviews and discussions with various personnel, it was suggested that I also look at one of their telecommunications subsidiaries in detail. The assumption being that looking at one of Perdana's subsidiaries in detail would give an indication of how all the other thirty-six or so subsidiary companies are run, as they all tap the same common technology source situated at the Perdana Holding company and all are assumed to run on basically similar lines. Focussing on one subsidiary would allow me to situate my research as well establish the context for study.

3.3   THE SITE OF INVESTIGATION

While this study is about the discourse community of Perdana and all its subsidiaries, the actual physical site of the investigation for most of the time was at one of the subsidiary companies. This was

done to ensure that both the parent company's purpose and goal and the subsidiary company's daily running of the company are taken into consideration in the research in order to get a comprehensive view of the whole discourse community of Perdana. The telecommunications subsidiary chosen was the Pineapple company (a pseudonym). At the Pineapple company, I watched people using the system, collected materials of various kinds and also talked informally to personnel. My interview with the General Manager finally confirmed my intuition that this would be the choice organisation for my study because of his futuristic vision of the company's structure and role and also because he had agreed to allow me to witness all his daily job-related encounters and patterns of communication. In order to gain unlimited access I signed a non-disclosure agreement with the company for ethical considerations as well as to instil confidence. The non-disclosure agreement basically referred to not revealing information relating to confidential new ventures, price structures, personnel information, internal politics, and anything that may jeopardise the company's image and market share.

This case study can be termed qualitative study of technology related discourse and its role in business organisation.
The study aims to find out the ways this new technology has affected communications in the business environment, especially in relation to the norms and expectations of the community.

The person who acted as the nucleus of the study was the General Manager of the company. The office space, (office space includes not only the physical space of the office but also the virtual space in the computer) of the General Manager was chosen for observation because the position of the General Manager, was central

to the efficient running of the organisation and he knew and was responsible for the effective management of the organisation. Since this company is highly automated, hierarchy has been flattened and communication lines run more freely along the organisational hierarchy continuum. This meant that I could collect a large quantity of data and a wide variety of communication patterns and types that radiate from and to his office not just vertically but randomly as he practiced an open door style of management.

The study is not just about the General Manager 's communication per se but about the what, how and why of technology initiated patterns of communication in relation to the overall global purpose of the Perdana business community. Face to face communication that occurs in and outside the office space, including corridors, and other meeting rooms are not included in this study. This exclusion allowed the researcher to have a focus and control over the data collected. The technique of participant observation was used over a four week period, initially to get the feel of the natural everyday environment of business communication and finally another three weeks towards the end of the research to confirm, evaluate, and supplement earlier hunches and interpretations. While on site, day to day observation was from nine to five in the evening, everyday, and observations were recorded in a journal log. The researcher also made random and hoc visits both to the parent company and other subsidiary companies over a period of two years to keep in touch with the feel and ethos of the whole community and not just the subsidiary under study.

3.4 COMPUTER MEDIATED DISCOURSE

In this research, computer mediated discourse is defined as:

> two-way interpersonal communication
> among several individuals or groups. An
> electronic medium may facilitate
> communication via written text, recorded
> or synthesised voice messages, graphical
> representation of communicators and/ or
> data, or moving images of the
> communicators and/or message
> content(Culnan & Markus 1987:422).

Usually people who communicate via this medium are geographically dispersed in that they may be in at least two different locations, which can be as near as the next room or on the same corridor or as far as in another part of the country or the world. The media can also connect people in many physical locations and the number is not restricted. Computer mediated discourse, which is the focus of this study basically refer to electronic message systems and integrated office systems. The features of electronic communication in the study includes the features described by (Culnan & Markus, 1987:424) but they have been slightly modified for this research. The features are tabulated in Table 3A below.

Table 3A

Features of Electronic communication in this study

Type of Media	Brief Description	Type of communication supported	Timing and Geography	Typical Features
Electronic messaging	(1) can substitute for telephone or face to face meeting, travel (2) User creates a written document using a computer terminal. Meetings conducted using text	One-to-one One-to-many	Asynchronous Time independent geographical distribution	(1) Message creation and editing (2) User receives messages in an electronic in-basket; messages may be answered, filed and/or discarded (3) Message storage and retrieval (4) Distribution Lists (5) Message forwarding
Integrated Systems	(1) substitution for telephone or face to face (2) Augmentation of traditional written communication (3) Provides support for messaging, word processing, data processing, and administrative activities	One-to-one One-to-many	Asynchronous Time independent Geographical distribution	(1) Same features as electronic messaging (2) Ability to create, edit, store and retrieve, and transmit formal documents. (3) Electronic calendars and scheduling (4) Ability to retrieve shared documents (5) Support for data processing

3.5   DESIGN

Examining the system and process of computer mediated discourse meant that the system, ie. the technology and its communication, is held as a static product and its attributes examined as static potential. At the same time, this system is also looked at as a dynamic process by watching and tabulating how this very technology

engineers the daily unfolding of social events and processes in the community. The objective is to describe the semiotic organisation of technology in a Malaysian corporate discourse community from synoptic and dynamic perspectives. They are basically two sides of the same coin. The synoptic representations of technology remain at the tentative or potential plane whereas the dynamic perspectives show how this potential is realised as a process in which interactants are continuously occupied in negotiating its unfolding and creation. The synoptic and the dynamic aspects attempt to understand how the technical mechanisms (technology) realise the social systems and workings of a society and show how people get on through communication (linguistically) with one another achieving what they, as individuals and collectively what they, as part of a corporation have set themselves to achieve in situational and cultural contexts.

In addition, although language is mainly used for doing things, or for social purposes, it is necessary to expand the notion of social purpose to also include non-verbal aspects as goals are also achieved by other semiotic systems like kinesics, proxemics, artefacts, etc. The other semiotic systems which impinge on, and influence, this complex system of communication are also discussed. Consequently, part of the research exercise is to discover which other components are relevant within this community and which are meaningful from the perspectives of the natives or insiders in the community. The social processes established and maintained by and within the society comprise the culture of the community. In this community it must be mentioned that technology is transparent, a given, and so members are unaware or unconscious of its all **pervading presence and impact**. It is a very much taken for granted as part of their environment.

To capture the system and process aspect of computer mediated communication, requires setting up both synoptic and dynamic representations of the communication. In this study, the technology network represents the synoptic aspect, the static potential, and the dynamic, process aspect is captured by a flow chart representation. The dynamic flow chart representation aims to capture the ways in which interactants actively and continuously have to make decisions about the development and direction of the social processes. It shows interactants negotiating which elements should appropriately follow and how they are realised step by step.

Interactants have to decide how to proceed and how one participant's decision is dependent on the other participant's previous decision. Thus the dynamic flow chart captures how the synoptic system can be manipulated and masterminded at the system level to generate the activity and dynamics of interaction as deemed by the powers that be within the community. In other words the shared values and objectives that have been enshrined in the system are carried forth and acted out in the daily taken for granted social events within the community as a given. It is this unfolding of the social processes that is shown through the flow chart. Or, in other words, the community engineered options in the system are manifested in the unfolding of the daily social processes within the community.

The descriptive frame adopted is influenced by and has its roots in the works of Hymes, 1974; Scollon and Scollon, 1995;Saville-Troike, 1994; Checkland, 1990 ; and Draft, 1989. Incorporating the insights of these researchers and my own intuition, I have come up with a means

of describing the system and the process of computer- mediated communication in this community.

I. The system

In describing the system the focus will be on the discourse- the archaeology (Foucault 1974) and not the speaker(s). The description will be facilitated by:

 (i)   making models of the machine activity system

 (ii)   making models to define the information flows from the system

 (iii)   looking at it as a meaning system of Perdana

 (iv)   looking at it as a political system of Perdana

(i).   The Activity System

This will be a description and explanation of the Ideology, History, World view, Beliefs, and values of the group in relation to technology

(ii). The Meaning System

This will be a description and explanation of the meaning of technology and its crucial role both past and present in this community.

(iii). The Information Flow System

This will be a description and explanation of the forms of discourse, the preferred forms of communication, and the general pattern of communication with the whole community.

(vi). The Political System

This will be a description and explanation of how power and status are important constructs that are overt and covert in this business community.

II. The Other Semiotic Systems

This will be a description and explanation of other semiotic systems found in the community that impinge on the culture and working environment. These non-verbal forms are also parts of discourse as defined by Foucault (1974). These other systems contribute towards the understanding of what he calls the "archaeology" of knowledge and culture.

III. The Process 1

Like the system, the description of the daily communicative events or social occasions is facilitated by making dynamic flow charts of :

(i)   the human activity network

(ii)   the information flow network

(iii)   the meaning network

(vi)   the political network

IV. The Process 2

Here, another aspect of computer mediated process in highlighted. The emphasis is on the people interacting and their choice of discourse. The purpose in concentrating on an e-mail business interaction from beginning to end is to show the effects of technology on the discourse and the culture of the dominant race in this business community. The intercultural aspects of computer mediated discourse is explained through relevant aspects of semiotic systemics analysis.

Communication in the community tends to be in the form of social events and each event is a "bounded activity" (Saville-Troike, 1994) of some kind. However, a single situation may comprise several consecutive events. The description of the dynamic process or flow will be in the form of brief self-contained events in a sequence. These are the daily occurring events which recur in a similar form in a routine most of the time. In a dynamic interaction one cannot separate many of the events that may happen simultaneously so the relevant networks will be represented on one main network. The dynamics of the activity will be described with reference to the following:

1. The Social Event: This refers to the tasks or sequence of "bounded" activities. In relation to that the description will refer to the social agent involved, the instrumental function, important decision points or rules for interaction, and an indication to determine if it is routine or event triggered.

2. The Interpersonal Function - Since this study focuses on technology the interpersonal function will be determined by whether the interaction is within the system network, that is, from computer to computer (virtual space), or between the system and a member, or between a member and another member. In addition, the flow chart will show where the interaction actually occurs that is, inside the system - the virtual space or outside the system, - the physical space.

3. The Genre - The genre aspect that this study is concerned with is in relation to the technology. Aspects that are of interest include the part in the social interaction that the genre plays and how it connects

interaction between the member, the genre and the events in the social activity. In relation to technology it is also pertinent to note whether the document is system activated or created from scratch by the member(s) where the document is store, where in the organisation it is physically generated, and by whom -by the system orby a member. It is not concerned with the traditional discourse analysis of the actual texts produced in the community. However, one e-mail business transaction will be analysed in detail. The function of this analysis is mainly to show the intercultural aspects of computer mediated discoursal features as well as to show the effects of technology on the culture of the dominant race in this discourse community.

II. The Other Semiotic Systems

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3.6   DATA

The research data consists of six different types of data: (i) participant observer notes and journal log (ii) interviews, (iii) mail logs of terminal activity, (iv) artefacts in the form of soft copies, (v)related documents and any printed material found at the site of the investigation, or in other media related to the organisation(vi) archival records that would help the investigation.

Field Notes and Interviews (i) & (ii)

Detailed field notes of observation were kept in the form of a journal log. Interviews with key informants in the organisation were done and in this case with people within the subsidiary organisations as well as with the Group General Manager in charge of Information services for the whole Perdana group at the Headquarters. Notes of Schedules and discussions done to gain access to other relevant sources of evidence outside the immediate organisational setup were also kept. This was important information because it enabled me to verify with sources outside the organisation as well. It is impossible in a case study like this to reproduce in full every document relevant to this research.

However, an effort has been made to present the document based data in as much detail as possible. In addition the events in the sales department was tracked in detail to illustrate the unfolding of the social processes in this organisation. This tracking was done over a period of five days to confirm if many of the events that occur are routine and everyday occurrences in this community.

Mail Logs (iii)

Mail logs form a large part of the data. All terminal activity from 17th April - 17th June 1995 from the General Manager's computer was saved directly into my own E-mail account. This was possible because I was logged on to their LAN as well as to the Internet. The logs which consisted of e-mail and other mail were then edited and the edited logs used to determine the networks of interactants and the frequency of interaction. This was collected, coded and identified for analysis at a future date. In addition, all entries into the system from members of the Sales department were also tracked both manually and

mechanically online for a period of two to three weeks to collect data for the process aspects of the research.

Artefacts (iv)

Artefacts basically refer to information in the form of soft copy collected on site as well as when interviews were conducted in other related sites (in Perdana Headquarters)with expert informants. These soft copies are confidential information, as such, some diagrams and names have been doctored or modified for purposes of confidentiality.

Documents (v)

Documents include: written memos, official documents, charts, annual reports, company brochures etc. These were collected along the way as, and when, the need arose and when they were available. Some of these documents were confidential information and again names and places were blocked out, or pseudonyms used, to protect the identity of the company.

Archival Records (vi)

These refer to any document that provided information on the historical events of the company. They are documents that have been filed or kept away, either because they have no immediate use for the company, or because they are confidential and, therefore, only few have limited access to them. The researcher was given access to many of these records and great care taken to ensure confidentiality.

A process of triangulation was used to discuss and verify any data collected. Data from one source is verified with data from, not only two other sources but also, where possible, two different data types.

For example, a text and its function is verified, not only by other documents related to the text, but also with the participant involved, or possibly with another artefact.

3.7 CASE -STUDY PROTOCOL

Initially observation was for four working weeks and later towards the end of the research for another period of three weeks. During the initial four weeks I sat in the General Manager's room, from 9 am. to 5 pm., to observe all work patterns of the General Manager while in his office space. I did not interrupt or intrude during interactions but made notes of all that was going on and clarified points in the form of a question-answer verbal interview later on. I kept a journal of observation of all communicative events. Communicative event is here defined as "an interaction between subject and any incoming language data." (Murray, 1991:158). This data can originate from any media: computer terminal, telephone, print, writing, and speech. Journal notes were made of activities that occurred before and after the communicative event and those that co-occurred. Documents involved in the event were also identified and noted down.

3.6.1 BRIEF OUTLINE OF THE ACTIVITIES DURING PARTICIPANT OBSERVATION

1. Before the start of the study an interview with the General Manager was done to get his perspectives on the computer as a medium of communication.

2. A detailed journal log of all the activities in the physical and virtual office space was noted. While the General Manager was busy attending to matters that needed attention, his computer was up and running with communication being down loaded for his attention. At the end of each observation day, data from the physical office space was sieved out and quantified for record purposes. Data from the virtual space was coded and saved on disks for future analysis.

3. The patterns of communication (the dynamic aspect)and action from the view point of the sales department, was traced from beginning to finish. This was done mechanically in the first four weeks by asking members what they did and writing down a linear account of the happenings. This refers to the tabulation of the social events that begins with a customer's request to buy a product, to what goes on when that information is included in the accountant's end- of-year financial report. This communication pattern was chosen because the events that occur in the sales department affect everyone in the organisation. All related transactions were tracked and verified with the various participants involved as well as by the various documents involved in these transactions. Towards the end of the research about five days were spent identifying and witnessing the same social processes as they actually happened in the organisation. This was done to confirm the data and changes developed in the first four weeks of participant observation and to also observe the part technology played in these processes. The role the computer, the participants, and the texts played were noted down. All personnel in the sales and operations group were interviewed and

their communication with the other departments on a daily basis was traced in order to see redundancy patterns and frequency of interaction. Finally, the accountant involved was interviewed, as the money from the sales was the direct concern of the accountant and profit is the bottom line of the company's existence. All this information formed an important part of my data collection. Only the social processes within the organisation were studied as it is beyond the scope of this research to look at the communication patterns with the outside environment, that is, The Supra System.

4. Individual interview sessions were fixed with the expert informants of all the other departments of the organisation in order to obtain detailed insights on how individuals within departments communicate and how they contribute to global institutional goals. The people interviewed include: the Operations Manager, Personnel and Administration Manager, Sales and Marketing Manager, Accounts Manager and the Head of Channel Services. The interview gave insights on the use of the computer in their everyday activities, and helped clarify and confirm the political insights gleaned by the researcher.

5. The headquarters, the holding company, was visited from time to time, not only to observe people at work there, but also to identify and interpret the technology and technology -related communication that all the subsidiaries share. The Group General Manager of Information Services was interviewed to confirm and clarify the researcher's observations and interpretations of the system. The Group General Manager of the holding company and

her team were solely responsible for the efficient functioning of the system.

3.8   PROBLEMS OF VALIDITY

The issue of validity is the issue of whether an account of a set of phenomena is an accurate representation of the reality of the phenomena. It arises at various levels in this work. One can ask about the validity of the detailed data. One can also ask about the validity of the subjective interpretation and explanation of some of those data. It can also arise on a much more general and further removed level- as when the phenomena described in this case study company is presented as an illustration of some of the mechanisms by which similar business practices in general function.

Thus the issue of validity might seem to be particularly problematical in a research like the present one, where data gathering is informal, unstructured and unobtrusive. Questions must arise about the extent to which the researcher's own theoretical and evaluative interpretation might have coloured the selection and presentation of the data, even in discussions, for instance, of the actual events which are reported. Questions like this can never be completely answered, especially about very wide ranging data and interpretation.

The issue of validity can arise not only about data, but also about interpretations which are placed on data. The process of interpretation can take place at a greater range of distance from the detailed facts. The ideological orientation of a researcher enters into all

aspects of research, not only into the interpretation of the data. It is involved in the initial selection of a certain phenomenon out of the infinite range of possibilities worth investigating. Clearly, this researcher's ideological orientation entered into the perception of the subject matter of this thesis. Then again, a reader's judgement of the validity of an interpretation is also inevitably coloured by the reader's ideological stance. This seems inescapable, particularly in the case of a study like this one for which there can be no possibility of formal tests of validity. One check on validity has been to feed the tentative interpretation back to the participants, about whom and from whom the data was assembled, and use their responses to it to confirm the researcher's hunches. This, of course, also rests on the assumptions that those participants will themselves have an accurate understanding of the real significance of the activities in which they are involved.

The approach taken in this thesis to the problem of validity of data and of interpretation depends on the process of using as many different forms of data as possible, rather than relying entirely, or principally, on a single form, such as interview material. Data from a source is checked against data from at least two other sources to determine whether they all provide a consistent picture of the phenomenon selected. Hypotheses are tested against as many different sets of facts as possible in an effort to determine whether an interpretation, which seemed plausible in relation to one phenomenon is equally applicable to other aspects. What people say is not the only indication of their beliefs and attitudes. In many contexts it is not even the most valid and reliable indication. It is also necessary to take note of what they do. Whatever approach is taken if the aim is to get as accurate a picture as possible of their beliefs and attitudes within a

particular range of issues, it is clearly desirable to study and describe their actions and policies, within that range of issues, as well as their statements about it. Because of this, members' verbal expressions of their attitudes and beliefs about issues were checked against expressions of their attitudes and beliefs in action. This consistency of findings in a number of different aspects of the research project is the basis for some confidence in the validity of the findings. There were many opportunities to test statements made in interviews against what the same people said in other contexts and against their day to day behaviour.

3.9   ETHICAL ISSUES

The main problem with covert research is not so much one of validity, but one of ethical propriety. The subjects, if they are unaware of the project, have no opportunity to decline to participate or to exercise any control over the use of the findings. The present research is not a piece of covert research, nor is it a high profile research. The intention to investigate the technology related communication practices was discussed with the Managing Director of the company through an official letter. The researcher took a low profile, most of the time in the company as a visitor. While not absolutely covert, the data gathering has an element of covertness. One of the most serious ethical problems is avoided if anonymity is preserved and the signing of a non-disclosure agreement, mentioned earlier, further instilled confidence. This non- disclosure agreement was a condition of the approval for the use of data in the thesis and considerable effort has been made to comply with this condition.

3.10   PILOT STUDIES

Before embarking on this extensive research project, two preliminary investigations were carried out to gain some understanding of the social organisation and other salient aspects of the technology in the Perdana discourse community. These initial investigations were done to confirm the researcher's hunches on the hypothesis formulated concerning computer related technologies and the patterns of communication in this discourse community. These pilot studies also provided valuable background information about the target community. More specifically the investigations provided information regarding the following questions:

(i)   Does this organisation have all the attributes of a successful business organisation?

(ii)   Does this organisation have the attributes of a discourse community as described by (Swales,1990)?

(iii)   Has the organisation successfully incorporated new technologies into their social processes ?

(iv)   Does the organisation show that it has become more dynamic and successful as a result of the impact of technology ?

(v)   Has technology influenced the culture and shared perceptions of the members ?

These investigations were done a year before the investigation on computer mediated discourse was carried out and since the time of these two investigations, the company has changed tremendously in terms of incorporating new technologies and new businesses.

The positive s changes, further confirmed the hunch that it represented a community that has successfully integrated the new technologies and is a dynamic organisation.

3.10.1   METHODOLOGY FOR PILOT STUDY ONE AND TWO

To investigate the research questions in pilot study one and two, questionaries were formulated. The questionnaires straddled from close -ended demographic to open-ended descriptive and opinion questions. The questionnaires were administered separately to one strand of Perdana's subsidiary companies. These subsidiaries come under one group and they are referred to as the telecommunications block by the parent company, Perdana. The procedure was a structured interview lasting 35 minutes each, with 20 managers. A structured interview format was chosen, to ensure that there was no miscomprehension of questions and information. Only one interviewer, the researcher herself, was used for all the interviews to ensure consistency and reliability.

Only managers with experience in using the technologies as well as experience in their jobs were interviewed, as this was felt to be important for obtaining accurate informed responses to the questionnaire. These managers were chosen because their positions in the companies indicate that they are successful in their field and their responses would provide insights into how successful managers respond to new changes in the industry, while at the same time,

because of their position they would be able to give informed responses about their organisation as well.

3.11   REPORT ON PILOT STUDY ONE

This preliminary investigation investigated the way successful business members were using new technologies whilst on their jobs by looking at the following questions:

(i).   What new electronic systems are members using on the job and how much do they use these systems?

(ii).   What are the perceived advantages or disadvantages and what are the specific factors that influence the way the systems are used?

(iii).   What are system users being taught on the job and how are they being taught and by whom?

(iv).   How much English Language and what form is used with these new communication technologies in Malaysia?

The following is a summary of this initial investigation in terms of questions relating to demographic information, systems/technology use, English language skills, and finally, questions related to training.

3.11.1.   DEMOGRAPHIC INFORMATION

All the managers interviewed have worked for the organisation for a minimum of six years. All interviewees were involved with the new communication technologies with respect to planning, managing their use within the company, and marketing them internally and externally, writing user documents for them, and were even involved in training people to use them. All did a variety of activities in their jobs combining responsibilities such as managing, marketing, training, etc. Eighty percent of the Interviewees indicated their responsibilities required them to make use of new technologies about 80% to 100% of the time and 20% said that because their work involved field work, they only used the new technologies about 40% to 60% of the time.

When asked what aspects of their educational background best prepared them for their present jobs, the following were the responses: written and oral communication skills in English, technical skills, internships, in-house training, on the job training as well as experience gleaned by being in the job.

The educational background of interviewees varied widely, some had engineering qualifications, some economics and marketing, some liberal arts but almost all had their tertiary education in the English medium. Interviewees ranked the most valuable legacy of their school education to be the English language (100%) followed closely by Maths then Science, Economics, Geography, History, Malay and lastly Art.

The implications of the answers to these questions, from the point of view of Employer, is that companies realise the importance of proficiency in communication skills in their second language, English.

This finding is corroborated by other findings in the Asia Pacific region. (Chan and Goh, 1991; 1992; Chan, 1993; Estad and Ferryman, 1991). Although all employees were Malaysians, they were Malaysians who had been trained abroad for at least a part of their education. This sentiment about English is reinforced by the respondents when they rated the English language as the most important subject in school, and that oral and written communication in English as one aspect of training that had prepared them for their jobs.

3.11. 2 TECHNOLOGY AND SYSTEMS QUESTIONS

In this section the most widely used systems will be described. It will also include a discussion about the extent of their use and notion of the advantages and disadvantages, and a discussion of the factors influencing system use as discovered at the time of the enquiry.

According to the interviewees, the new communication technologies were widely incorporated in subsidiary organisations throughout the country in different ways and for different purposes. In the three companies I visited, this was very evident even as you walked into the office. Automation and networking began at the receptionist's desk. According to my study, as well as other studies in this region (Chan, 1993), word processing/personal computers and electronic mail were the most widely used and most popular systems. Other important systems included voice mail and faxes.
All the interviewees in the study used the four systems described below regularly, many times daily to communicate in the workplace.

Voice Mail

Voice Mail allows people to send and receive messages at any time by linking telephones and voice magnetic recorders. Callers can phone in when they wish to receive, listen, read or respond to the recorded message. This includes Pagers which are wireless and therefore can be carried anywhere so that members can be contacted any time and in any place, provided that they are within the designated zones. This means that people cannot be contacted beyond certain distances. Of course, with new advances now, such limitations have been overcome.

Electronic Mail

Electronic Mail allows people to key in messages on the computer terminals and have the messages electronically transmitted to others who may answer them, or use the information, or just file them. It is also used for problem solving, project co-ordination, conducting on-going discussions and negotiations, etc. It is becoming an extremely popular form of communication around the globe.

Computers

Computers allow people to compose, key in, edit, format complete documents, offers graphics and research and data support etc.

Faxes :

Faxes allow people to transmit letters and other documents via the phone line.

3.11.3 PURPOSE

To the question pertaining to purposes the systems were used for, respondents answered that it was basically for purposes of communication. The systems were used for information dissemination and communication intra/inter company, management control, business and negotiations at various levels and categories, getting information, collaborating on projects, documentation, graphics and training.

3.11.4 HIERARCHY

To the question as to who and what level in the company hierarchy used the technologies the most, the response was that the system was indispensable to all levels, for efficient functioning of the business. Almost all interviewees in this study spent nearly 80% to 100% of their day using electronic media, as opposed to using conventional tools such as pen and paper ora typewriter. The systems that were used very frequently and many times daily by these twenty managers are indicated below.

System	Occasionally	Weekly	Daily	Many Times A day	Total no. Of managers
Voice machines				x	20
Electronic mail				x	20
Word Processing Data processing or Computing				x	20
Faxing				x	20

Interviewees cited more advantages than disadvantages in using the systems. The advantages are: speed, improved final products, efficient business planning, collaboration, problem solving, easier access and transfer of information across boundaries, time zones, greater storage capacity, and therefore, improved productivity efficiency, and performance. There was also less paper work, leading to the creation of a paperless company. Better preparation of high quality written products, better content, graphics, layout, and even accuracy. High initial cost was one disadvantage, but this was overridden by the advantages of the system. Respondents said that sometimes power failure hindered use. Dependence on machines was so extensive that they seemed lost without it even when on holiday or when they were in the field. This of course is partly solved with the introduction of notebooks and palm tops, and now PDAs (personal digital assistants). Besides their own scheduling and data base facilities, these mini machines also have facilities for wireless E-mail and faxing (sent and received). Many of the interviewees said that they could not find any real disadvantage with the new technologies. They did express the feeling that E-mail has led to less personal interaction,

that is, face to face but paradoxically had given rise to more interaction and real contact time.

Eighty percent of the respondents said that, other than with their immediate team, there has been a great reduction in face to face interaction. Generally, about twenty percent of the time was spent in actual face to face interaction with members outside their team. They largely depended on E-mail for their communication. To them, E-mail was not more or less formal than face to face interaction, or standard written language, but the degree of formality depended on a number of factors and is largely controlled by context of situation, field and tenor. Respondents said that they spent only about 10 to 20% of their time on non-electronic equipment, like pen and paper. They mainly used these non-electronic media to jot down names, ideas or addresses in their management diaries.

This first pilot study showed that the greatest factor influencing system use, was the enthusiasm and support from upper management in terms of providing effective training. Availability of online help, in the form of peers and the enthusiastic technocrats in the company, were the other factors mentioned. The Managing Director and General Managers in these companies showed great enthusiasm by actively using the systems themselves and making them widely available within the organisation as well as encouraging internal marketing and training of staff to adopt the system. Members were also encouraged by the efficiency and effectiveness of the system and this ensured their continued use. Being user friendly was one very important boost learning. Other reasons gleaned were that it gave the company an

image of being up to date and in the forefront of development and advancement.

Technology was thus very much a part of their lives and they were heavily dependent on it for the successful running of the company thus, confirming Champy and Hammer's notion (1992),that technology is an important enabler and prime driver in effective business practice for the nineties and beyond.

3.11.5   ENGLISH LANGUAGE SKILLS

All respondents said that they used English language to communicate in this medium. They felt that to be effective in their posts they had to be proficient in English, naming general fluency in speech (100%) and writing(100%)and correct grammar (100%)as important English language skills. Correct spelling however was not given any prominence. They all rated themselves as good speakers of the language.

To the question about the kind of reading material that they needed in their jobs, they mentioned textbooks, newspapers, journals, correspondence, in house documentation, software manuals, technical reports, magazines, bulletins, catalogues, articles and any material on computer. In order to benefit from and understand the reading material interviewees perceived that the level of proficiency needed for best assimilation was that of at least upper intermediate. (For them upper intermediate meant that respondents should be able to read community literature fluently and without much effort). Some of the older members, ones who have been in service for ten years or more felt that new recruits did not read enough in English.

As to the questions on the kind of writing they did on the job, they mentioned reports, short notes, memos, summaries, correspondence, proposals, faxes, E-mail and minutes. The greatest percentage of writing in the capacity as an individual as well as an employee was done in E-mail and faxes. Respondents felt that good communicators should be at the level of upper intermediate in their proficiency in English. When asked for what purposes were speaking/listening skills used for their jobs?

They mentioned skills for contact with customers, meetings (clarifying, negotiating, persuading etc), general conversation, telephone conversation, presentations, product explanation, giving and receiving instruction. To communicate effectively and efficiently all respondents felt that they should be at the advanced level of oral proficiency. (By advanced what is meant here is that a person should be internationally understood). From these responses we can deduce that English language has become an important part of literacy for the workplace.

3.11. 6   QUESTIONS ON TRAINING

To the question on how were people trained to use the new systems in their company, the following were reported as the more frequent ways: courses, through tutors, hands on and with peer help. Reading from manuals was not a popular form. Peer help while on the job was rated as the more common manner of transfer of skills. The training was mainly done by the in-house full time training department, or by peers and other users and sometimes by vendors themselves. When questioned how they learned to use the new communication systems, all replied that they learnt it on the

equipment itself. They said that they did not take long to learn to use the equipment because it was very user friendly. All respondents said that they were trained on and about the systems in the English language.

Training in these institutions was done according to the job specifications, level in the hierarchy, level of entry to communication technologies, and general ad hoc needs as and when the management decides that it is necessary. To the question as to what in their opinion constituted a successful training package?
They replied that a package that encouraged hands on combined with peer help and some support material that required minimum reading would be most successful. Training in the company emphasised technical and surface level communication skills. Technical skills generally relate to how equipment operates and how software can be used. Training was hands on and skills were system specific. On the job programs do not emphasise any education on electronic composing nor is English language skills incorporated into the programs. The kind of language needed by the community is very context dependent and community specific.

Because the range of communication medium is relatively wide, the choice of the appropriate medium is an especially important feature in the business community. It means the knowledge of the capabilities of different systems and sensitivity to the genre sand their effect, appropriacy and impact on people is crucial. The new media can actually influence the design of a message. The way certain systems work and the size of the terminal screen actually influences messages. Restricted linear capacity may influence a writer to put critical

information up front and abbreviate or stress key points through formatting, ie by using bold, underline, caps, larger type face etc

The availability of a wide range of communication media to which everybody has access means that users need to understand media constraints and must be able to arrange their messages in a variety of ways for maximum media effectiveness.

There is a great need for knowledge about discourse styles when using these new technologies especially in relation to writing.

E-mail seems to invite a less formal style than word-processed messages. Previous training in business discourse which stress the frozen formal style where writers can write for a date in future with ample time and resources to tidy up has to be reconsidered because writing on the new media is becoming closer to actual face to face conversation. Written messages now need not take the time they did and replies can be immediate too. Users of the new media need some background information about what combinations of mechanical, grammatical and lexical features and knowledge of other semiotic systems will allow them to select the appropriate type for the message they choose. Since the new media provides for international communication, the users also need to have more knowledge about cross-cultural rhetorical and stylistic conventions. Also the kind of written discourse that is currently popular in electronic composing is one that shifts back and forth along the continuum of spoken and written discourse. In terms of strategies the new systems are bringing the speaking and writing skills together.

Thus to use the media effectively, people now need to know even more about how language works with technology in the business communities. This has important consequences for the language trainer in the corporate set - up. There is a need for closer ties with the industry and investigation of case studies to provide insights. Studying what works in the marketplace and devising studies that can be tested out for effectiveness of similar methods in the classroom will prove useful for the teaching of workplace literacy.

3.12   REPORT ON PILOT STUDY TWO

A second study, following the same methodology of structured interviews was done to confirm that Perdana Sdn Bhd was and can be considered a discourse community, a socio - rhetorical network, by exhibiting the six participatory mechanisms as defined by Swales. Field notes were made and relevant company documents investigated when necessary. This investigation into the business community of Perdana is not so much to get data but to gain insights. The primary purpose was to establish the norms, values and beliefs of the community. The other purpose of this investigation was to identify the most popular channel of communication of the telecommunication companies of Perdana. I adopted Swales (1990) notion of a socio - rhetorical network and Drafts (1989) social entities/activity systems to serve the working needs of this preliminary investigation. Using Swales categories, I argued that it was instructive to analyse the target community in terms of its (1) participatory mechanisms (2) information exchange (3) high level of expertise (4) common goals (5) community -specific genres (spoken and written) and (6) a highly specialised terminology. The

company Perdana was analysed using the six characteristics(Swales 1990), and seeing how these categories/ characteristics applied to the discourse community identified. The second part of the investigation focussed on electronic discourse in one form -E - mail.

3.12.1   CHARACTERISTIC ONE - PARTICIPATORY MECHANISMS

All companies are bound by a form of organisation which is the basis of the company's strengths and weaknesses.
We need to identify the different cultures, sets of values and norms and beliefs that are reflected in the different organisational structures. Following the Torrington model of organisational structures, Perdana can be viewed as having a pyramidal structure, or the bureaucratic form when looking at the administrative organisational charts provided by the companies in relation to their relationship to the Holding company. This has been illustrated by the investigator in figure 3B below. The other structures being entrepreneurial, the matrix, and the independent form. The hierarchy permits the structure to be expressed as a set of successively more detailed levels. This concept of levels begins with the assumption that there are systems embedded within systems -a hierarchy of systems.

Figure 3B

Participatory mechanisms of Perdana
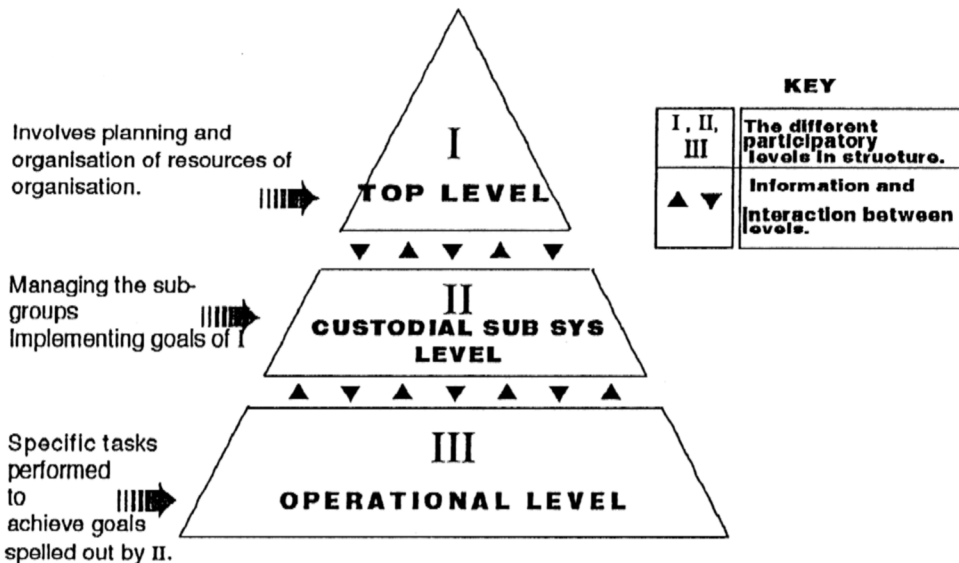
At the top level, the system consists of the executive chairperson and the executive vice-chairman and the group managing director, who concern themselves with the strategic view of the organisation. This strategic view involves planning for the future of the enterprise and organising the resources of the enterprise. The main concerns of this layer are broad long-term, unstructured and externally oriented.

Below the strategic level is the tactical layer(or the custodial subsystem) which concerns itself with managing the specific subgroups of the company. These middle managers organise the tasks of the enterprise as efficiently as possible. They convert the broad goals that are defined at the strategic level into tactics that can be implemented to achieve these goals. The viewpoint and information

needs of this layer are intermediate between those of the strategic level above and the operational level below.

The next level, the operational level of the organisation has specific tasks that need to be performed to achieve the goals of the company. These tasks are relatively narrow, short-term, structured and internally oriented. The information needs at this level are stable and predictable provided that the strategic goals of the enterprise do not change. All the various levels are thus participatory mechanisms that interact between the levels and amongst each level for Perdana's quest for survival.

3.12.2 CHARACTERISTIC TWO - INFORMATION EXCHANGE

Perdana functions as an open system, one which processes inputs from its environment. These inputs (stimuli), usually in the form of information, are used by the open system to function and survive. As a dynamic open system, Perdana processes information in order to change itself and grow. Perdana inputs information from both the environment and from within the company. These inputs are of two types, maintenance and signal. Maintenance inputs energise the system and enable it to function. In Perdana, these are the daily routine activities that enable all sub-systems to function and be orchestrated. Signal inputs provide the system with new information to be processed. These are all stimuli that arise from the larger environment also known as the Supra system. These stimuli take the form of new businesses, purchase orders, joint ventures etc. Inputs/stimuli such as these undergo change before they leave the enterprise/company as outputs back into the environment for further interaction. Perdana's

outputs are in the form of information, products, services or energies. The dynamic open system of Perdana is illustrated in the figure 3C below.

Figure 3C

The dynamic Open system of Perdana
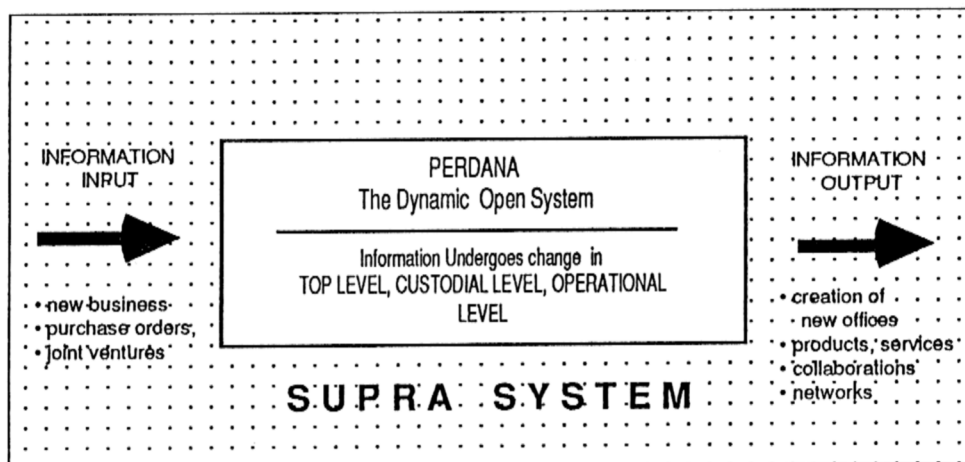
Thus, Perdana is adynamic open system or network that exists, interacts and becomes dependent for survival on participation and information exchange not only within the system but also with the Supra system or the environment.

### 3.12.3   CHARACTERISTIC THREE - HIGH LEVEL OF EXPERTISE

A questionnaire administered to senior and middle managers revealed that all except one had university degrees. In addition to university degrees, they all had further specialised skills through on-the job and in-house training. All had a minimum of five years of job experience and were experts at the computer terminal. The company is highly automated and computer technology is fully utilised. All the

managers were either hooked up to a computer terminal or had access to one.

3.12.4 CHARACTERISTIC FOUR - COMMON GOALS

The overriding ethos of the structure, function, genre and very existence of the business organisation is based on competition and profit. This single-minded devotion to profit is reflected in every aspect of the organisation including language. Language (written and spoken) is used to generate, negotiate for and maintain the profit margin. Profit is the bottom line; it determines and affects the language at all levels in the hierarchy from the top, right down to the individual salesperson in the company. Profit is also the reason behind all writing in the organisation from extensive reports right down to individual lexical items. This is in fact the raison d'être for language competence in the organisation. Language holds the key to the success of the business organisation. The central role of profit - making or self interest is illustrated in the figure 3D below.

Figure 3D

Role of Language in Perdana
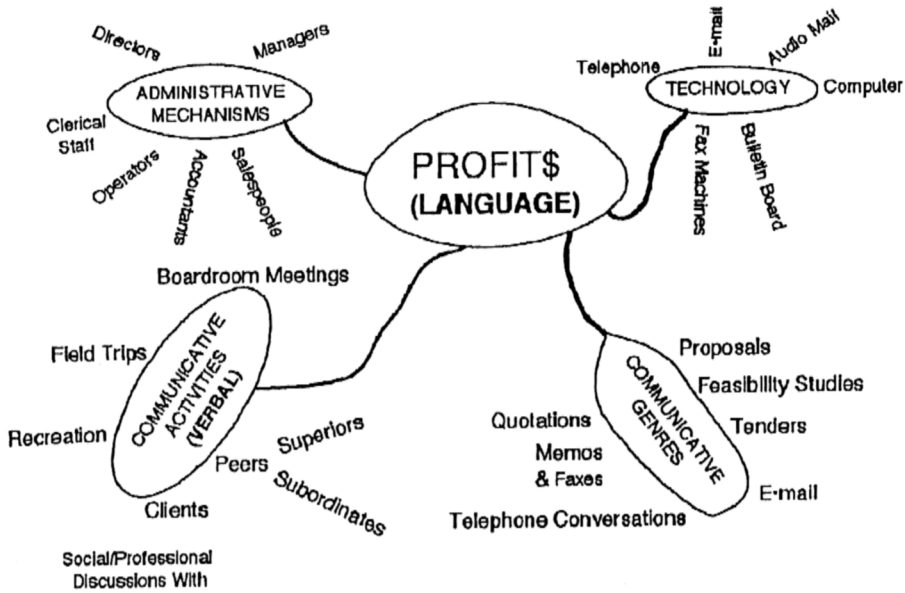
3.12.5 CHARACTERISTIC FIVE - COMMUNITY SPECIFIC GENRE

In an attempt to discover the kinds of written documents routinely used in the company, storage cabinets holding old documents were examined. I was only allowed access to old documents as the bulk of the current business documents were deemed confidential by the management. The genres used by all levels of the company are proposals, reports, feasibility studies, tenders, quotations, projects, briefs, faxes, bulletin boards, E-mail, minutes, letters, memos, brochures and press releases. All these genres are created and perpetuated within the community for community specific purposes. The interview with the managers disclosed that the purposes are common knowledge within the community and documents are

routinely used by members in their transactions. The bulk of written documents produced was essentially documents that already have a definite, repeatable format. The trend is that more and more documents are produced electronically and stored in disks instead of filing cabinets.

3.12.6 CHARACTERISTIC SIX -HIGHLY SPECIALISED TERMINOLOGY

Many of the documents analysed use specialised terminology pertinent to the activity the enterprise is involved in, namely telecommunications, information technology, and manufacturing. There is a great use of acronyms and specialised language, making it sometimes difficult for the lay person to understand the discourse. However, it does create a sense of camaraderie within the community as members communicate in their own "lingo".

3.12.7 FINDINGS OF THE PILOT STUDY

1. Perdana Sdn Bhd, has all the attributes of the Swales notion of a discourse community.

2. This discourse community has a shared social purpose of profit making at all levels. The driving motivation of the organisation is profit(although this is never overtly stated)with ancillary purposes like customer satisfaction, after sales service, training and so on.

3. This business community is involved in social practices that are peculiar to the community. ESP teachers being language teachers belong to the academic community

and are therefore not legitimate members of the business community. They first need to understand the culture and language of the business community before they can equip new members with the necessary communication skills to function in that community.

4.   English is the primary language of communication. All documents large and small, informal and formal, are written in English. Malay, the dominant language of the country and the majority of the employees, was hardly used in the daily routine matters of the company. This could be because for many English is their primary language having been educated in the English medium at least at the tertiary level. It could also be because the technology is driven by the English language.

5.   E-mail is the preferred form of communication inter/intra company of the telecommunication strand of Perdana.

3.12.8   E-MAIL- THE PREFERRED CHANNEL OF COMMUNICATION

E-mail is the nerve centre of the communication network in Perdana. It is so much a part of their lives that using it was second nature to them. To them, E-mail is as essential to business as breath is to life and very transparent. Managers were asked to comment on the uses of E-mail, the amount of time spent on E-mail a day, and the reasons for the choice of this particular medium for communication? All managers indicated that they used their E-mail in 80-100% of their

tasks and used it many times routinely in one working day. Since this is an important and common form of communication, some of the E-mail texts were examined for their community specific purposes.

Uses of E-mail in Perdana (in house and with the Supra system)

1. Short messages- to members within organisations: to inform of meetings, taking of action on certain events and to orchestrate inter-department information flows.

2. Solidarity- information about company recreation, establishing ties-camaraderie in the form of off- colour jokes.

3. Technical diagrams - graphics imported from overseas and locally.

4. Writing of memos. - more informal communication within the organisation

5. Routine house-keeping matters- keeping tabs on who is on medical leave, who is on fieldwork etc.

6. Global market information- new releases, summaries of market competition.

7. Negotiation- new businesses, quotations, tenders etc.

Some reasons why E-mail is the chosen channel of communication

1. E-mail is preferred for speed of communication. At a touch of a button apiece of information is simultaneously sent to as many people as intended inter/intra organisation at one and the same second.

2. It is cost - effective. Not only is it cheap after the initial outlay of setting up, it also cuts down the amount of paper being used and cumbersome filing system.

3. Empowering effect. The user is able to get instant information literally at her/his fingertips. Networking ensures keeping abreast with changes in the marketplace, positions, politics etc.

4. Saves time and energy. Networking allows members to keep in touch with peers, clients, branch members and industry co-runners, thereby creating solidarity and goodwill and also maintaining the competitive edge without having to leave the confines of the office.

5. Cuts down on third party in communication system. With direct communication through E-mail there is less dependence on postal and courier services and unavoidable delays.

6. Big-Brother effect. Since all communication in the office is served by a central system, the powers that be can at any

time check any individual's mail. The individual, while functioning in his/her own right is first and foremost an employee and therefore totally answerable to the company. Another effect of the big brother effect is that at the stroke of a key, members can check on-line if other members and subordinates have actually checked their mail and responsibilities for the day right down to the day, hour and minute.

7.   Storage space. With on-line communication, information and documents can now be stored on storage disks with memory as large as hundreds of gigabytes thereby cutting down on physical size of office storage space.

8.   Ease of Use- User friendly system allows use with minimum instruction.

Essential information in all E-Mail in Perdana at the time of the investigation

1.   Date and time of sending of mail

2.   User identification code -sender

3.   Company and country identification

4.   Recipient identification code

3.12.9   IMPLICATIONS

This initial enquiry into the business organisation has confirmed the researcher's hunches that the business sector is a community that is involved in social practices that are peculiar to the community. To bring about meaningful changes in ESP education, one first has to study the setting or context where communication takes place, and all

its social practices and values before one can begin to understand the language skills needed by new members of the community. Furthermore, the integration of office technologies, computers, E-mail, faxes and voice machines implies the need of an English Language communication skills program that enables one to function and communicate within the limitations and advantages of these office technologies. Such a program would enable new members to learn to operate in the target language by learning how expert members of the community already function and use the language for this specific social need in the community. It also implies that ESP teachers must become community sensitive analysts of target texts because the language learners in this community are the real content experts, while the ESP teacher is only the informed facilitator of how language functions in these community-specific texts in community specific contexts.

The company Perdana recognises the importance of management having strong communication skills in English. Many if not all upper and middle management are Malaysians who have graduated from foreign universities, implying that local graduates do not yet have the command of the language required by the company. Greater proficiency in the English language would enable graduates from local universities to be more marketable in the private sector, but more importantly help them function effectively and adjust quickly to the communication needs within the organisation. English is the language of trade and commerce and the language of technology. Competence in the language then becomes crucial for survival within the business community.

These initial findings of the two pilot studies indicate that a thorough investigation of the computer and its related technologies is necessary to get a more complete picture of the impact of new technologies in the business community. These findings, therefore, paved the way for the research into the computer mediated discourse in this community.