The IT Phenomenon in the Multinational Enterprise

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In the last ten years (that I have been doing research and teaching at Mälardalen University) I have studied how information technology has become increasingly important in companies’ activities – in their daily business as well as in its implications for firms in general. What occurs to me is that, when the issue becomes a topic of academic research, information technology is studied from different perspectives in different areas of research – sometimes it is treated as a topic in itself, and sometimes as part of a business strategy or marketing activity. I have often asked myself when information technology will become regarded as an aspect of the business administration taught at universities. To some extent I think it already is, although it is not yet formally considered to be an aspect of business administration.

As a lecturer, I have focused mainly on international business. In many of the seminars that I have lead, the issue of information technology has been discussed as something that the students believe will change the way that multinational enterprises can and do coordinate and control their organisations and acquire the information they need concerning their markets. (The use of information technology states that that is the case). The issue of how and to what end multinational enterprises use information technology has often been raised, but it seems that the literature comes up short in providing a holistic view of this matter. There are many studies on different aspects, and some of them present empirical data, but it seems there is a lack of major contemporary studies showing general results on the phenomenon of information technology in multinational enterprises. This is no surprise, since a study of this kind would cost a great deal of resources in terms of time as well as professors and doctoral candidates.

This book is a work that partly fills the gap in the literature. It discusses and assembles literature on information technology as a feature of the multinational enterprise, but to some extent it also theorises on the role of IT in multinational enterprises. The students behind this work have carried out extensive literature reviews in many of the fields that encompass information technology in business in general and in large international companies in particular. They have arranged the literature and present it in a way they think is suitable in order to provide an overall picture of information technology in multinational enterprises. The study of the literature has thrown up questions, which have been asked of representatives of multinational companies and so “cases” are presented, i.e.
examples demonstrating the use of information technology. As a whole, this book fulfils its aim, which is to present the use of information technology in multinational companies in theory and in practice and to show that information technology as used by companies is a part of business administration as we know it. Of course there are questions that remain unanswered. Some of them are stated as topics for further research at the end of this work.

I feel content to use this book as a textbook on undergraduate courses dealing with the management of multinational enterprises, since the use of information technology is an important part of these. I feel proud that it is my students who (may I add, without much help from my part) have produced this work.

Cecilia Lindh, supervisor
Preface

Editing this book has opened our eyes to the subjects of Multinational Enterprises and IT. We have discovered that MNEs face many obstacles concerning IT in their daily work, anything from cultural obstacles when communicating with their subsidiaries in various countries, to creating an integrated IT system connecting all the different parts of the enterprise. However, IT is also a major influence on MNEs, and its importance and meaning is emphasized in this book. Ways are also presented for MNEs to use IT in order to overcome obstacles and gain competitive advantages. Because of its size and complexity it is sometimes difficult to grasp the phenomenon of IT. *The Phenomenon of IT in the MNE* is an attempt to create an overview of this phenomenon and give an explanation of the subject through collection of theories from articles and books. The book does not offer a definitive key to the subject, but provides a starting point for further and more profound research into the connection between IT and MNEs.

We are six students who all have bachelor degrees in business administration, all with individual specialisms. At first, writing an educational book for other students seemed a huge and demanding project for everybody involved, but we have all been passionate and committed to making this book possible. Hard work, long hours and dedication to the project have resulted in a book from which fellow students can learn more about IT in the Multinational Enterprise. As we all have different qualifications and educational backgrounds, each person’s skill have brought something new to the book. English is our second language and therefore writing in English has sometimes been a challenge, albeit a manageable one. This project has demanded effective teamwork from the start, something that will prove of great importance for our future professional life. A project of this magnitude also requires a great deal of independence and discipline, as well as good coordination and planning skills. All of these qualities have been developed during the course of the project. After completing this project, we all feel fulfilled and satisfied with our achievement. Our knowledge of the subject has deepened and we have developed an understanding of the complexity of the IT phenomenon. We are grateful for resources provided by Mälardalen University which have helped us to complete the book. This project would not have been possible without much helpful advice and input from Cecilia Lindh. We hope you enjoy the book.

Sincerely,

Isabelle, Stephanie, Thérèse, Maria, Camilla and Emma
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I. Introduction

The IT phenomenon in the Multinational Enterprise investigates the phenomenon of Information Technology (IT) in Multinational Enterprises (MNEs). Considering that enterprises face an increasingly competitive market it is important to be as efficient as possible in every aspect of the company. The availability and use of IT have grown tremendously, to the point that it has become a necessity for every MNE. IT is constituted of a broad variety of communication media and devices which link information systems and people. IT has become one of the foremost means of managing and reducing the uncertainties concerning production and administrative processes in an MNE (Dewett & Jones, 2001). For an MNE, IT can imply different ways to facilitate communication, control and coordination. Using of IT provides a solution to time and money loss because of insufficient communication and administrative tools. 20 years ago, the discussion of IT as an influencing factor to an enterprise’s success was rare. Today IT has developed into a subject of its own that is crucial for every MNE to study. MNEs have long been under the scrutiny of researchers in order to find sources of competitive advantages, efficiency and profitability.

"Information technology and business are becoming inextricably interwoven. I don’t think anybody can talk meaningfully about one without the talking about the other" – Bill Gates (Hampshire Chronicle web page, 2008)

Every organisation needs to understand the many effects and implications of IT and how it can help create substantial and sustainable competitive advantages. The IT movement has led to reductions in the cost of obtaining, processing and transmitting information. It has changed the way organisations do business and will continue to do so for an unforeseeable future. Organisations that do not embrace IT as an important player in the way they do business will find themselves at a competitive disadvantage. (Porter & Millar, 1985) The entire MNE can, through the use of IT, gain access to the same information in real time. By email, intranet, video conferences, chat and other IT-related functions it is possible to communicate with one another all over the world. IT is also very efficient when it comes to external contacts such as customers, distributors or competitors. The connection between IT and MNEs represents an interesting field of study. It will also provide a further explanation of the international aspect of marketing and management. IT is considered an important part of contemporary marketing and internal marketing that has become a necessity to
the majority of MNEs. The information flow and efficiency of the MNE is improved with the use of IT. In the following chapters the reader will get a broader view of the history, function and implications of IT within MNEs as well as a collection of cases where the practical use of IT in MNEs is presented.

II. Research Problem and Question

Why is MNE and IT such an interesting field of study? Most of us use IT in our daily life both at work and at home, but how much do we really know about this growing field of technology? How MNE and IT is connected is something that requires deeper explanation, since to our knowledge there is no up-to-date summary of theories and arguments concerning IT in the MNE in articles and literature. Therefore it has been deemed important to do a thorough literature study to investigate what has been written previously. There are plenty of articles and books on MNEs as well as on IT, but these have been investigated separately. The connection between the two subjects is blurred in the existing literature and needs further clarification, hence the need for this book. As stated earlier in this chapter, IT does play an important role in MNEs and facilitates the function of the overall enterprise in terms of information accessibility, efficiency, coordination and communication.

Is IT a tool for an MNE to gain competitive advantages, or is IT something that is taken for granted in today’s highly technological society? Customers are not impressed by a bank that offers an Internet service that can be operated from home, because it has become a standardised offer. If IT is a competitive advantage, the differences IT makes, and the importance of it, is perhaps not as big as when it was a new phenomenon. The benefits of using IT are shown in the literature and articles, in which IT is seen as a necessity for the MNE. However, the obstacles of using IT are difficult to discover and there is not much mentioned on the subject in international business and marketing literature. IT is a difficult subject of study because of the lack of new and updated literature and articles. Therefore, this book is of importance in order to compile and critically examine the information in existing literature as well as to investigate MNEs practically in order to see how IT is used in both internal and external communication.

The impact of IT in MNEs has become an important subject of study since more and more enterprises seek to become international. However there are obstacles such as language and cultural differences, unwillingness to keep oneself updated because of the information overload from using IT as well as priority issues. Using
IT improves internal communication, facilitates information transferring and bridge geographical gaps. IT is important for developing relationships between employees across internal organisational boundaries. The MNE benefits from using IT and is considered a necessity for all MNEs acting in the now more IT-oriented society. Interaction is the key to managing subsidiaries located in different locations. With IT it is easier to control activities within the company, even if there is a geographical distance. Market imperfections may be reduced when information is correct and available to all the participants of the market and language and cultural differences could lead to miscommunication and difficulties when interacting with other countries.

IT is sometimes perceived by other company functions as a separate unit, handling only communication and data issues. However, IT consists of many different information systems within the MNE and the problem is usually not the implementation process, but the integration process with the other systems and the users of it.

IT and MNE represents two distinctive fields that are more often discussed as separate subjects rather than two subjects that are integrated. However in this book, it is the integration that is found interesting and that will be examined further. Thus, the purpose of this book is to give a deeper insight into how multinational enterprises use information technology through a literary study and through case studies. A part of the purpose is also to write an educational book for the course Managing the Multinational Enterprise at Mälardalen University and all those interested in the subject. The research questions How is the IT phenomenon connected to the MNE? How does IT affect the operations of the MNE? are posed to help provide an answer to the problem stated.

III. Definitions

There exist a vast amount of definitions of both multinational enterprise and information technology in the vocabulary. In this book the common definitions are presented (cf. Rangan & Sengul; Rosenzweig & Singh; Roche & Blaine; Andersson, Forsgren & Holm; Geringer, Beamish & daCosta; Rugman & Verbeke). The selected definitions for this book have been chosen to facilitate the presentation of the book’s conclusions and bring understanding to the subject. They are presented with describing figures of MNE and IT, after the theoretical definitions.
Multinational Enterprise

MNE can be defined as an economic entity that controls operations spread across national borders (Rangan & Sengul, 2009). An MNE consists of a parent enterprise with several subsidiaries. Within the organisation there are one or more headquarters (HQ) that can be positioned in alternative countries than that of the subsidiary. An example could be that there is one HQ for the Asian market and another for the European market if the enterprise is present on different continents. (Rosenzweig & Singh, 1991)

“On one hand, a multinational enterprise is a single organisation that operates in a global environment, with a need to coordinate its far-flung operations. On the other hand, an MNE is comprised of a set of organisations that operate in distinct national environments”. (Rosenzweig & Singh, 1991, p. 340)

In the early 80s, 500 of the largest MNEs stood for 20 percent of the world’s gross domestic product and 80 percent of the investments in foreign markets. Obviously, the management for MNEs demands more resources and activities than a company working in a single nation. (Geringer, Beamish & daCosta, 1989) For a company to consider going into a foreign market and becoming an MNE, three conditions must be fulfilled; the company have some specific advantages that separates them from other companies and the location in which they are planning to work must give some certain opportunities to the company. The third condition is about the internalising transfer within the firm. This will give advantages on the foreign market. (Roche & Blaine, 2000) Subsidiaries of the MNE need to take into account the local environment and the demands of the global organisation. Coordination mechanisms are crucial for the research concerning the MNE since subsidiaries in different countries have both a geographical as well as a cultural distance that need to be bridged in order for communication to function. (Rosenzweig & Singh, 1991) According to Andersson, Forsgren and Holm (2007) the influence of the subsidiaries varies depending on the local environment in which they act and their importance of the business network in which they partake.

According to Rugman and Verbeke (2004) there are very few MNEs that have actually succeeded globally. Of 500 MNEs investigated, only nine were considered to be global. Global companies are defined as companies that have a “broad and deep penetration of foreign markets across the world” (Rugman & Verbeke, 2004,
p. 3) and of the companies investigated, most of them have the majority of their sales in their home markets. Coca Cola, Nokia and Sony are examples of three global companies. (Rugman & Verbeke, 2004)

Figure 1. An example of a Multinational Enterprise. (Own development)

Figure 1 above shows an example of how an MNE may be constructed. The chosen definition of an MNE for this book is that there is a parent enterprise with subsidiaries in two or more countries. As the figure above shows, the parent enterprise’s HQ may be in the United Kingdom and its subsidiaries may be located on separate continents. However, the IT phenomenon in the Multinational Enterprise only takes into consideration MNEs in general, not whether they are global or not.

**Information Technology**

IT is used to organise, transfer, collect and store information. IT may reduce costs when digital communication coordinates the information flow and organisations can use IT to process information. (Brynjolfsson & Hitt, 2000) IT can be divided into two major groups: internal IT and external IT (Ryssel, Ritter & Gemünden, 2004). The emergence of information technology has led to a vast amount of information needed to be handled in the modern organisation. IT underlines the importance of homogeneous communication and integration of computerised
technologies, for example intranets. This has both its pros and cons and thanks to IT it is possible for members of an organisation to gain access to information and therefore produce new understanding and knowledge. However, this large amount of information takes time, and therefore money, to sort, read and process. Because of this new access to information it is also easier for outsiders and competitors to gain knowledge about an organisation. (Falkheimer & Heide, 2007)

Ryssel et al. (2004) says that IT combined with trust, commitment and value creation has a potential to influence relationships. Using IT internally makes suppliers’ processes more reliable. Commitment comprises loyalty, the willingness to make short-term sacrifices, long-term orientation and the willingness to invest in the relationship. When value creation is influenced within the supplier’s regular work it becomes a tool to streamline internal communication between the two parties. Trust from the customer increases both direct and indirect value creation. (Ryssel et al., 2004) Investment in new IT is a way to achieve competitive advantages. Empirical analyses state that marginal return from computer investment is higher than investment in other industrial equipment. (Andersen & Segars, 2001) Johns and Perrott (2008) state that technology can both simplify and complicate the process of exchange that arise in interaction between the company and the customer. Through the use of IT the work process in the company can be improved and the technology revolution is strongly influencing the geographical environment for enterprises, governments, citizens and so on (Roche & Blaine, 2000). For a better understanding and a practical example of how an enterprise’s work process can be adapted to the enterprise’s IT systems, see Case X: Skanska.

The definition of Information Technology used in this book is that IT is used continuously within the enterprise to spread information, manage resources and to communicate. IT is a necessity for enterprises who work in different markets and environments in order to cope with competition and create an effective organisation. In an enterprise, IT can be used both internally and externally with different tools; these are visible in figure 2. Found on the internal IT side of communication are tools such as Human Resource Management (HRM), Intranet and Customer Relationship Manager (CRM). On the external IT side Electronic Business and Social Media appear. On the internal IT side are Enterprise Resource Planning systems (ERP), intranets as well as systems for HRM and CRM. The company web page is an example of how IT can be used for external communication. The concepts in figure 2 will be more thoroughly presented in chapter 3, Organisational tools for the Multinational Enterprise.
Some academics (cf. Andersen & Foss; Sèric & Gil-Saura; Yamin & Sinkovics; Tang & Trevino; Brady, Fellenz & Brookes) use the term Information and Communication Technology (ICT) for the exchange of information in a two-way communication through the use of technological tools. As the exchange of information can be defined as communication, whether it is one-way or two-way communication, this book recognizes all such technology based on information being exchanged as simply IT.

![Diagram of IT categories]

**Figure 2. The definition of IT and the areas covered in this book.**
(Own adaption, based on Ryssel, Ritter & Gemünden, 2004, p. 198)

IV. Methodology

In order to fully comprehend real-life situations, one needs more than a single theory to explain them. In *The IT Phenomenon in the Multinational Enterprise*, several theories are assembled in order to give a wider and more complete picture of the IT phenomenon. There are numerous systems used in MNEs today and, therefore, some limitations have had to be made. The IT systems selected for Chapter Three are general systems that most MNEs use, and the case studies are meant to give examples of how the enterprises use them. The book is divided into three parts in order to give the reader a clear distinction between theory, case studies and conclusions. In the first part, theoretical findings are presented and a discussion is repeatedly found in the text. In Part II, the interviews with employees at the multinational enterprises are presented in a case format with subsequent case questions.
All conclusions made in *The IT Phenomenon in the Multinational Enterprise* are based on secondary data from articles and books, as well as supported by primary data from the interviews. The conclusions are found in Part III. A generalization of the use of IT in MNEs would require a more extensive study, whereas this book focuses only on case studies and on offering examples of how IT can be used in MNEs. This is in order both to enhance understanding of the phenomenon as well as leaving the subject open for theoretical discussion. By using secondary data, an image can be created from the early stages of the development of IT and its implementation in MNEs, and the primary data proves its importance at the current time. For future research, an empirical study, as a way of obtaining more information about IT and its function in the MNE, would contribute interesting facts.

It is important to be aware of the distinction between the use of IT internally (operations within the MNE) and externally (the surrounding environment of the MNE). Both internal and external aspects are crucial for the future of the MNEs, and they are important to take into account in order to understand the problem of integrating IT in an MNE. In this book, the main focus lies on the internal aspect in both the literature study as well as in the case studies.

**Literature Methodology**

When writing *The Phenomenon of IT in the Multinational Enterprise*, the accumulated information has been studied and critically examined. Information for the literary studies has been found by using databases and search engines on the Internet as well as using references provided by professors encountered in lectures and seminars at Mälardalen University. Through the case studies, made possible by interviews with employees, it is possible to present examples of using and developing IT in the daily operations of the MNE. The literature and scientific articles in this book have been found in the library of Mälardalen University and in various databases. A review of the book *Information Technology in Multinational Enterprises* (2000) by Roche and Blaine provided a deeper understanding of the subject.

**Case Methodology**

Part II provides presentations of interviews held with employees in twelve different MNEs. The reason for collecting data through interviews is to be able to give examples of how IT is used in MNEs. To separate IT users from employees who have a deeper knowledge of IT in the enterprise, the questions were divided into two parts: questions to the IT administrator in the MNE and questions to the
IT user in the MNE. The reason for this division is that some of the employees, who are not working at the IT department, only have knowledge of the specific IT system that they use, not about all the IT systems throughout the enterprise.

The questions for the interviews (see Appendix 1) were based on the literature study, as it was evident that the theory needed to be supported by real examples. The questions are in general the same to every enterprise, but some of them have been altered depending on branch and organisational structure. The follow-up questions in particular have been adapted for each interview and thus each enterprise. By conducting case studies, *The IT Phenomenon in the Multinational Enterprise* illustrates how IT is used in MNEs in different industries today. These case studies also provide a good foundation for discussion for the target group of this book, namely students at Mälardalen University.

In order to gain a wide perspective on the subject and a good insight into the use of IT by the MNEs studied, the questions revolved around four different areas. The first area is about the enterprise and system structure, in which the questions concerned discovering the line of business of the MNE, the number of employees and the countries in which they are located. Questions about the kind of systems used were also posed. This provided a deeper view with different perspectives on the enterprise and its structure. The reader can also acquire a broader insight into the enterprise and its differences. The second area of questions asked was about communication and the use of IT. The reason for these questions was to find out how IT is used in the enterprise, as well as how it affects internal communications. Questions were asked about difficulties when dealing with the IT systems and how flexible the systems actually are. The third area of questions was oriented towards IT auditing, to find out how this is being carried out and to explain the essence of IT auditing. The final area of questions was about financial aspects. Questions were asked about competitive advantages and disadvantages as well as the costs of IT. Because one of the MNEs interviewed operated only through electronic commerce, there were some questions concerning e-commerce designed especially for this case enterprise. The interviews were semi-structured and follow-up questions were asked if necessary.

*Work Process*

Group-meetings have been held several times a week to organise everyone’s participation in this book project. These had the form of physical and electronic meetings. Every member of the group has participated equally in creating each chapter. By working this way, a clear connecting idea has been created throughout the book since everyone is equally involved in all of the written text.
This helps in creating a unified language throughout the book. The examiner and mentor of the book project have had access to shared documents online at all times, where the text produced has been visible throughout the entire development process. Therefore, the examiner has been able to monitor and evaluate the participation of all group members.

V. Outline of the Book

The following section will provide an overview of the chapters in the book and also the content of the chapters. The book consists of an introduction and three parts:

- **Introduction** - Research Problem and Questions, Purpose, Methodology and Definitions
- **Part I** - Literary study
- **Part II** – Case studies
- **Part III** - Synopsis, Discussion and Conclusions, Managerial Implications and Future Research

Part I consists of six chapters based on literary studies. The *first chapter* presents the history and earlier research into Multinational Enterprises and Information Technology. This background lays a foundation for the following chapters. In *Chapter Two* the connection between IT and MNE is described from a global perspective. The advantages of using IT in the MNE will be examined, as well as the obstacles that may occur when implementing IT systems. In the *third chapter*, selected organisational tools in the MNE are presented, such as internal communication, control and coordination, as well as IT systems. Following this is *Chapter Four*, in which the operations of the MNEs use of IT online is investigated; electronic business, virtual organisations and social media. In *Chapter Five*, the connection between IT and the organisational structure is presented. Decentralised and centralised organisations are explained and how decision-making is affected by IT. In the *sixth chapter* the book *Information Technology in Multinational Enterprise* by Roche and Blaine (2000), is reviewed. The context and the conclusions of the book are discussed and analyzed.
Part II of the book has a different structure than the first part, as it is based on interviews. In this section, case studies are given from the twelve enterprises interviewed. The employees interviewed hold different positions in the MNEs, which gives a broader perspective. After the presentation of each interview, some case questions are presented that can be discussed in small or larger groups.

Part III presents a synopsis of part I and II. The theoretical findings and the case studies are discussed and the conclusions drawn. Finally managerial implications as well as suggestions for future research are proposed.
PART I
Literary Study
1. History and Earlier Research

Until the late 1960s and the early 70s, the technology used to spread information within a company was limited to the telephone, fax machines and telegraphs. In the beginning of the 70s, a company in Texas was the first to build a private satellite network. However, the use of this new kind of network was expensive, but these early innovations gave HQ an opportunity to transfer information to subsidiaries in different regional areas. Thanks to this development, improvements in decision-making and information transferring were many. But it was not easy to measure these effects. During the 80s, technology made it possible to manage external systems in a different way than before, when only internal systems were being used. These systems gave companies competitive advantages. (Roche & Blaine, 2000)

During the late 1980s, globalisation and IT changed the world economy. The use of IT was spread globally through MNEs. The MNEs served to spread IT through two powerful mechanisms; “they seek new opportunities in terms of entering new markets and fulfilling sourcing requirements” and secondly they “diffuse IT as part of their communications networks in the worldwide coordination of far-flung subsidiaries, suppliers and customers”. (Sambharya, Kumaraswamy & Banerjee, 2005, p. 144) In the 90s a revolution occurred in IT that gave companies an opportunity to control and structure operations in the international field. Through the use of the Internet, companies can link their networks and sell their products in different channels. (Roche & Blaine, 2000)

“In these early stages of internationalization of the world’s trading economy, however, information moved at the speed of man, whereas after the middle of the nineteenth century, it started to move at the speed of light.” (Roche & Blaine, 2000, p. 4)

From the 1980s onwards, the multinational structure has been developed resulting in IT-mechanisms which improve the HQ’s surveillance of the MNE. By using the IT-structure, the MNE becomes more transparent to its HQ as the structure enhances the surveillance of the vertical information systems within the organisation. During the decade of the 1990s, there were problems and failures involving IT. When IT such as the Internet, Customer Relationship Management (CRM) systems and databases were introduced as a way to improve efficiency and profitability, they did not live up to the expectations. However, during this decade IT usage was increased, mostly because of the development of
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relationship marketing. Relationship marketing and the strategies used were highly dependent on IT when information about customers had to be gathered or the company’s website had to provide information. Today it is common notice among organisations to trust technology when it comes to support information as well as communication processing. This includes every area in a company’s operations. (Brady et al., 2008)

According to Gay, Charlesworth and Esen (2007, p. 2) the Internet created “a new industrial order” which resulted in changes in the interrelationships between buyers and sellers which could not have been foreseen. Quotations, such as the following (below) by Bill Gates, were frequent and the perceived benefits of this new technology energised the creation of a new type of corporate culture, as well as redesigning the marketing practices for organisations in their striving towards engaging past, present and potential customers.

“The Internet is a tidal wave. It will wash over nearly all industries drowning those who don’t learn to swim in its waves.” - Bill Gates (in Gay et al., 2007, p. 2)

As stated in Wilson (1995), the personal relationship between employees at the buying and selling companies is of great importance, but the relationship usually does not start with a personal meeting. Through the use of external technology, offers and quotations are sent to and from the seller and the potential buyer, deepening the companies' relationship. The complexity of the product being sold is influential for the amount and the intensity of the information being exchanged, which puts a great significance on the external IT systems. (Turnbull, Ford & Cunningham, 1996)

MNEs have always been dependent on the use of IT. Since the development of IT, the technology is moving quickly and one could say that there is a constant ongoing revolution in the field of IT. This revolution affects the global economy as well as the competition internationally. IT as a way to control and organise MNEs is underdeveloped in existing research, even though it is an important subject. (Roche & Blaine, 2000) But as early as 1992, Roche (in Roche & Blaine, 2000) stated that an MNE would have problems existing without IT. The environment of the MNE consists of uncertainty and strong competitiveness and using IT is a necessity for an MNE today to process all the information.
2. The Multinational Enterprise, IT and Globalisation

The competitive landscape is ever-changing and industrial regulations, customer demands and technical innovations have led to a new, challenging environment in which MNEs need to compete. There has been a considerable growth in the number of MNEs, and more organisations have extensive activities around the world. Since it is more difficult to manage activities between nations than within a single nation, it is very important for organisations to be competitive and as efficient as possible in the global business environment. Michael Porter defines the global industry as that “...in which a firm’s competitive position in one country is significantly influenced by its position in other countries”. (Boudreau, Loch, Robey & Straud, 1998, p. 120) When an MNE is competing globally, an integration of activities is required on a worldwide basis, instead of considering each national market as isolated, disconnected from each other. Therefore, there is a requirement for coordination within the MNE to succeed globally. When the MNE simultaneously meets the challenges of global efficiency, local responsiveness and learning through transfer of knowledge, it will be the most competitive. (Boudreau et al., 1998)

Figure 3. The Multinational Enterprise, Information Technology and affecting factors (Own development)
The IT Phenomenon in the Multinational Enterprise

Figure 3 on the previous page provides a view of an example of an MNE, what the connection with IT may look like and also other factors which the MNE has to take into consideration. An MNE consists of a parent enterprise and subsidiaries in several countries. As shown in the figure, the HQ of the MNE may be in England and subsidiaries may be spread throughout, for example, Europe, Asia and North America. In every MNE, IT is implemented and used both within the enterprise, using, for example their intranet, Enterprise Resource Planning system (ERP) or Human Resource Management (HRM), but also for communication externally using their web page and social media.

It is important to consider the surrounding factors which may affect the MNE. Laws and regulations as well as culture and language are determining factors which may be obstacles for an MNE. Working in the international field, the cultural differences have to be considered in order to have an effective communication flow between subsidiaries. Many MNEs have their IT support stationed in India, which could lead to obstacles with language barriers but also advantages from an economic perspective. MNEs have to be aware of counterparts such as customers, competitors and investors, but also surrounding factors like the environment, in order to be able to compete on the market and gain competitive advantages. This is an important factor that needs to be considered when doing international business.

Enterprises have freed themselves from geographical borders, and with accelerating globalisation and virtualisation, changes in the surrounding environment have had a radical impact on the enterprise. Globalisation includes some emerging obstacles such as other enterprises threatening the dominance which the enterprise has established on the local market. (Normann, 2001)

By reducing the cost and time of communications, IT enables MNEs to globalise production and finance. Globalisation encourages technology by intensifying competition and accelerating the diffusion of technology through Foreign Direct Investment (FDI). The importance of global IT to MNEs has been established through empirical studies. The influence IT has on an MNE’s strategy, geographic scope, competitive position and performance has also been discussed in studies. The relationship between the HQ and subsidiaries of an MNE can be seen as a function of its IT architecture. (Sambharya et al., 2005)

For MNEs, time is money. IT has become a universal tool to help reduce costs in terms of time, communication, logistics and in many other areas. There are probably very few MNEs in the world today that do not use any IT in their daily
operations. Furthermore, when trying to communicate with a subsidiary overseas or across the continent, IT has become a necessity in order to quickly and securely transfer information. IT helps maintain a constant relationship within an enterprise with operations at different locations. It is not even necessary to make an expensive long-distance phone call because there is an IT system that can send a message for free to the other side of the world, only requiring an Internet connection. The world has become wireless and in order to keep reducing costs, communicate and become more efficient it is important that the MNE embraces new technology before it gets outdated.

Andersen and Foss (2005) stated that a company is not given strategic opportunities through just being multinational. It is with the use of IT that new opportunities are provided, through improved communication and coordination over geographical borders. IT provides opportunities for exchanging knowledge within the MNE and therefore making it a global learning platform. (Andersen & Foss, 2005) Roche and Blaine (2000, p. 4-7) state four effects that IT has on international business activities:

1. **Impact on cost and efficiency.** The market efficiency is strongly impacted by the information that is available and the quality of that information. With the use of IT, costs such as transaction costs will decrease.

2. **Impact of managing and organizing the firm.** IT is used in decision-making and communication; with IT, it is easier to control activities within the company, even if there is a geographical distance. Factors like delays and time for information processing is decreased with the use of IT.

3. **Impact of markets and firm.** When IT is used, market imperfections may be reduced when information is available to all the participants on the market and information is accurate. IT may also construct information networks that are placed in the same location or region, for example Silicon Valley, which is a key location for IT.

4. **Impact and speed of access information.** Through this, companies can obtain information from different locations instantly, and new markets can be considered. Advantages and differences in different markets can be visible and information can be moved between locations.

These four effects are just a few of the reasons why so many MNEs choose to incorporate IT in their daily operations. Information and knowledge can be passed up and down through the enterprise instantly by using for example IT systems or mail functions, even to remote parts of the world. The globalisation of MNEs would not be as developed as it is today, were it not for IT.
According to Bensaou and Venkatraman (1992), adopting IT can affect both the structural and the behavioural characteristics of an MNE, but IT can also be affected by them. Ultimately, it is the fit between the company’s uncertainty and its coordination mechanisms that is critical for the improvement of the company’s performance as well as for the development for its interrelationships with other actors on the market. (Bensaou & Venkatraman, 1992)

Since IT improves coordination between components of the MNE, it also helps to overcome spatial and temporal barriers and promote flexibility. Fitting the correct IT to the MNE’s specific needs can increase the company’s global competitiveness. (Boudreau et al., 1998) A synchronized global system is preferable when the enterprise is situated in more than one country. MNEs need constant updates of their systems, especially when they have subsidiaries all over the world. One way to do this is through synchronization and integration of the systems across national borders.

When enterprises expand into multinational businesses it is important to take advantage of the IT available in order to integrate and facilitate communication within the enterprise, albeit at different locations. It would be impossible to get information across nations in only seconds without the use of IT and the Internet. The more countries and locations that are involved, the more IT is required to send and receive information.

A subsidiary that is the reason of an enterprise’s competitive advantage may receive more attention and influence at HQ than other subsidiaries. The communication between HQ and subsidiary is often dependent on the industry and the organisational structure of the enterprise. In manufacturing enterprises, for example, the subsidiaries can be co-dependent and in need of an IT system that facilitates production and logistics between them. In other enterprises, with operations all over the world, another concern can be how to communicate without being geographically close, a problem that can be solved with the help of IT.

IT can never replace personal face-to-face interaction between people; however, it acts as a network that connects people all over the world. Moreover, geographical proximity is not always translated into organisational proximity. As information has become searchable, retrievable and storable, IT has developed a new mechanism for communicating across organisational boundaries. The need for face-to-face communication in the global business environment has decreased
because of the IT development, and organisations may start to develop technological relationships instead of personal ones. (Tang & Trevino, 2010)

Leem, Kim, Yu and Paek (2008) investigated 312 enterprises in their research to produce a model which enterprises may use to find out where they are in the IT development. The reason for Leem et al.'s (2008) research is to give enterprises an insight into how they can maximize the performance of their IT. They introduced a model including five maturity stages; initiation, recognition, diffusion, control and integration. The five stages are shown in Figure 4 below. The first stage describes when basic IT investment is made, which includes information systems that are very simple. The recognition stage is the stage at which the importance of IT is being recognized as well as the competitiveness it provides. At maturity stage number three, the use of IT covers the enterprise's value chain, but is still diffuse. An IT department is established which supports the IT parts of the enterprise. Control is the fourth step, including the control of the assets of IT, which leads to a greater satisfaction with the system. The final step is integration. Integration is where the stage of end-to-end business process is integrated with IT, and where the IT functions are understood and agreed upon by all functions throughout the enterprise. When an enterprise reaches the final stage, other enterprises may follow its lead, because it is viewed as a role model. (Leem et al., 2008)

![Figure 4. The five stage model of IT maturity (Leem et al., 2008, p. 1212)](image-url)

As stated above, the final stage in the maturity level of IT is the integration process. It is evident that integration of IT system throughout the enterprise is the most difficult part. Because of the many stages to be achieved, only a few enterprises reach this final stage. A reason as to why so many enterprises do not reach the final stage and have success in their integration process may be because of the rapid speed of IT evolution. When an enterprise has reached the third or fourth stage in the maturity levels of its IT, the systems used may already be too old in order for the enterprise to reach the final stage.
2.1. Advantages from Using IT

IT facilitates communication between different functions, management and geographically spread units. This facilitates the coordination of activities in the MNE, and thereby improves the strategic advantages. The MNE has a huge range; it is able to collect knowledge from different local units, assimilate the knowledge and disseminate it to other units in the MNE. The exchange of knowledge between units may lead to new insights and new knowledge within the organisation, and in this way it may lead to strategic advantages. (Sambharya et al., 2005)

“IT has created avenues for customized interaction with internal subsidiaries as well as customers, vendors and partners. Specifically, the ability to digitize and remotely manipulate digitally stored information has enabled such competencies and knowledge to be generated in any location within an MNE and share instantaneously with other locations and with external partners. Possessing this kind of capability has become most useful in the area of knowledge management.” (Sambharya et al., 2005, p. 151)

According to Miller (2004), studies have shown that diversified firms who share similar technologies and who synergize their operations can be expected to increase their Returns On Investment (ROI) more than diversified firms who are not synergized via technology sharing. Miller also states that a firm with high diversification has a higher level of internal innovation, partly because of a reduced use of strategic control. By using shared technology, a diversified firm can enhance its possibilities of exercising cohesive strategic control throughout the entire firm. Increased use of IT may also lead to limited managerial attention, releasing managerial resources for other activities. Miller (2004) formulates a thesis that when a lagging firm introduces a standardised technology system for the entire firm, it may lead to the firm switching strategies from for example, an intragrowth process to an acquisition pursuit. Furthermore, Miller (2004) also shows that, returns on sales are typically higher amongst industries linked by high technology flows where inter-industry sales and patent-crossovers are frequently performed. Technology may also be used as a means for lagging firms to escape competition in a particular market. (Miller, 2004)

According to Argyres (1996), common technology may make it possible for the various divisions in the MNE, independently of each other, to develop new product areas. Furthermore, Argyres (1996) claims that fewer divisional
boundaries reduces the interdivisional costs and that a division’s collaboration with, for example, the research and development department may well result in complementary findings for other divisions. IT may, therefore, help in the general development of the enterprise, in that it helps subsidiaries or divisions to overcome their boundaries, thus reducing communication costs and enabling them to communicate freely and to be innovative in terms of efficiency and new ideas. The cooperation and willingness to improve the enterprise from within can take it to a higher level of competition and help create competitive advantages.

Many MNEs are using IT to implement a more locally responsive approach to the management and sharing of knowledge. One example is to create virtual communities (read more about virtual organisations in 4.2.) with scientists as free agents, at the same time as it benefits MNEs and customers by providing solutions to specific local problems. (Sambharya et al., 2005) The internal transfer of knowledge through the use of IT in a divisional MNE reduces transaction costs, but a centralised management can also be a way of cutting costs (Argyres, 1996).

The global IT infrastructure may ease some functions in the subsidiaries by, for example, taking over some of the administrative functions. This may result in lower costs for the subsidiary. (Ekman, Thilénius, Thompson & Whitaker, 2011) MNEs should not rely just on competitive advantages of their global efficiencies but ought to try to be more locally responsive in order to reduce costs. By entering alliances and partnerships with external actors, IT enables MNEs to optimize their own resources, focus on core competencies and find missing resources and lacking competencies. The influence of IT promotes the use and effectiveness of alliances and partnerships, as IT reduces distance and accelerates the speed of operations in an MNE. However, when an MNE is faced with partners from different countries all over the world, cultural challenges become an obstacle. (Sambharya et al., 2005)

The performance of an MNE is highly dependent on finding opportunities in local markets and integrating these opportunities with the activities in the MNE. The opportunities in the local markets may be transformed into global activities with the help of IT. “IT can reduce information processing and coordination cost and thereby facilitate the efficient development of new business opportunities”. (Andersen & Foss, 2005, p. 297) The functions of IT in the MNE are many, for example, it may help decision-making and information progressing. It also has an important function as it lends efficiency to the transaction functions. For example, the processing of invoices and orders as well as transport tracking processes
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becomes much simpler with the use of IT. (Roche & Blaine, 2000) IT facilitates decision-making at higher levels in organisations, since operational data is easily accessible and cost-effective for senior managers. Through IT, work definitions and more structured roles are easily stored and transmitted, for example, via the intranet and online databases, which enables formalization of human resources in the enterprise. The possibility of monitoring the activities of subsidiaries on a larger scale is facilitated by the use of IT. (Sambharya et al., 2005)

Even though there are many laws and regulations, as well as cultural differences, concerning the immediate environment surrounding the MNE, IT facilitates the cooperation within the enterprise, if it has implemented, for example, standardised forms and documents. This is so that the documentation is the same worldwide.

The emergence of new technologies helps reduce the cost of conducting business across borders. Thanks to its ability in reducing communication costs, IT has had a major impact on international business. Since IT increases the ability of MNEs to communicate across borders, the attractiveness is enhanced of engaging in activities with a country geographically distant. (Tang & Trevino, 2010)

IT may reduce the processing and coordination costs and facilitate an effective development of new business opportunities. Managers using IT coordinate different special functions and internal market insights in a cost-effective manner. This increases the economic value which is connected to the development of strategic benefits. (Andersen & Foss, 2005) MNEs also use IT in order to reduce transaction costs and organise international exchange to reduce production costs (Rangan & Sengul, 2009). IT may help reduce costs in various functions within the MNE and it connects people working in different parts of the world through for example email, chat and virtual meetings. This way, the cost of travel and the time it would take are eliminated. The subsidiaries of the MNE usually have different functions that can be coordinated with each other and with HQ by using a unified IT system for the entire MNE. However, when implementing a universal system one needs to take in consideration the differences in culture and language that exist.

Multisourcing of IT has become more common. Earlier, an enterprise would outsource the IT function to one company, but there are a number of advantages of outsourcing IT to several companies. To fulfil the customer’s needs, an enterprise has to be available all the time. A sector this applies to particularly is the bank sector with its Internet solutions. If such a service does not work for
some reason, the customers may react in a negative way and spread their dissatisfaction via the Internet through, for example, tweets and blogs. This means that a large number of customers all over the world are alerted to the situation, and a negative word-of-mouth rumour is spread. (Edberg, 2011) This example shows the importance for enterprises to outsource their IT functions to several companies, in order to protect themselves from major breakdowns that might damage their business. Rangan and Sengul (2009, p. 1501) also states that “With the emergence of IT and shared modes of connecting business activity, modern MNEs can hand over more and more of the work they had previously performed in-house to outside specialists.”

**Competitive Advantages**

For an enterprise to compete in different foreign markets, it needs to have competitive advantages. This competitive advantage does not derive from IT in itself; the management is the foundation for these advantages. (Roche & Blaine, 2000) Competitive advantage is described by Geringer et al. (1989, p. 109) as “...some tangible or intangible characteristic of an organisation which rivals cannot imitate without incurring substantial cost and uncertainty.” The MNE is given competitive advantages in comparison to enterprises which only work domestically. There are more business opportunities when working in a larger scale market. (Andersen & Foss, 2005) According to Kindleberger (in Roche & Blaine, 2000, p. 22) these competitive advantages may come from four different sources:

- Imperfections in the markets for goods caused by product differentiation, marketing skills etc.
- Imperfections in factors markets due to proprietary technology and management skills.
- Economies of scale.
- Government intervention in the marketplace.

With the use of IT, imperfections in the markets may be reduced because information is available to all participants in the market. IT generates three specific benefits: efficiency, functionality, sustainability. The first benefit includes reduced cost and/or increased productivity. The functionality refers to the added value which companies may give to the customer. It also refers to increased innovation and differentiation. The capability of IT gives the enterprise sustainable advantages. There is another way to generate sustainable competitive advantages. An enterprise that competes globally needs to connect their IT with
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the strategy of the business. A foundation for an MNE to gain sustainable competitive advantages is to have heterogeneity and mobility in the resources of the firm. Also concepts such as rarity and imperfect imitability are important to become sustainable in the competitive advantages. Imperfect imitability refers to the cost for a firm to be able to imitate resources from another enterprise in order to obtain similarity. (Roche & Blaine, 2000)

IT is an important source of competitive advantage that helps enterprises to find new management possibilities (Sèric & Gil-Saura, 2011). The management of an MNE must decide how the enterprise’s resources should be divided amongst the different sections in order to gain both competitive advantages as well as returns. Competitive advantage is described as the way market knowledge and technology is combined into a core skill in order to give the company an opportunity of effectively competing and growing on the market. (Geringer et al., 1989) If an enterprise uses IT in the right way and stays updated on what can be improved and what is new, there is a lot to be gained in terms of being ahead on the market. Instead of trying to mimic what others are doing, managers should look to the future and try to think one step ahead and take advantage of the technology that exists.

The capability of IT is linked with performance, and a well-developed IT structure may provide competitive advantages for the company. The use of IT also generates lower costs, such as transaction costs and coordination costs. When transaction costs decrease, the efficiency in the company increases. However, according to the CEO of the London School of Economics, the competitive advantage does not come from IT in itself; it is merely the information that it is possible to spread through the use of IT that gives an enterprise competitive advantages. (Sanders, 2007) IT as a competitive advantage includes some vulnerabilities (Roche & Blaine, 2000, p. 44): *Imitation, substitution, holdup and slack*. Because of these threats, IT may just be seen as a necessity for the strategy of the firm and not the source providing competitive advantages.

The strategy of the MNE may lead to competitive advantages provided through IT. The more familiar the employees are with an IT system, the better it can be operated, hence leading to advantages for the enterprise. IT tools and solutions that are not used become ineffective and a waste of financial resources. By treating education and continuous training of the employees as a valuable asset to the enterprise, it can become competitive advantage. Geringer et al. (1989) presented a finding that showed a correlation between diversification strategy
and performance, which could also be applicable to an MNE. The authors concluded that there are two ways of gaining competitive advantages, through product or geographical diversification. They also conclude that a company, which is international and has a diversification strategy, has a superior performance when compared to domestic firms. Today, countries become more similar, in for example, distribution channels or marketing, as IT is gaining a more integrated role in an enterprise. Through this, the traditional way of distinguishing domestic operations on the one hand, and international operations on the other, is beginning to blur. (Geringer et al., 1989)

“Bargaining power and comparative efficiency can be seen as the two major sources of competitive advantage” (Bakos & Treacy, 1986, p. 113). In figure 5, a model of competitive advantages is presented. The bargaining power consists of a model of three factors: search related cost, referring to the process for searching for other suppliers; unique product, the enterprise makes sure that it has unique properties in its products or offers a unique and valuable information service to its customers. Finally switching costs, the enterprise makes sure that the costs to its customers of switching to other suppliers are high. Comparative efficiency has two parts; internal efficiency is perceived by comparing the execution of organisational functions comparative to other enterprises in the same industry. Inter-organisational efficiency is about cooperative systems used to integrate information and the information-related activities between two, or more, enterprises in the same chain of production. (Bakos & Treacy, 1986)

![Figure 5. A Causal Model of Competitive Advantage. (Bakos & Treacy, 1986, p. 114)
“Four areas of opportunity for IT to support competitive strategy, which are: (1) improvement of operational efficiency and functional effectiveness, (2) exploitation of interorganizational synergies, (3) product innovation with IT, and (4) acquisition of bargaining advantage over one’s customer and suppliers.” (Bakos & Treacy, 1986, p. 112).

To enhance and support the internal operation and strategy within an enterprise, IT systems are a tool for gaining economic benefits and also for creating competitive advantages, especially for enterprises who work with corporate innovation (Bakos & Treacy, 1986).

Having well-functioning coordination makes an enterprise more effective. The enterprise may connect its system as a competition strategy. For instance, the enterprise may coordinate its product planning system through interconnection with an order entry system in another enterprise in order to make the process effective and to shorten the lead time. (Bakos & Treacy, 1986)

An IT system that supports the internal strategy in an enterprise may also support its competition ability. With an organisational structure that benefits from the IT system, opportunities are provided for the business effectiveness through the facilitation processes in the company. (Bakos & Treacy, 1986) The Internet connectivity provided possibilities for creating competitive advantages, starting with cost savings and cost efficiency. There are three concepts. Performance improvement means that it is easy to integrate information resources, support virtual teams and speed up decision-making for an efficient organisation. Market penetration can be achieved through external connectivity with customers, mainly from the web site and online customer support. Finally, there is product transformation, which includes development of online-products and services that will redefine the enterprise’s strategic position. (Hamill, 1997)

If the enterprise has an IT system that the subsidiaries are familiar with and that fit the corporate strategy, the IT system can make information and communication within the enterprise more accessible and useful to the employees. The different subsidiaries provide information about the local market that can easily be forwarded to other parts of the organisation if there is a well-functioning IT system.
The Internet increases the competitive advantages of economies of scale, making it easier for small companies to compete globally. A good website can and should be used for advertising, corporate visibility, brand name recognition, public relations, corporate sponsorship, direct sales, customer support and technical assistance. Because of the standardisation of pricing, customers will be aware and have knowledge of the product and its price. The chain from producer to end-customer is getting shorter; the need for intermediaries is decreasing. (Hamill, 1997) Today, managing customers in an effective way has become an opportunity for the enterprise to gain competitive advantages and differentiate themselves (Roche & Blaine, 2000). The Internet is the perfect way to stay in contact with customers; it is available around the clock and the customer can find all the information needed before making a purchase, online or at a store. Using a website as a portal for customers is very cost-effective since it does not require staff during its opening hours nor does it require a manned customer service as there are always ways of contacting the enterprise through the website. For an MNE, the Internet creates opportunities like no other market; for example, customers from all over the world can access their web page, geographical distance is overcome and the enterprise is always available to the customers. Marketing online can also be helpful since the MNE can choose where to be seen and by which demographic. By using IT to manage customers in the right way, competitive advantage over one’s competitors can be created.

IT is valuable to the MNE and offers potential benefits ranging from flexibility and quality improvement to cost reduction and productivity enhancement. Moreover, technical and human resources probably result in short-lived competitive advantages. (Melville, Kraemer & Gurbaxani, 2004) IT facilitates control between the actors in the value chain in both past and future generations. IT alignment should be specifically tailored to an enterprise and be difficult to copy for outsiders, and it can be seen as a competitive advantage. (Yamin & Sincovics, 2007)

IT is one of the keys enabling the MNE to gain competitive advantages and also to sustain them. There is an increased competitiveness on the market and through the use of IT, MNEs may diversify themselves and therefore expand on the international market. (Roche & Blaine, 2000) But the use of IT cannot be seen as a competitive advantage any more, according to Edberg (2011). No customers are surprised or impressed that an enterprise has for example an Internet service; it has become more of an obligation. The IT department is no longer separated from the rest of the enterprise. It is now an important part of the development of business at an early stage. At Skandia, IT and business development is integrated,
resulting in a high degree of innovations. The CEO at Nordnet concluded that with IT and projects integrated, the work processes are more cost effective, and the time for the work process is shorter. IT staff with a greater knowledge of the company and its activities are of much greater value than staff with exclusively IT competence. (Edberg, 2011)

According to Edberg (2011), customers are heavy users of mobile platforms, and keeping up with this development is a challenge for businesses. Competitive advantages can even be created through applications developed for devices such as iPhone and iPad. However, this is not achieved just by releasing an application. The customers must feel confidence in the product in order for it to succeed on the applications market. The mobile platform has become a way of gaining competitive advantages. Enterprises have tried to develop unique systems, yet, it may be more profitable to use the same system as everyone else. What is more, developed standardised solutions are being bought for companies from distributors. The conclusion is that the customer does not care what system a company is using; the only thing of interest is that it works and helps the customer fulfil their needs. (Edberg, 2011)

Thus, IT in itself is not a competitive advantage but an asset to the enterprise, given that the employees provided with the IT tools have the knowledge of how to fully use them. The enterprise can make sure it is updated on the newest technology, but only when it also updates its employees on this, can the full advantage be achieved. When this is done, the employees can gain the confidence to use the technology in the most effective way, and then the investment of integrating the new technology is fully reached. Enterprises may also connect their systems with customers and suppliers systems to become more efficient and create a stronger collaboration. Some enterprises may have parts of their system to which the customers have access in order to make cooperation run smoothly.

According to Bakos and Treacy (1986), the advantages that derive from IT can be viewed from three different perspectives; the possibility of improving efficiency in the present organisation, of driving other competitors in the same industry out of the market, and the possibility for an outsider of investigating whether it is worth entering an industry. From these three perspectives, three strategies are developed (Bakos & Treacy, 1986, p. 108):

- **Internal strategy** - This strategy is about reaching goals within the organisation by developing an effective organisational structure.
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- **Competitive strategy** - This strategy is about business competition within the branch.

- **Business portfolio** - This strategy is about how a company should position itself, and in which branches it should be established in order to be able to compete successfully.

These three parts of the corporate strategy may affect the enterprise simultaneously. IT has an important part to play in the corporate strategy through, for example, email and online order entry systems. IT systems may provide information necessary to customers and also improve the internal efficiency within the organisation. IT improves efficiency in many different ways and areas within the enterprise. (Bakos & Treacy, 1986) However, MNEs need to be prepared for IT mishaps and have a back-up plan if, for example, their servers crash or their web pages fail. In these scenarios it is important to have routines for, for example, how to handle dissatisfied customers and minimize damage to the enterprise’s reputation. If a customer experiences difficulties with a web page when placing an order, the trust and confidence in the MNE may decrease, and the customer will go to a competitor instead. This is why the MNE needs to not only use IT in a way that gives competitive advantage, but also prevents things that might take that advantage away.

### 2.2. Obstacles for IT Use in MNEs

The research area of IT and the effect it has on performance in an enterprise gives inconsistent results. The explanations have been several and have shown some obstacles in implementing IT in the organisation. Also the time gap between the IT investment and the visible impact on a company’s performance creates problems when measuring the actual performance shift. (Sanders, 2007) Another obstacle is that, with the use of IT, there may be an information overload in the organisation because of enhanced information processing (Andersen & Segars, 2001). Geographical and temporal distances are obstacles MNEs need to overcome in order to be successful globally. Therefore, in order to be effective, MNEs use information technologies within the organisation to overcome spatial and temporal boundaries. (Boudreau et al., 1988)

Knowing what information is important can be difficult in an enterprise where a large amount of information is handled on a regular basis. Information overload is a potential threat to a functioning enterprise, but a well-developed IT system can help in providing the right information at the right time and place. This way, different parts of the organisation do not need to process unnecessary
information that does not apply to them. One advantage of having an integrated IT system throughout the MNE is that it is possible to share information and work processes with subsidiaries in other parts of the world.

The use of internal IT has reduced several costs, for example, management- and communication costs. At the same time, the costs increase when an enterprise is expanding, partly because of the extensive management actions required when the employees come from different cultural backgrounds. Another reason is associated with the process of decision-making. Even though IT reduces costs in several units, there is some obscurity of IT’s reduction of the total internal costs. (Roche & Blaine, 2000) IT has resulted in some consequences for the costs in the MNEs. For example; companies can be decreasingly critical of geographic factors and distance when searching for global efficiencies through better coordination and control of activities abroad. Global efficiency for MNEs is connected to the optimal management of the activities and business processes of internal value chains. (Sambharya et al., 2005) In addition, having operations in many countries generates higher costs. Cultural differences or regional differences, as well as serving the increased number of segments, may also be an obstacle when expanding in different countries. (Geringer et al., 1989)

A consequence of the implementation of IT in MNEs can be the slow dissolution of the value chain within the MNE. Because of the evolution of IT and increased digitalization and communication, transaction costs between the MNE and its suppliers have diminished, meaning that activities that were once performed internally can be bought from other actors at a lower cost. This leads to more outsourcing of peripheral activities to specialized and lower-cost providers, and the MNE can focus on its core competences. (Sambharya et al., 2005)

A question that arises when discussing outsourcing is whether the enterprise should have its own IT support in-house or whether it should outsource it. India is well-known for housing many support functions for other enterprises, hence providing outsourcing solutions for IT support, customer support, and so on. The benefits of outsourcing to India are that the main language is English, the educational level is high and the personnel costs are low. This makes it inexpensive to have the support functions in a country other than that of the enterprise’s operations. It is important for managers to take into consideration the cultural differences when communicating when outsourcing the IT support function to a foreign country is. The cultural differences might create difficulties in the communication between personnel at the outsourced support function and the employees at the enterprise needing the support. Furthermore, there is a risk
in giving another enterprise access to IT systems containing sensitive business information, a risk that is avoided if the IT support is kept in-house. Read more about outsourcing in Case VI: Logica.

An MNE which works in different locations has a higher level of uncertainty as well as complexity to deal with. Also the costs may rise because of institutional and cultural differences. The MNE is often unfamiliar with the way things are being done in other countries. (Andersen & Foss, 2005) Language, culture and social factors may be obstacles in an MNE’s sub-units, because of the importance of giving the accurate information. To overcome these obstacles, it is important for the MNE to use formal information in the message as well as interpersonal contact and mix them together. Unfortunately, the communication between companies and individual consumers is a subject that has been poorly investigated. (Roche & Blaine, 2000) A culture is the homogeneity of characteristics that separates one human from another (Tihanyi, Griffith & Russell, 2011). The impact of cultural differences is also an under-researched subject. There may be problems when implementing a global information system. From earlier research, a statement has been presented: “IT is not cultural-neutral’ but has a strong social and contextual dimension”. (Roche & Blaine, 2000, p. 51) Today, managers are more aware of cultural differences and can handle them much better compared to 20 years ago. When studying cultural differences, there are four main components to look at: language, family structures, religion and wealth. (Tihanyi et al., 2011)

Subsidiaries are rooted in local networks in their environment and they are interdependent on the local networks that may be invisible to the HQ. The lack of transparency in the subsidiaries’ networks is a control problem for the HQ of an MNE, and it results in lack of knowledge at the HQ about the subsidiaries. (Yamin & Sinkovics, 2007) Argyres (1996) agrees on this point and adds that the more boundaries there are within an MNE, the more the costs are reduced. This is because the more boundaries there are in the enterprise, the less these are “crossed” and the smaller the costs become for coordination of the enterprise as one whole unit.

The subsidiaries that are embedded in their local environments may consider external relationships to be more important for their success than their internal relationships within the enterprise. These independent subsidiaries can act on their own with little or no influence from the parent enterprise. “Autonomy is further enhanced when subsidiaries have strong financial performance and good access to resources through local business relationships.” (Ekman et al., 2011, p. 3)
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For an MNE this can result in problems in controlling those subsidiaries that are located far from the HQ. The subsidiaries’ striving for independence may also affect the integration of IT. This can become an obstacle when the MNE moves towards a unified integrated IT system throughout the entire MNE while the subsidiaries prefer independence. (Ekman et al., 2011)

As independent subsidiaries may have closer collaborative relationships with customers and suppliers than the parent company, valuable information risks getting lost by the business group and being spread to other external actors on the market, if the subsidiaries lose their confidence in the business group and the parent company. A common IT system can facilitate communication and information distribution between the different units within the enterprise. Unfortunately, this does not always work, as the subsidiaries are usually more loyal to their local market connections than to their own organisation. The risk is great that subsidiaries perceive their own organisation as controlling and restricting, especially due to an imposed common IT structure.

Hamill (1997) states that there are four barriers that an MNE needs to overcome in order to compete globally. Psychological barriers are lack of information that makes the decision-making slow and deficient. Operational barriers are language, delays of all kinds and a lack of export documentation. Organisational barriers are limited resources, a lack of knowledge of foreign markets and problems in finding a suitable cooperation partner. Product and market barriers are tariffs, market differences, set-up costs and profitability. (Hamill, 1997) It is argued that IT architecture is no different at an international than a domestic level, since the server functions the same way irrespective of where it is placed. But the use of IT varies in different countries depending on other factors such as power availability, differences in taxation and the labour supply. These differences may lead to difficulties with the use of IT in the MNE, and the costs may rise. (Roche & Blaine, 2000)

A concept used by Roche and Blaine (2000) is multinational complexity, which describes the difficulties of working in the global field. Some of the difficulties are government regulation, cultural differences and also different accepted business practices. In units of the enterprise, as well as dealing with the customers, these differences may arise. Also the structure within the MNE is complex and Percy Barnevik, CEO of ABB, mentioned two difficult things an MNE is striving for when building a structure to gain business advantages: the ability to optimize the business on a global scale and also have deep roots locally. (Roche & Blaine, 2000)
One advantage in the MNE that can be in jeopardy as regards its use of IT is the long-term profitability for the MNE. However, IT also provides opportunities, like removing internationalisation barriers for smaller companies. (Yamin & Sinkovics, 2007) Companies using IT must consider the internal as well as the external consequences of their use, otherwise the scenario may occur of costs rising and revenues falling. An example is the introduction of ATM machines, when the cost for transactions fell, but the transaction volume rose and thereby the costs increased when there were more customers to serve. The airline industry has experienced the consequences, both positive and negative, of using IT. The online booking system led to a reduction in transaction costs, but because the prices of every airline were available, the fares were lowered. For a successful implementation of IT, all the functions within the organisation should be involved. (Brady et al., 2008)

When implementing new IT systems in an enterprise, there are always consequences. It is not always easy to foresee these consequences, since they are often different depending on the country and the subsidiary. Sometimes an IT investment may work perfectly in one subsidiary and the employees are satisfied with the result, but when another subsidiary implements the system the result may be the complete opposite. The same obstacles may arise when presenting new IT solutions to customers or suppliers; some of them have no problem in adapting to the new solutions and some find it more difficult to adapt. The changing of an IT system can also be opposed by employees who wish to maintain the original system. For example, in theory the functions in a new IT system may meet all the needs of the MNE, but when it is implemented it does not work in practice because it is too complicated for the employees, who will need time and experience to efficiently use the system. The MNE then has the same dilemma as whether to keep a non-profitable customer or not; is the system worth learning in the long run even though it is complicated and may cost more money than anticipated, or should the system be decommissioned and a new solution be bought in instead? Sometimes the system in an MNE has to be changed because of legal matters or if there is a restructuring of the organisation. For example, an MNE is controlled centrally and a subsidiary is required to implement the same system as in the rest of the MNE, even if it may not be the most effective alternative.

According to a survey made by the non-profit organisation Prevent (October 2011), one out of four staff members feels overloaded by the IT tools in their work and had a negative experience of IT. If the findings were applied to the entire employed population in Sweden, the number would be 770,000 people.
There were over 600 participants in the survey and the finding was that IT-related stress is a growing problem, especially for management. They felt a lack of training within the field of IT, and worried about the personal integrity using IT. According to the chief operating officer at Prevent, the stress-related problems caused by IT probably also affect efficiency in the company. (Prevent web page)

Concerning MNE strategy, global IT could be hard to implement if the subsidiary has acted independently. The subsidiary may resist cooperation, if the desire for independence continues. If the subsidiary is not using a global IT system, the information which could have been sent through a common IT system ceases. When the same IT system is implemented at various locations of the MNE, it may be perceived differently depending on which country it is in. One country may think the system is a well-functioning solution while another country does not approve of the system at all. Cultural barriers and different organisational structures may cause problems when implementing the new global system that is to be used everywhere. Lack of trust between separate units in the supply chain of the MNE may become an obstacle. Therefore, functioning communication through IT is necessary. (Ekman et al., 2011)

Different cultures as well as perceptions and preferences affect the way the MNE communicates and does business. That is why it is important to communicate through IT and take into consideration the differences within the MNE, since its subsidiaries are located in different parts of the world. As a new IT system can be perceived differently depending on where in the world it is used, it is important to integrate the system in all the subsidiaries and motivate the employees to use it. It is also important to build trust between units in order to keep the information and communication flow open and on-going. When implementing a new IT system, there is always a period of adaptation that needs to be taken into account. Learning a new system is not done overnight, and different people have a varying knowledge of IT. For an MNE to work efficiently with a new system and for the system to be used quickly in an effective way, it is important to train the employees to make sure knowledge of the system is covered in the entire organisation.

The obstacles to using IT are also a subject requiring some further explanation. Some obstacles have been presented in this chapter; however, the deeper the exploration of MNEs, the more obstacles will appear. The literature existing today often explores the competitive advantages of an MNE using IT, but the obstacles will be exemplified in Part II.
3. Organisational Tools for the Multinational Enterprise

There are numerous systems used in MNEs today, and there are also many different ways in which the systems are used depending on the industry the enterprise operates in, and also the position the employee has in the enterprise. Some MNEs design their own systems, but this is often a costly process. Developing their own systems can also take a lot of time, and when the system is ready to use it is no longer up-to-date. Therefore, MNEs often buy their system from an external distributor and adapt the system according to their needs. The goal for many MNEs is to integrate all the different systems within the enterprise across borders. Because of the number of systems existing today, it can be difficult for enterprises to categorize what kind of systems they are using, since they often are adapted to the company. The tools explained in this chapter are overall systems which all MNEs use to some extent.

Most MNE’s use several IT systems that can be divided into two different categories. The first category is the supporting systems, which, for example, include finance, administration, and human resources, necessary in order for the enterprise to function. The other category is systems that facilitate the businesses, systems that are not included in the first category. These systems differ depending on the type of business the MNE is dealing with.

3.1. Internal Communication and Marketing

Communication is an important part of the organisation in terms of efficiency and management. The relationship between the organisation and communication has been noted since the early 20th century, but it was not until 1979 that a theory was presented in which organisations are regarded as consisting of a number of formal and informal interpersonal relationships between humans, and that these relationships need constant maintenance. This occurs through interaction and communication. Marketing has always been product-oriented, and communication has been neglected and treated as something secondary. Since marketing has entered a new era that is best described as information-driven, interactive and consumer-oriented, communication has become the key to successful marketing. (Falkheimer & Heide, 2007)
Internal communication is all communication which takes place within the organisation. According to a study from 2007, four out of ten staff members were not satisfied with the communication in the organisation to which they belong. The study also shows that close work-related communication works best, while strategic communication fails. (Falkheimer & Heide, 2007) Internal communication may support learning processes and enhance the ability to respond to changes in the environment. Through the transfer of knowledge, geographically spread units can use the knowledge of different market conditions and of other functions. This may lead to new business opportunities through the joint forces of the enterprises’ various functions. (Andersen & Foss, 2005)

To keep the communication chain functioning through the whole enterprise, IT has to be available to everyone in-house. If it is not, the chain could be easily broken and the communication becomes inefficient. IT has a major influence on the MNE, since it connects the different subsidiaries around the world. Information is being communicated in real-time through IT and the MNE can gain advantages of sharing and learning from each other’s competences. Thanks to IT, the subsidiaries and HQ can always be up-to-date on what is happening in other parts of the organisation, despite the geographical distance, and employees can easily communicate with each other in a timely manner.

Fulk and DeSanctis (1995) state that IT is communication. The parts of IT can (when IT works as it should) coordinate and exchange information with each other, both internally and externally. Since the managerial hierarchy and organisational structure are about to become more decentralised and more flexible, it is important to arrange and coordinate activities. By using internal electronic communication it is possible to overcome constraints on time and distance. (Fulk & DeSanctis, 1995) Integration of both internal and external communication leads to development of the communication channels (Fill, 2002).

“Today’s organisation is more like a nervous system: a multicentered entity with governance and operations managed differently at different centers.” (Fulk & DeSanctis, 1995, p. 339)

Compared to face-to-face communication, it has been shown that electronic communication increases the overall communication within the organisation. The major benefit from using IT is its ability to link and allow employees both within and between different functions to communicate quickly and cost-efficiently. The use of IT has been shown to aid cross-functional work-flow, and employees can communicate easily both horizontally and vertically within the organisation.
When IT helps to increase online interdependencies, critical information is made more accessible and transparent to employees and increases problem-solving. Another important role of IT is that it allows organisations to explore new ways of structuring their workforce. However, when an organisation relies too much on the communication through IT instead of personal communication face-to-face, this can lead to increased alienation amongst employees. Furthermore, when there is a wide availability of weak tie linkages due to IT within the organisation, the employees may not be motivated to provide information via these links. Nevertheless, there are numerous reasons to expect that motivation to use IT amongst employees should be present, for example the sharing of one’s expertise can increase a person’s self-esteem, respect from others, identification with the organisation and feelings of commitment. Also, if the use of IT media is embedded within the organisation’s culture, it is likely that employees feel encouraged to use them. (Dewett & Jones, 2001) To minimize the problems when implementing a new IT system, the enterprise has to make sure that all employees understand the functions and importance of the new system. By educating the employees, dissatisfaction with the new system can be avoided.

Varey and Lewis (2000) came to the conclusion that internal marketing is a strategy for developing relationships between employees across internal organisational boundaries and can be practiced at different levels in the organisation. There are three main areas of internal marketing according to Fill (2002). These are, namely, development, reward and vision for employees. The common link in all areas is communication. Employees and management need to communicate with each other and non-members of the organisation. It is important that employees are motivated and have knowledge of the brand, visions and goals. Therefore, employees can present a consistent message and overview to non-members. This is called “living the brand”. (Fill, 2002) Furthermore, Varey and Lewis (2000) state that everyone who is involved in service encounters with customers’ needs to interact in a professional way. Internal marketing is a tool for developing such things. To make sure that the employees share the same vision as the enterprise, internal marketing can make the employees more welcoming to new ideas and changes within the enterprise.

It is important that all employees are motivated and have knowledge of the brand, visions and goals. Taking this into account, it is important to have internal communication within the MNE. It is a goal for the enterprise to convey a unified picture of the enterprise to customers, investors and suppliers. If the employees do not have education or information about the goals, vision and brand of the MNE, this can be difficult. Therefore, the internal communication should reflect
how the enterprise wants to be perceived. It is sometimes forgotten in an MNE that the management needs to market the enterprise to the employees in order to remain an attractive employer. It can be dangerous to underestimate the possibility of employees using negative word-of-mouth about the enterprise.

One way for an MNE to communicate internally is by using the intranet. An intranet is a private network used by the enterprise internally (Gay et al., 2007) and it was first used by Lockhead, Hughes and SAS Institute in 1995 (Damsgaard & Scheepers, 2001). Bark (1997) says that an intranet could be a closed system (internal use only), an open system (for external use only) or both closed and open (parts of the intranet is for internal use and other parts for external, some parts could be both internal and external). The purpose of the use of an intranet is to facilitate knowledge creation. Overall, all the information must be sorted into the right place so that it is easy to find, consult and develop. (Damsgaard & Scheepers, 2001) Another factor that has an impact is the company’s customers; they want everything faster, cheaper, at a better quality and with better services. There are five reasons to use an intranet and its technology (Damsgaard & Scheepers, 2001):

1. **Publishing** - Disseminate information through web pages, newsletters, technical documents, product catalogues and employee directories.
2. **Transacting** - Transact with the intranet’s pages functionally.
3. **Interacting** - Interact with one or many individuals and groups in the organisation.
4. **Searching** - Search for information in and about the organisation.
5. **Recording** - Save and store computer-based information.

There are several components of an intranet; among them are network email, internal web, mail and chat (Damsgaard & Scheepers, 2001). There are five attributes that email use internally will lead to: access quality, cost effectiveness, social presence, privacy and ease of use (Kettinger & Grover, 1997). Read more about how the MNEs interviewed use the intranet in Part II.

### 3.2. Internal Control and Coordination

An empirical study by Finnegan and Longaigh (in Sambharya et al., 2005) studied specific effects of IT on control and coordination relationships between MNEs HQ and subsidiaries. It showed that MNEs use a variety of IT tools to achieve global efficiency, transfer of information, learning as well as local responsiveness. Because of the widespread use of IT in the MNEs, the relationship between HQ and
subsidiaries made it possible to monitor data from subsidiaries in real time and to directly control and make changes to activities. IT has also made coordination possible between subsidiaries without interaction among HQ and subsidiaries. Because of the possibility for MNEs to take on numerous external partners and alliances, the organisational structure of the MNE is rapidly changing and flexible. This leads to an issue that the traditional boundaries of the MNE are unclear. IT enables more intense collaboration between internal actors within the MNE as well as with external actors. (Sambharya et al., 2005)

“The challenges facing MNEs today are both difficult and, to a certain extent, not even fully clear. As the Internet’s role in global commerce continues to evolve into uncharted waters, monitoring and exploiting this ever-changing environment will be the key to MNE success. Firms that are able to understand and respond rapidly to technological and environmental changes will succeed, as they can shape the evolving ‘rules of the game’ to their advantage.” (Sambharya et al., 2005, p. 158)

IT enables MNEs to control and coordinate their internal value chain activities and ensures that transactions and activities are seamless across the entire supply chain. At the high end of the supply chain (inbound logistics and operations), the MNE’s value chain is connected to the value chains of its suppliers through real-time integration, scheduling, shipping, planning and warehouse management. At the lower end of the value chain (outbound logistics, marketing, sales and service), IT facilitates in real-time transactions or orders initiated by sales persons, customers or channel partners. By using IT to seamlessly integrate the MNE’s supply chain relationships and transactions; the MNE stands to gain additional global efficiencies. Nike, Inc., US leader in athletic footwear, “...implemented a global electronic supply chain in order to share information with partners around the world and facilitate better decision making.” (Sambharya et al., 2005, p. 148-149)

By using IT, HQ is able to overcome geographical barriers (Ekman et al., 2011). This means that the MNE’s HQ becomes better connected to its subsidiaries, making it easier for the management, among other things, to coordinate control, financial reports and manufacturing. (Roche & Blaine, 2000) Another example of different ways MNEs use IT is for coordination and control of the value chains and business processes through email, corporate databases, intranets and video-conferencing. There is a noticeable trend among MNEs to use such linkages of standardisation and centralisation of information for control and coordination purposes. A practical example may be where a company wishes to standardise all
its back office operations for all its business locations worldwide, enabling rationalisation and constant updating on sales and purchasing activities; then costs for inventory and related costs will diminish. (Sambharya et al., 2005) According to Yamin and Sinkovics (2007), since IT facilitates the coordination between functions and geographically widespread units within the organisation, local benefits may become global (Andersen & Foss, 2005). The coordination is also useful in order to spread risks globally; in the event of a mishap in a subsidiary in one country; everything is not invested in the same place.

Even so, Yamin and Sinkovics (2007) write that the explorative potential for the MNE may be reduced when IT is used. When it comes to the development of an MNE, the MNE cannot disregard the initiative-taking as well as the subsidiary autonomy that IT may enhance. Through the use of IT, the behaviour and achievements of a subsidiary become more visible to HQ. This leads to a surveillance system within the MNE, and it strengthens the power of HQ as well as central control. There is a lack of discussion of whether this control enhances or undermines the advantages of multinationality. (Yamin & Sinkovics, 2007)

The development of IT within enterprises facilitates and increases observability, contractibility and coordination; it also lowers internal coordination costs. Since multiway communication becomes more cost-effective, the need for coordination, especially in complicated transactions, is great. (Rangan & Sengul, 2009)

One way for the enterprise to control and correct its use of IT is through an IT audit. Multinational Enterprises, as well as individuals, become more technically proficient. The audit process requires support from IT. Audit planning in particular is one of the more important areas where IT plays a major role. The auditor needs to understand how the internal control is built and how much evidence is needed to work in the systems, as a user. The access to different parts of the systems is normally divided into different levels. Who is admitted to work at which level in the systems? When using electronic evidence in testing sophisticated internal controls, there are several things that are necessary to consider. These are firewalls, encryption of sensitive information, passwords and authentication. Multinational Enterprises offer powerful auditing, though the software platforms are available worldwide (Bierstaker, Burnaby & Thibodeau, 2001)

Because the information in the systems is stored in databases, it can be accessed from anywhere in the world, which gives the auditor a flexibility in the auditing process. Read more about how MNEs use IT audit in Part II, where the
Commitment to IT is investigated as well as how much resources are put into auditing the multinational enterprise.

3.3. Enterprise Resource Planning Systems

Previously, federal enterprises had several systems which were not compatible with each other. This made the organisational integration processes difficult. Enterprise Resource Planning (ERP) system is an IT system that includes several business functions integrated into one single system with a joint data base. The ERP system helps to coordinate decision-making, coordination, operational integration and mutual investments in relations, investment sharing and surveillance. An ERP system may be expensive and difficult to implement to make it appropriate to the business structure, though when the system is implemented it provides cheaper acquisition as well as operational costs. (Yamin & Sincovics, 2007)

An ERP system has the ability to manage the internal and international operations in an enterprise. The suppliers and customers are united in facilitating transactions online through the system. Internally, functions and departments are integrated and the needs of the different departments can be fulfilled through the system. An example of the use of ERP systems can be when a customer makes an order and the enterprise processes it to an invoice. (Chaudhuri, 2006) Humes (1993) states that an MNE often co-locates its home country HQ and its international HQ. This can put pressure on the management in the enterprise, as it needs to run both the domestic operations and the international ones at the same time. This can be facilitated by a well-adapted IT system. In order to ease communication and coordinate operations throughout an MNE, a unified system and a common business language can facilitate the exchange of information, avoid misunderstandings and speed up the work processes in the enterprise as well as providing a sense of affinity for the employees.

One obstacle that emerged when a government agency implemented an ERP system was that not many employees participated when they had the possibility voluntarily to educate themselves in the system at specific times. One of the reasons why the employees did not do this was that they thought it took too much of their time from ordinary tasks. When the system was implemented, many of the employees thought it was complicated and that it took too much time to handle the system. One of the employees stated that paying the invoices was more time consuming with the new system than with the previous system, which
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had been functioning well for the last 30 years. Other employees stated that they felt incompetent and became frustrated when they did not understand the new system. (Boudreau & Robey, 2005)

It can be difficult for a single enterprise to point out the ERP system in the enterprise since the system is often only known by name or function. The ERP systems are often single units that are connected and interlinked to different departments within the MNE that may be accessed from anywhere in the world. This form of IT is usually adapted to the enterprise’s needs.

3.4. Customer Relationship Management Systems

A Customer Relationship Management (CRM) system is used to facilitate a relationship with the customer on a long-term basis. The system can be used to support decisions, it is a tool for reporting, and it is also used to provide a database of the enterprises customers, which contains information. The information is useful if, for example, a salesperson is leaving the enterprise, as then the customer knowledge stays within the enterprise. (Hendricks, Singhal & Stratman, 2007) The database, in which information about the customer can be found, needs to be accessible for all the relevant departments in the enterprise, like marketing, sales and customer service (Foss, Stone & Ekinci, 2008).

“A CRM system is a technology-based business management tool for developing and leveraging customer knowledge to nurture, maintain, and strengthen profitable relationships with customers.” (Foss et al., 2008, p. 69)

CRM has grown rapidly since the 1990s. With this competitive environment in which enterprises work today, the demand for solutions like CRM strategies and tools has grown. But even though the investments in CRM systems are high and used to improve the performance of sales persons, only 25 percent of 1,337 companies investigated showed an improvement in performance. (Foss et al., 2008)

There are a number of reasons why an enterprise uses a CRM system, but Foss et al. (2008) have concluded four specific reasons. The first is because the enterprise wants to segment the customers in an effective way. Second, the relationship, which the enterprise is aiming for, needs to be developed and maintained easily. By doing this, relationship in the long-term may be established with those customers who are the most profitable. But the customers who are not
profitable need to be handled, and this is the third reason for using CRM systems. The final reason is for the enterprise to be able to customise its marketing efforts and market offerings. (Foss et al., 2008)

To implement CRM in a successful way, some requirements need to be fulfilled. Physical, informational, relational and organisational resources need to be combined. Physical refers to the technological infrastructure, while informational refers to the customer database and call records from the sales persons. The relational resources are relations with customers, and examples of organisational resources are the routines for sharing information and the customer-oriented culture. When combining these four resources, the competitiveness in the enterprise is improved. (Foss et al., 2008)

To compete efficiently for the customer’s attention, it is important to have a developed CRM system in which information about the customer can be stored. When having this database of customer information, it is easier to send, for example, personalised commercial messages to a customer. If the customer contacts the enterprise for assistance, the information about that person can easily be found and the MNE can provide the help needed. By keeping the personal information, it can be easier for an MNE to build a relationship with its customers. When information about the customers is stored, it is easier to distinguish customers’ behaviour patterns. Therefore, it is easier to segment them into special shopping habits, needs and wants.

Customers are perhaps not as affected by different marketing activities nowadays since they are aware of enterprises’ ability to store information about them. Instead, the customers may become frustrated when they are sent emails and text messages with the customer’s name and the enterprise tries to make it sound as if the customer has been chosen individually. Many marketing messages that are trying to sound like personalised messages are transparent to the customer, who is now more aware of these marketing strategies and finds that the messages lack credibility. Despite this, using the CRM system effectively can be a valuable source for the enterprise.

3.5. Human Resource Management Systems

For MNEs in this growing internationalised world, it is important to have a well-functioning Human Resource Management (HRM) system for the enterprise to be successful. Defining HRM or International HRM is not always easy; the definitions depend on which country the operations are in, and cultural as well as
environmental differences. (Brewster, Sparrow & Vernon, 2007) The quotation below explains the importance of HRM:

"It is increasingly becoming a more and more significant part of organisations’ attempt to manage their entire workforce across the world in the most cost-effective manner possible". (Brewster et al., 2007, p. 2)

The connection between Human Resources (HR) and IT is explained by Brewster et al. (2007) as electronic human resources (e-HR). The connection with the two have generated the ability for the enterprise to have interactive communication, career management and virtual teams, and forming virtual communities with employees as well as customers together creates a virtual relationship. With the use of e-HR, the management of employees is also eased and through technology learning for HR can be enhanced. (Brewster et al., 2007)

With the use of IT in the MNE, the capabilities of HRM are improved. HRM information, like payrolls to and from employees, has improved through, for example the use of the intranet. By using a web-based system it is possible to manage employees all over the world. But web-based solutions can also be used in the recruitment process of new employees, and could also provide training programmes for employees, relations surveys and compensation administration. Even though IT gives the MNE benefits, some MNEs are still struggling with the problem of finding out how IT provides advantages in their enterprise and efficient recruitment might be one way. (Brewster et al., 2007) Recruiting new employees is expensive, and the process is often outsourced to specialized firms. Enterprises have become aware of the advantages of recruiting from inside their own organisation. If the MNE has an intranet, it is a lot easier to recruit talented employees and move them up the hierarchy later. With a common training programme the employee can be schooled in new tasks without having to go on long and costly trips to other offices. Furthermore, by having shorter educational courses online, the enterprise can provide the employee with answers to general questions without having to consult someone else in the enterprise. The fast, interactive communication tools may therefore function as a safety net for employees looking for help in their everyday work.

As people in enterprises all over the world communicate with each other through the same channels, using the same language, compressed into specific, commonly accepted abbreviations, the cultural differences and language difficulties may not be as extensive as before. Most people are affected by the internationalisation of society in their private lives, and as languages are often affected by this as well, communicating through IT systems with other parts of the MNE located on other
continents may be getting easier. The average employee is often familiar with at least a few IT systems, and as the communication mode is generalized worldwide thanks, for example, to virtual communities online, the risk of cultural misunderstandings may have been reduced. This may also result in a larger profit for the MNE, which does not have to handle the implications or errors due to long and misleading information flows to the same extent as before.
4. Multinational Enterprises Online

To compete as an MNE, the MNE has to be involved on the Internet. The Internet is the new way to discover new business opportunities such as finding new customers, marketing the enterprise and selling products. The location of an enterprise is less important because of the ability to shop online. The enterprise has to have an updated web page with important information about itself, the products that are being sold and also where it is located. Also being visible in social media like Facebook and Twitter is almost a necessity for reaching today's technological customers. Paying bills over the Internet using an Internet bank has become something the customers require. Even though the Internet has made MNEs more effective and more visible, there is also a downside. With banks online, the risk of fake web pages and bank accounts being hacked is a challenge for the bank. Also, the banks’ customers who are not used to using the Internet have experienced how using local bank offices has become more difficult and expensive. It is a difficult balance to achieve, trying to satisfy the customers who demand new technology solutions and those who are used to the old system.

Gay et al. (2007) lists five definitions encompassing the Internet-driven economy. The first to be described is e-commerce (electronic commerce) which is “...the interchange of merchandise on large scale between nations or individuals” (Gay et al., 2007, p. 5) facilitated at every stage in the process by digital transactions also known as Electronic Data Interchange (EDI). A broader term is e-business (electronic business), including both the use of IT for internal business as well as the activities engaged in by an enterprise during commercial activities with others, including finance, marketing and HRM. E-marketing (electronic marketing) is actions aiming to create more customer value through marketing strategies such as effective segmentation and positioning strategies, effective planning and execution of business actions and by providing satisfactory solutions for the enterprise’s customers. (Gay et al., 2007)

With the third generation (3G) bandwidth technology and wireless Internet, m-commerce (mobile commerce) enables enterprises and individuals to buy and sell goods and services through wireless devices. An example of this is the many applications that can be downloaded to android mobile phones and iPhones. Instant marketing research or sales promotions in local areas, using, for example,
Short Message Service (SMS), is a successful tool that can be used on any market of the MNE. Other functions commonly integrated in mobile phones, such as video and MP3 capabilities, also provide marketing opportunities, giving the MNE a tool that is adaptable, and functions equally well, in all markets where the MNE is present. The broader term for all marketing activities done via mobiles is *m*-business (mobile business). (Gay et al., 2007) In this book, the emphasis is on IT in the MNE, and the information presented is focused on the broader term e-business instead of narrower concepts.

As many enterprises use the advantages that come with actors on the market being constantly “online” and connected to various networks via android mobile phones and other gadgets, the flow of information has turned into a massive information overload. An issue that is treated in this book is that this overload affects many employees, due to the enterprise’s own information channels and the communication with other actors. This has become something of a stress factor, an extra task that is time consuming and necessary, but not something that is perceived to be part of the work task.

Information flows within an enterprise and between its units at a much higher speeds today than previously. It is possible to send information instantly online, and even contracts may be signed online and do not have to be sent back and forth by post. A disadvantage of this could be possible information overload and the difficulties in separating the important information from less important and unwanted commercial messages. MNEs use the Internet to search for customers, distributors and partners around the globe. They can also profit from the use of IT in their after-sales service area, as online support for customer service such as email response, order status and product availability. It is these post-sale services and support activities that are most significant to the MNE; they generate additional revenues and enhance the enterprise image as well as improving customer relationships; hence a reduction in the uncertainty of operating in unaccustomed environments. (Sambharya et al., 2005)

Enterprises are today making homogeneous products, and if a new product is released, it will not take long before substitute brands enter the market. Because of the similarity of many products, the actual competitive advantage that an enterprise can obtain is by offering service in the store as well as post-sale services. This is also the way to differentiate the company brand in a competitive market, and since suppliers keep lowering the prices of the products, it is the service that accompanies the product that becomes the higher cost.
IT has made MNEs more locally responsive than ever before. With the help of the Internet, customers can get instant and detailed access to product information through the MNE’s web page. In terms of marketing, IT and the Internet has made it possible for MNEs to target specific segments and customise promotion schemes aimed at the different segments. (Sambharya et al., 2005)

4.1. Electronic Business

The foundation of the Internet was in the early 1970s when the US Defence Department established a standard network to link and communicate with other military bases and research institutions (Hamill, 1997). Through the use of IT, it has become easier to share, and to handle a large amount of information. E-business (electronic business) technologies refer to IT that uses web or web applications and the Internet to communicate. Through the use of E-business technologies it is possible to transfer data to and between several organisations and between buyers and sellers. (Sanders, 2007) Between the years 2000 and 2005, the usage of the Internet grew by over 180 percent worldwide, and in 2006 over one billion people used the Internet. The benefits of using the Internet are many, for example the opportunity to reach millions of people at a low cost. The Internet also facilitates an expansion on other marketplaces, as well as information dissemination and gathering. The needs of the customers are more easily taken care of and the products are more customised. Through the Internet it is also easy to communicate when a company is making a mistake or is using unethical work methods, as this information is made available globally. (Chaudhuri, 2006)

As stated above, it becomes easier for enterprises and MNEs to reach more potential customers and existing customers when using the Internet than by using traditional marketing methods such as newspapers or telemarketing. The Internet provides a new way of spreading information by word-of-mouth about an enterprise, goods or service. For example, if one customer writes about a recently bought product and tells friends and family about their level of satisfaction though blogging or Facebook, positive word-of-mouth is being spread. For an MNE, disseminating information to a large number of customers at a low cost is an invaluable resource, and it facilitates the possibility for mass-customisation. Because of social communities such as Facebook and MySpace, customers can openly and freely express their feelings about, for example, products and enterprises. It is important for MNEs to keep track of their reputation online in order to acquire feedback, especially if the word-of-mouth is negative.
Retailing, as well as direct marketing, is also benefiting from the development of the Internet. Customers may buy their products directly online at home from retailers all over the world. Companies that are entering new markets, especially international ones, need to be aware of the impact the Internet has on society. There are quick changes to and strong competition on the market and a company must have flexibility as one of its fundamental qualities. (Chaudhuri, 2006)

Porter (in Holm, 2006) describes a list which shows how the Internet influences the structure of the industry. The list includes: competitors become more equal; substitution threats increase; reduced differentiation because of standardised products; the industry becomes more efficient. Through the use of IT, the three main industries for communication have been connected and integrated; telephone, television and the computer. (Holm, 2006). The development of IT and the Internet has also led to an increase in the number of participants in the market place (Roche & Blaine, 2000). The entire world can be viewed as a “local market” since geographical distances can be overcome through online business. A local enterprise does not only compete with competitors on the domestic market, but also with enterprises worldwide because of the Internet and e-business. However, it can be difficult for enterprises to buy products from a location too far away, because of, for example, the cost of freight and heavy goods. Some enterprises outsource their services, such as IT support, to other countries, because it is less costly and perhaps there are greater resources at another location.

Hamill (1997) conclude that the Internet is a network of linked computers all over the world, which operates and allows data to be transferred between otherwise incompatible machines. Peattie and Peters (1997) point out that, even though IT is available, the basic concept of marketing has not changed. E-business activities require trust on the part of the customer, and will continuously lead to relationship commitment (Johns & Perrott, 2008).

"In the network era, electronic linkages within and among organisations are proliferating, altering the ways in which firms acquire factor inputs, convert them into products and services, and distribute the result to their customers." (Melville et al., 2004, p. 284)

Self-service technologies have been introduced in enterprises, for major reasons: to reduce costs, to increase customer satisfaction and loyalty and to reach new customer segments. It has become evident that by making the customer co-producer of a service, the value of the service will increase. The customer feels
more responsible for the service and feels greater satisfaction when participating. (Johns & Perrott, 2008)

As stated above, service such as self-scanning at the supermarket, is used to increase the customers’ satisfaction. So, do the customers not want the personal encounter anymore? Has technology taken over the social interaction even at the supermarket? When purchasing a product in a physical store, the encounter and the response from the cashier is one of the influencing factors when deciding whether one wants to return to the store. The physical connection is not just limited to within the enterprise, where employees mostly communicate through the computer, but the use of IT may lead to a decrease in the physical connection between the enterprise and its customers as well.

Online markets may also contribute to a reduction in the time used for procurement, and make deliveries more predictable, which reduces the need for holding a big stock. The cost of orders and invoice management is also reduced, as these processes become increasingly automated, hence reducing personnel costs. (Brynjolfsson & Hitt, 2000)

The purpose of e-commerce is to facilitate exchanges between parties through the use of digital transactions. One speaks of electronically based inter-organisational and intra-organisational activities and, according to Gay et al. (2007), these transactions speed up all exchange processes. It is the standardisation of Electronic Data Interchange (EDI) that makes the transaction process faster, as well as making it more economical. When adding the other parts of e-business, both the internal functions handling, for example, HRM, strategic decision-making, and the external functions handling, for example, marketing, interrelationships with other companies, the MNE is given a great opportunity to exploit many more possibilities than ever before. In order to be able to seize these opportunities, however, the MNE is required to re-design its business processes, company culture and even, to some extent, its strategy. This means integrating IT across all functions within the enterprise and making them fit the company goal. (Gay et al., 2007) The overall visions and strategies of the enterprise need to be clearly stated to all units within the enterprise and management needs to integrate IT into their business in order to achieve more profitable results.
4.2. Virtual Organisations

A virtual organisation is an enterprise whose members are geographically widespread and therefore need IT in order to function together as a unit. The enterprise that appears to the outside world as a normal single, unified organisation is in fact dispersed in different locations. Virtual enterprises often use email and various IT systems in order to work together collectively while at the same time being located in different places. Hamill (1997) states the need for the fifth P to complete the original four Ps in the marketing mix (Product, Price, Place and Promotion). Processing information, the fifth P, is about effective management of IT systems and a powerful source of competitive advantage. The Place in E-marketing’s four P’s is usually a virtual one that brings together multiple customers and multiple providers in a virtual environment provided for Business to Business (B2B) commerce (Gay et al., 2007). Employees and business partners in global enterprises have different geographical locations and they often experience time differences. A virtual organisation may help the employee or the business partner to overcome these distances. To succeed in its tasks, an enterprise needs to have the ability to transfer knowledge to units abroad. Through that transfer, the enterprise acquires the ability to compete globally with other international enterprises. One of the challenges for the enterprise is to create an organisation that is effective and responsive, and to make it possible to transfer knowledge between different units. Then, a flexible integration between different mergers of organisations has been created. (Boudreau et al., 1998) A virtual organisation can be part of a physical organisation, a part where the employees can work online and search through databases. It allows the employees and departments to coordinate operations and attain results, as well as to cooperate online from various locations. Another example is organisations which have their main business online through e-commerce. For example, when customers purchase goods from a virtual organisation, the customers actually do some of the work themselves by placing the order online.

In order to connect the units within an MNE, an advanced IT system can ease the coordination of the different divisions of the enterprise. Virtual organisations often allow their employees to work from different locations such as their cars, their homes, the office or on an aeroplane. The virtual organisation is characterized by the reduction of spatial and time barriers. (Boudreau et al., 1998)
4.3. Social Media

In a world more and more influenced by technology the decision-makers in firms try to find ways to use social media profitably. It is an ongoing trend, and enterprises need to show more interest in social media. To name a few, Facebook was used by 175 million people in 2009, and on YouTube, a web site where videos are uploaded, there 10 hours of content were uploaded every minute. The information flow has increased and customers of an enterprise publish comments about it online in, for example, blogs. The changes are quick and something that is used today in the virtual world may be gone tomorrow. (Kaplan & Haenlein, 2009)

It is hard to systematize social media, but the authors Kaplan and Haenlein (2009) have made six classifications of social media. First, there are the collaborative projects. Wikipedia is one example of those, and even though the information written there is not always true, it has become a source for information for customers. An MNE using collaborative projects is Nokia. They use internal wikis, in which the employees can acquire information about current projects and ideas for trade. Blogs were actually the first social media, and they are used to describe a person’s life or to provide information about a specific area of knowledge. Blogs are used by companies to provide information to their employees, shareholders and customers. One MNE using this kind of social media is General Motors. The risks are important to bear in mind when dealing with blogs, as both employees and customers may be disappointed and write about their negative experience of the firm. (Kaplein & Haenlein, 2009)

The third classification of social media is content community, in which content is being shared. One example is YouTube, an attractive channel for enterprises because it is very popular among consumers. Google uses content communities when they share recruiting videos and press announcements. Social networking sites, such as Facebook and MySpace, are classification number four. The users of the social media connect with each other and create personal pages. Email as well as instant messages may be used. Warner Brothers is one of many companies using Facebook, and companies using this social network may create their own brand community. Virtual game world, such as World of Warcraft, and Virtual social worlds, such as Second life, are the last two classifications. Virtual game worlds are “platforms that replicate a three-dimensional environment in which users can appear in the form of personalized avatars and interact with each other as they would in real life”. (Kaplein & Haenlein, 2009, p. 64)
Toyota is an MNE that uses World of Warcraft pictures in their commercial and communication campaigns. In the virtual social world behaviour is freer than in the virtual game worlds, and the life in the game is more similar to the real thing. This virtual world provides both internal and external marketing opportunities for enterprises. As presented, MNEs may use social media to contact consumers in a rapid way, and the cost is minor. The efficiency of communication through social media, if it is used in the proper way, is much higher than with traditional tools of communication. (Kaplein & Haenlein, 2009)

With the emergence of the Internet, the MNEs have found a way to be more visible to the customer with their own web page or Facebook page. It is now easy to find information about the MNE and its products. But with this information flow, the MNE becomes more transparent. If a customer is not satisfied with the good or service, their friend and other customers will know about this is a short period of time after posting a comment in a blog or on their Facebook wall. Word-of-mouth has become more important than ever. Also, when it reveals that an MNE has used children as workers in the production of goods this is soon known to a large number of people.
5. IT and the Organisational Structure

IT affects the environment as well as the functioning of an enterprise (Roche & Blaine, 2000). History has shown that IT is the source of managerial development. Enterprises that invest in IT, and have a strategy concerning outsourcing, may benefit from changing their organisational structure. This is because technology has a significant impact on companies’ streamlining which leads to economies. Several complex organisational structures have evolved thanks to IT. (Brynjolfsson, Malone, Gurbaxani, Kambil, 1994) IT strengthens both internal and external relationships. The use of internal IT may help the MNE to manage the differences in markets, and also to develop new business opportunities. Multinationality combined with the use of internal IT, especially at a management level, is the key to developing strategic opportunities in the MNE, as it will lead to a rise in the MNE’s economic performance. Shown in Figure 6 below is the association between multinationality and strategic opportunities. Managers in different environments have different knowledge, skills and capabilities, but when knowledge and skills are combined, strategic opportunities occur. Computer-mediated communication includes the fact that managers use IT to communicate internally and the information is enhanced. This creates a deeper knowledge and facilitates innovation in the MNE, which develops business opportunities. The effect of computer-mediated communication is positive when associated with strategic opportunities and multinationality. Strategic opportunities have a strong association with economic performance. This is because the strategic opportunities give the MNE more actions to choose from, which improves the responsiveness of the MNE during changes in environmental conditions. (Andersen & Foss, 2005)

![Diagram of strategic opportunity and economic performance in the MNE](image)

**Figure 6.** A model of strategic opportunity and economic performance in the MNE
(Andersen & Foss, 2005, p. 299)
The corporate administration and operations have changed due to the rapid development of the Internet, IT and globalisation over the last decades. MNEs may need a complex IT integration system that connects and coordinates the different subsidiaries and their activities within the company in different locations worldwide. (cf. Gunasaekaran & Ngai; Brynjolfsson & Hitt)

A centralised management mode also leads to a loss of incentive intensity. The conclusion is that strategies aiming to innovate by using new technology in a collaborative way with the R&D department are more suitable for less divisionalized MNEs, since the use of the know-how and the technology itself is aimed in one, common direction. (Argyle, 1996)

IT can support both centralised and decentralised decision structures (Andersen & Segars, 2001). According to Roche and Blaine (2000), IT is encouraging decentralised organisations to become more centralised and a more centralised organisation, through the use of IT, to become more decentralised. The authors also argue that the impact of IT is making the organisation flatter, and fewer stages in the organisation are required. (Roche & Blaine, 2000) Thus, IT has a way of supporting both decentralised and centralised decision structures (Andersen & Segars, 2001). The use of IT is different between different departments of the enterprise as well as for the work being executed. IT is more commonly used at the operational levels of the MNE than at strategic levels, in which the personal contact is of great importance. (Roche & Blaine, 2000)

Even though the authors Roche and Blaine (2000), who investigated literature before the year 2000, state that IT encourages a decentralised organisation to be more centralised, an enterprise should not strive to be centralised. An organisation that is centrally controlled often has a slow decision-making process and is ineffective, especially when it comes to MNEs. If a subsidiary has to contact the parent enterprise with all its problems and questions, it would be very time-consuming and ineffective. A decision which has been made in a decentralised organisation may have an improved performance effect because of the use of IT. It has also been suggested that, when there is a decentralised decision structure, uncertainty is handled better. “IT used to enhance internal communication supports a decentralised decision structure”. (Andersen & Segars, 2001, p. 85-86) A decentralised decision structure will provide a more effective way to adapt to changing environments. Andersen and Segars (2001) state that in an organisation which IT is used extensively, the decision structure is more decentralised. The tasks in the organisation are performed more efficiently. A decentralised decision-making structure in the organisation means that the coordination ability
of actions within the organisation is increased. (Andersen & Segars, 2001) An enterprise decentralises itself in order for its different activities to come closer to their markets and to take advantage of available resources (Gunasekaran & Ngai, 2005). To gain a better understanding of what a decentralised organisation may look like, read about Case IV Svenska Handelsbanken in Part II.

The cost of processing information may be lower with the help of IT in a centralised decision structure (Andersen & Segars, 2001). According to Dewett and Jones (2001, p. 329) “Centralization refers to the extent to which decision making authority is dispersed or concentrated in an organisation”. Earlier, most of the decision-making came from the top management of an enterprise, but with the growth of competition both domestically and globally, the decision-making had moved to lower stages in the organisation. This improves the competition, because the employees who are specialized and have the right information are being used in the decision process. (Dewett & Jones, 2001)

When the decisions are made at a centralised level, it sometimes result in an organisation that is bureaucratically controlled. Enterprises with bureaucracy are often stiff and work according to the book. The enterprise therefore lacks the opportunity to think for itself and is strongly dependent on the centralised decision-makers, who sometimes do not even know what is in the best interest of each of the subsidiaries. If every decision has to be made at the top of the chain, there is a lack of efficiency. One scenario might be if employees have certain work-tasks and are afraid to do things that are outside their job description. Therefore, problems that could be solved by simply asking a question are instead forwarded to someone else in the enterprise who works in that specific area.

Information technology is defined by Sanders (2007, p. 179) as: “technological capability used to acquire, process, and transmit information for more effective decision making”. With the quick development of IT, the MNE is aided in the decision-making as well as the coordination of management control. Through the use of IT, there is a larger number of participants in the decision-making process. The participants in the decision-making have a greater variety in their knowledge and the quality in decision-making is improved with the use of IT. (Roche & Blaine, 2000)

“The role of the information system is to serve as a ‘nervous system’ for the enterprise, allowing all types of information (...) to find its place with the most appropriate decision-maker in the organisation.” (Roche & Blaine, 2000, p. 63)
If the uncertainty and complexity in the market is high, the information flow increases. Decision-makers have to process all this information, and with the use of information systems it is easier to monitor changes in the environment and coordinate tasks in the subsidiaries. (Andersen & Foss, 2005) Through the use of IT, it is easier for the MNEs to manage control and decisions within the organisation. It is even possible for MNEs to manage and provide services to global customers. (Roche & Blaine, 2000) The result of a study made by Jarvenpaa and Ives (1993) show that only half of the enterprises studied had IT which was compatible with the strategy and decision-making in the enterprise.

IT can be considered as being ubiquitous in the enterprise and perhaps unappreciated; both employees and customers require a well-functioning IT structure. Often the employees have not had any interaction with the IT department in the enterprise before a problem arises. But IT is so much more than just managing email systems or building systems for managing customers. By involving IT early in the decision process or combining it with business development, an interaction between IT and the rest of the MNE will develop. Through an improved interaction it may become easier to integrate different systems making for a smoother and more efficient system structure and it may perhaps lead to competitive advantages for the MNE.

The IT department in an MNE can sometimes have different goals from the management about investment in IT. The management is striving for the lowest costs when trying to solve the upcoming problem that needs to be fixed with the use of IT. But at the same time they want the best problem solution. On the other hand, the IT department is trying to get the best solution, but is not considering the rising costs. This could lead to some problem and it is time-consuming. Picture the management contacting the IT department, describing the problem and the IT department immediately tries to solve the problem. After a well-constructed proposition is submitted to the management, but is rejected because of the high cost, the IT department then has to find a new proposition to show the management and this is time-consuming. Communication with each other is the key, but also the IT department has to be integrated into the management and business development, and the management has also to be integrated with the IT department. It is important to acquire a perspective from different sides to having a technology within the enterprise which evolves efficiently. Otherwise, the enterprise has no possibility of keeping up with accelerating IT development.
6. Roche and Blaine’s Anthology on Multinational Enterprises and IT

In the exploration of the literature it is evident that several books and articles are written about information technology and multinational enterprises as two separate subjects. The information is often old and not up-to-date and provides little understanding of how MNEs use IT today. To find literature that explains the connection between IT and MNE can be difficult. *Information Technology in Multinational Enterprises*, edited by Roche and Blaine (2000), has been around for several years and the topics discussed in it give an overall view of information technology in multinational enterprises. Therefore, a review of their contribution will end the theoretical part of this book. The book reviewed seeks to understand how the MNE uses IT and what the current stage within the theoretical and empirical findings is. The participating authors also try to map what obstacles the technology may cause when implemented. There are several contributors to the book from different universities and countries and each chapter is a paper from a contributor, which gives a breadth to the content. At the same time, some of the information is constantly repeated throughout the book.

The authors have divided the book into two parts, where the first gives a view of IT and the way it is connected to MNEs. Furthermore, international business theory is examined and other fields are connected to the subject, like social science. The second part of the book has a strong focus on IT as a strategic and competitive function in the enterprise. The first part of the book is more useful in describing the connection between MNE and IT when writing *The IT Phenomenon in the Multinational Enterprise*. The second part feels obsolete and unfortunately, little can be used to explain the use of IT in an MNE today.

Roche and Blaine (2000) are aware that more work has to be done in the area of connecting MNE and IT, and particularly the role of IT as an influence in the core theories of international business. By acquiring this understanding, both the empirical and the theories of international business may be developed. Competitive advantages when using IT in the MNE is a main concept that has been heavily emphasized in the book and a majority of the chapters are devoted to this area. For example, the authors state that management is the foundation for creating sustainable competitive advantages. Read more about this in Chapter
2.1. Advantages from Using International Technology. The arguments and discussions in this book provide insight into how an MNE may obtain these advantages.

An enterprise is not static; there is a constant evaluation of its growth. Roche and Blaine (2000) conclude that it is essential for the growth of an enterprise to acquire a full understanding of how to properly manage IT. Naturally, this is even more challenging when the enterprise enters the global market. Though, with an understanding of the challenges encountered in the international field, the management of the IT function is facilitated. The handling of IT in an MNE has been facilitated through knowing what obstacles can appear on the global market, instead of merely focusing on the local market. This way the MNE can implement universal IT systems that function in more than one country.

The IT system the MNE uses can be adapted to new market conditions appropriately, and other employees can be informed of the new conditions. This is a challenge for both the managers in the enterprise as well as the IT managers. Overcoming this challenge is, of course, difficult, but with an exchange of knowledge (both business-related and IT related) between all units in an enterprise, it is possible to connect the capabilities of IT with the strategic characteristics of the enterprise. (Roche & Blaine, 2000)

One conclusion is that geographical proximity is no longer important because an MNE's activities can nowadays be controlled electronically. Also, the time factor does not need much consideration. The information systems being used in an MNE are extensive, and it is a challenge to try to explain, measure and understand them and how they work. Furthermore, IT brought with it the possibility of working wherever and whenever preferred. The possibility of easily finding information on the Internet gives the enterprise an enormous opportunity to obtain useful information, as long as it can distinguish the relevant, safe information from the rest. Social and cultural factors influence how IT is used by individuals and enterprises. By widening the perspective it is possible to gain an understanding of the impact of IT on countries and regions other than those in the western world. The globalisation of IT needs further study because of its importance for IT managers, and because of the importance of users gaining a full understanding of how IT works in an international field. (Roche & Blaine, 2000)

To summarize, the development of IT is constantly evolving at a rapid pace. Because of this, Information Technology in Multinational Enterprise, which was written in 2000 and uses references which are far older than that, merely
attempts to predict the future and their discussion needs to be updated and complemented in order to provide a full understanding of IT today. Everything that is written about IT must be critically examined and compared to the use of IT today. On the other hand, Roche and Blaine (2000) gives the reader an informative insight into the development of IT up to 2000; the book gives a foundation of the area of IT and its use of in the MNE. The book is recommended to readers who seek to know more about the MNE, how to gain competitive advantages and to those who are looking for a background to the emergence of IT. It is also well written, and the case studies give an insight into the real world, but it is necessary to read it with a critical eye. For information about IT and the Internet, it is suggested that the reader seeks more updated sources of information. The *IT Phenomenon in the Multinational Enterprise* tries to provide an input on what has happened within the field of IT so far, but also how IT connects with the MNE in the 21st century.
PART II
Case studies
Cases

The cases below complement the literary study with relevant and reality-based subjects for discussion. Given that IT is under constant development and MNEs are dependent on IT, it is a necessity to investigate the use of IT from a practical perspective. Combined with the theories, a richer perspective of *The IT Phenomenon in the Multinational Enterprise* is provided. In this part of the book, twelve different MNEs are presented. In some cases, two different employees in the enterprise have been interviewed. This has provided an understanding of the MNE from two different perspectives. When contacting the enterprises, the aim was to find enterprises in different branches. A balance between production enterprises and enterprises selling services was achieved in order for the reader to gain a broader view of differences and similarities on markets. Below is a brief introduction to all the MNEs investigated.

I  *Plantasjen* was founded in 1986 in Norway and soon became the market leader in its field, the floral industry. Today the company has expanded to, for example, Finland and Ireland, and uses many different IT systems. However, the goal is to have united IT systems throughout the entire MNE.

II  *Volkswagen Group Sweden* (VGS), which is a subsidiary of Europe’s largest car producer, has 480,000 employees worldwide. For VGS, IT has become a necessary part of the enterprise, and the most common tool for communication is email.

III  *Swedbank* is one of Sweden’s larger banks and focuses on private individuals and small to middle sized companies. It has offices mainly in Sweden and the Baltic countries. For Swedbank, IT is a necessity for its daily operations.

IV  *Svenska Handelsbanken* (SHB) is a Swedish bank which has subsidiaries in different locations around the world, for example Norway and Great Britain. SHB uses IT on a daily basis, but some obstacles have been discovered.
EFG Bank is a multinational enterprise that focuses on private banking. EFG International has its headquarters in Switzerland, but EFG Bank is located in Stockholm, Sweden and has about fifty employees. The bank uses a number of different IT systems and is present on several continents.

Logica is an international consultancy and works in 38 countries. Its headquarters is in England, and in Sweden there are 5,200 employees. The internal communications are well-developed within Logica, with both internal chat programs and an intranet, and the company considers IT as making their work more efficient.

Scania is an MNE producing trucks, buses and industrial and marine engines, and it is one of the largest MNEs in its industry. The company employs 35,000 people and operates in over 100 countries. Its headquarters is located in Södertälje, Sweden. Scania produces every vehicle on demand, and so incurs no storage or warehousing costs.

Powerwave Technologies operates in 16 different countries and provides wireless solutions for wireless communication. They use several different IT systems in their daily operations, all of them on a global level with no local adaptations.

Grant Thornton is a leading accounting and consultancy company operating in 100 countries. There is an umbrella organisation that is present in Sweden and the UK, amongst others. The Swedish customers are mainly entrepreneurship companies. Grant Thornton uses IT both for internal and external communication and shares a part of an IT system with its customers as a service solution.

Skanska is a Swedish construction company that often works on large projects, building infrastructure, office buildings and homes. With 52,000 employees, Skanska is the third largest enterprise in its industry in Sweden, and number ten in the entire world. It uses IT mainly for staff work processes, but aims at developing its IT maturity extensively in the near future.
XI  *ABB* is a provider of products and systems for power transmission and industrial automation. It is a leading MNE in its industry and manufactures robotic solutions that are custom-made. The customers are to be found in heavy industry and the marine industry. *ABB* uses IT more extensively for external communication than internal.

XII  *Marineparts.fi* is a small multinational enterprise and has its headquarters in Mariehamn, Åland. *Marineparts.fi* sells spare parts for marine vehicles through their international website, both business to business and business to consumer. As it is an Internet-based enterprise, it is in business with customers from all over the world.

The cases are provided in order for the reader to obtain a reality-based view of using IT in an MNE, and for this reason several general analysis questions are provided after each case for the reader to consider. There are also specific questions for each case so that readers can immerse themselves in the cases studied.
I. Plantasjen

Plantasjen is an MNE, founded in Norway, which operates in the floral industry. It is present in four countries, with its main markets in northern Europe, and, according to Urban Sandgren, Group IT Manager at Plantasjen, IT is used in every part of the enterprise. The cash registers in the many Plantasjen shops are called “cash-register PCs”, and they register all purchases made by customers in the shops. There is a central system for the entire Plantasjen enterprise handling orders and warehousing as well as invoice processing. The system generates suggestions for what to order based on previous sales volumes, and handles new products for the coming seasons, as well as producing data warehouse analyses, analysing sales and warehousing figures. Furthermore, the central IT system at Plantasjen handles several marketing tasks, such as publishing information on the company website and printing signs and etiquettes for the shops. Personnel administration is also handled in an IT system at its economic division which can, in case of errors, be accessed by the employees via telephone or email. Of course, the employees at Plantasjen use what the group IT manager calls “the usual office applications”, meaning MS Word and Excel, the company email system and so on.

Plantasjen has grown gradually over the past 25 years, at times very rapidly. The company was founded in 1986 in Norway, and by the end of the 1990s it was the market leader in its field. In 2002, the Swedish company Växus was acquired by Plantasjen and shortly after that Plantasjen also entered the Finnish market. There was a great expansion in these two countries, and today Plantasjen is also present on the Irish market. All in all, there are 100 Plantasjen stores in total. (Plantasjen web page) Initially, each country had its own IT systems, which mean that Plantasjen today is still experiencing some divergence in what software is being used. For the last year and a half, a common solution has been the target for the group IT manager and his colleagues at Plantasjen, and the idea is that both the IT systems and the work processes will be the same throughout the entire company. By consolidating the company’s information gathered in the ten different IT systems used today and integrating them, Plantasjen is intending to have common IT systems throughout the entire company that will facilitate everyday work tasks for their employees. In order to reach all its employees, the main information channel used at Plantasjen is its intranet.

The email function is frequently used for group or function-based communication. Plantasjen is currently using Visma Business for its financial
functions and some purchasing functions. Visma Retail Suite Logistics is used for the rest of the purchasing functions as well as for logistics, and Visma Retail is used for handling the data concerning the stores. Basware is used for dealing with electronic certificates and Plantasjen has had a business intelligence solution developed in order to cover its needs, including MS SQL as a base component. Lastly, Plantasjen uses Relex as a replenishment system, handling prognoses and ordering suggestions.

There are a great number of ideas for how to improve and develop the company with IT as a key component. Hence, there is no need to convince the employees that IT is needed, as they are already very familiar with working with IT as a tool. The difficulty lies in prioritizing all the initiatives and working through them at a pace that makes it possible to realize them from both an IT and an operational perspective. The company structure and the implementation of IT are usually adapted to each other.

The use and maturity level of IT usually evolves gradually; it is difficult to see any distinct changes that have been made since the implementation of IT in the company. One competitive advantage of IT is that it enables Plantasjen to make sure that the right products are in the stores at the right time, by using tools to produce forecasts and other systems supporting the purchasing processes. Another advantage is the opportunity IT provides for the company, through different channels, to show its customers the different products and offers it has at any given moment. Before every implementation of an IT system, Plantasjen evaluates all the alternatives, so that it avoids investing in a system that does not provide a saving, a streamlining or any other measurable, positive effect on its operations. However, as some functions are necessary, this logic is not applicable to every situation. In every implementation of a new IT system, Plantasjen trains its employees either through courses where the employees meet physically in a classroom, or through web-based courses. Practical training, “learning by doing”, is also involved. The extent of the courses depends on the system being implemented. The most important thing for Plantasjen in a global respectively local perspective is that all the IT systems are available in all the local languages spoken within the company. The products also need to have all product information written in all the local languages. Thus, there is no company language, as all local languages are incorporated into the software structures of the IT systems.

Externally, IT facilitates contact with Plantasjen’s suppliers, as they are located in both Europe and Asia. Plantasjen has also experienced positive feedback
concerning its website which is also connected to Plantasjen’s customer club, sending emails with special offers to customers who are members. Plantasjen has recently started looking into marketing tools such as social media, and is today present on Facebook with a Finnish, a Swedish and a Norwegian page (Plantasjen Facebook page). Cultural aspects and legal differences between the countries are not something to which IT makes any contribution, according to the group IT manager. It is, however, something that needs to be considered.

IT has contributed to making available relevant and up-to-date information for both check-ups and decision-making processes, and the company predicts that it will continue to use it this way in the future. By using IT, the group IT manager says, the decision-making process is shortened and its accuracy is improved. The goal of IT is to facilitate, automate and support company activities in order to do more with the available resources at the same, or lower, cost.

**Questions for discussion**

1. All enterprises want to streamline their business activities; how is this made possible in this MNE by using IT?
2. Argue for or against: IT can restrain this MNE.
3. What are the positive and the negative sides of Plantasjen’s way of not using a company language, but adapting each local IT system to the local region?
4. Plantasjen is currently re-designing its IT structure, making it more cohesive throughout the company. What can be gained by doing this, and would it be more profitable to change to a common IT system?
5. What other obstacles might Plantasjen meet while using the current IT structure if it were to grow larger in more countries?
II. Volkswagen Group Sweden

Volkswagen Group Sweden (VGS) is a subsidiary of Europe’s largest car producer, Volkswagen AG, which has its headquarters in Wolfsburg Germany. VGS is located in Södertälje and markets Volkswagen, Skoda, Audi, SEAT and Porsche. There are also the wholly-owned subsidiaries Europcar (a European car rental company) and Volkswagen Parts Logistics Sverige AB. In 2010, Volkswagen delivered 7,203 million cars in 153 countries, the majority to China, Germany and the rest of Europe. VGS has its headquarters in Södertälje, Sweden. The entire business group, Volkswagen AG, has about 480,000 employees, of which 500 are based at VGS in Södertälje. Volkswagen AG is the largest car producer in Europe with 6,000,000 cars per year and the second largest in the world; only General Motors is bigger. Annie Westerholm is the IT coordinator of VGS. The IT coordinator mostly works with the technical side of the company and with the service market. That means a continuous contact with retailers all over the world. Until recently the common language in the business group was German, but it was changed to English to make it easier to communicate within the company.

One specific IT method that VGS concentrates on is to treat the service sales divisions around the world work as a single unit. They do this by using several IT systems connected to each other. Through different applications, the user can select what kind of information he or she prefers, and by doing so the user receives continuous updates. Many of the employees receive over fifty emails a day, so IT plays an important role in the communication flow. However, the easiest way to disseminate information is to simply use the telephone. It may be old-fashioned but the person involved receives information immediately and it is easier to make sure that confidential information only reaches the person involved. The IT coordinator points out that the most common communication tool that she uses is email. This has much to do with the company’s culture, and it is still the most effective way to get information out to a specific employee. The IT functions the IT coordinator uses the most is related to the intranet.

A difficulty that can be seen with IT in the company is that on occasion it does not function properly. VGS are very sensitive to failure in IT, because all their factories are constantly online with retailers. If they were to come offline, the factories could not receive any orders, and the car centre could not receive any
protocols about the car to be fixed. The enterprise would become paralyzed. Therefore, VGS sets aside a large amount of money for educating their employees in different areas of IT. An employee can also seek funds for training in languages, as the enterprise’s common language has changed from German to English in recent years. Therefore, it is of great importance that an employee who has continuous contact with other countries possesses advanced language skills.

Johan Eriksson is the Product Manager for spares at VGS. He acts as a middleman for Volkswagen AG and also for the retailers in Sweden. He mentions that one of the IT systems used at VGS is PHACT, a system to stimulate and upgrade price information. It also analyzes and controls prices. It is an internal system that has been developed by the company. The ERP system from SAP is another system that works as an information source. All information is stored in SAP, so searching is the most relevant task in this system. ETKA is an IT system that catalogues spare parts. It is both an internal and an external system. At VGS there is also an intranet that is used frequently and shows information for both the employees internally and for the customers and vendors externally. An obstacle to the functioning of the IT systems within VGS is that there is a low priority given to training new employees and providing information about the systems. VGS often tests new IT systems that are developed at the parent enterprise in Germany.

Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. In line with the company culture, the most commonly used communication tool is email. Consider the possible connections between national culture and choice of communication tool.
4. What might the implications be, as regards company culture, if the intranet and other IT systems are shut down for a longer period of time.
Swedbank’s history goes back to the year 1820 and it was formerly known as Sparbankerna. This bank has its main markets in Sweden and the Baltic countries. They have also offices in USA, China, Russia, Luxembourg, Ukraine and the other Nordic countries. Their purpose is to offer private individuals and small to middle sized enterprises a full variety of banking services. At first, the aim of the savings bank was to promote savings and accept deposits. In the late 19th century Sparbankerna underwent development by creating new opportunities for agriculture, which was expanding rapidly in Sweden. This concept has turned out to be a successful one for the bank. Even though the bank has sometimes been under pressure and on the edge, it has come back stronger. In 1997, Sparbankerna and Föreningssparbanken merged, which resulted in a customer base of five million individuals. Swedbank is the name Föreningssparbanken and Sparbankerna had been using internationally. (Swedbank web page)

Sven Ersson is Head of Group IT, which is a strategy and IT architecture group for Swedbank. He describes that the group consisted of individuals from Sweden, Estonia and Lithuania, and its main focus is to develop customer interaction services and different IT systems. Even though the co-workers in the group are based in different countries, Swedbank wants to make sure that there are no communication issues between the co-workers. For this reason they use live video for meetings and conferences, which also saves time. Otherwise, they depend on email for the daily communication with other co-workers and also the intranet. There is a chat program for faster response. Swedbank has been using email since the 1980s. As regards Swedbank’s intranet, each country has its own webpage with information regarding both country-specific information and general enterprise information.

Swedbank’s intranet is web-based, with different applications for different user areas. Within the intranet, the user can input different reports such as travelling and time reporting. This is very useful for the office staff and helps coordinates the intranet with the extranet – the clients’ portal. Michael Wolf is the CEO of Swedbank, and he has a direct communication path to all his employees and other people of interest via his blog. On his blog he writes about his daily work as CEO, but also about finance and other bank-related topics. The head of the Group IT states that it is an excellent way to reach out to all of Swedbank’s employees, but the downside is the risk of the CEO becoming too private because of the blog’s
public appearance. The CEO also has another way of communicating, by streaming videos online to employees on special occasions.

Even though there has been a rapid improvement in IT development, the head of the Group IT points out the importance of the personal meetings and using the telephone. “An issue which has been going back and forth for days can instantly be resolved by a phone call.” In any relationships, business or other, the first meeting has a major impact on future affairs, because it is easier to make a connection when people meet face to face. Therefore the head of the Group IT points out that video-conferences make doing business easier. Swedbank has been using this technology for many years, and finds that simple and cheap IT facilitates their daily operations. The need for improved IT has become more important, the more international the enterprise becomes; IT shrinks geographical distances.

As to IT audit in Swedbank, it is a part of the internal general audit and is carried out frequently. IT is a long-term investment for the coming three years (or longer) and there are strict guidelines for how funds are invested in IT. The head of the Group IT concludes that: “The bank operation does not exist without IT. IT is the core business of the bank.”

**Questions for discussion**

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. Consider the statement above that “IT is the core business of the bank”, and formulate more ways in which IT can streamline the banking business.
4. What implications could a malfunction have in the Internet service that Swedbank provides?
IV. Svenska Handelsbanken

Svenska Handelsbanken (SHB) is a Swedish bank with subsidiaries and offices all over the world, and is one of the four largest banks in Sweden (Svenska Handelsbanken web page). SHB as an MNE is constructed with five home markets: Sweden, Denmark, Norway, Finland and Great Britain (Svenska Handelsbanken annual report, 2010). In 1970, due to major crises, SHB became a decentralised organisation. This meant that the bank’s branch offices became regional banks with their own boards and independence. SHB continued to grow and in the 1990s the company expanded in the Nordic countries and rapidly became the top bank in each of the Nordic countries. Today SHB operates in 22 countries and has approximately 11,000 employees. (Svenska Handelsbanken web page) The concept of SHB is as follows:

*Handelsbanken is a full-service bank with a decentralised way of working, a strong local presence due to nationwide branch networks and a long-term approach to customer relations. The Bank grows internationally by establishing its business model on selected markets.* (SHB annual report 2010, p. 9)

In 2010, SHB had around 720 branches in 22 different countries, and in every country the branches are independent and get to make their own decisions. SHB is strongly committed to having a decentralised organisation, but when they are growing, the paths for decision-making only get longer. To overcome this problem, the HQ in Stockholm is trying to distribute the decision-making and other responsibilities to the regional offices. There are several opportunities presented when an organisation is decentralised. For example, satisfying the customers at a lower cost, faster decision-making and ability to adapt more quickly to changes. One example of SHB’s use of IT is that in 2010 the bank developed an investment program in Finland where customers now have the opportunity of using their new “online security services”. Another example is the Swedish customers who are working with farming and forestry. SHB has provided them with an online service that helps them access their specialists and services. SHB states that the key to success is meeting customers in person, but today the customers are met mainly by phone or online through SHB’s web page. (Svenska Handelsbanken annual report 2010)

An employee at SHB (that wishes to be anonymous) describes that the MNE uses the intranet Lotus Notes, which is constructed to help SHB with email, schedules, time reporting and chat (via Lotus Sametime). Lotus Notes also contains
information about the company, guidelines, instructions and information about products and services. (Svenska Handelsbanken web page) The reason why SHB uses Lotus Notes is because it is one of the larger intranets on the market, and it is often used by larger companies, organisations and associations. Another reason is that it is easy to use and available in several different languages. Lotus Sametime is an internal communication program which is used by employees at SHB. The function can be compared to MSN messenger, a tool to help people chat online. Sametime is also a good tool to connect quickly to employees all over the world. The two major functions included in Lotus Sametime are electronic conferences and chat between employees and multiple participants.

In Lotus Notes there is an internal instruction book, called IS, that employees can use. The content can be found on the intranet and it may help the staff when looking for information or routines. Lotus Notes is a connecting link between local, regional and group offices. The intranet provides information for the employees concerning internal vacancies all over the world, available courses, time reporting and emailing. The intranet is a great tool for employees to stay updated on bank activities on the global market.

Through using Lotus Notes, the SHB employee can choose a language depending on location. The English version alongside the Swedish is the most developed and contains the most information and updates. The intranet is an excellent way to transfer information within the organisation across borders, as well as a useful tool to communicate with different units in the subsidiary at one’s workplace. Thanks to this, the internal effectiveness is improved both within individual subsidiaries and globally. As market conditions changes rapidly, it is crucial for a large organisation to use IT to obtain updates instantly in order to stay on top. SHB also uses an IT system which supports the marketing and sales function, and it keeps a database of all its customers, in which loan and account information can be found.

“All markets are different, so of course we felt that we needed a program that helps SHB to overcome the geographical distance. An obstacle that we have encountered is the differences in culture. When one is to communicate in different languages it can be more challenging for personnel in some markets to get through their point of view.”

The SHB employee also states that another obstacle can be when personnel do not take the time to read updates and important information that comes through the intranet, but instead focuses only on the job at hand. However, it can be
understood that the information overload on the intranet is off-putting to all personnel and therefore there is a lack of interest in keeping updated. (SHB employee) The culture within SHB is strong, and to make the employees aware of the goals and ideas in the bank, the book *Our Way* has been developed to ease internal communication. The employees also use IT to communicate with each other, for example, via video conferences instead of long journeys. (Svenska Handelsbanken annual report 2010)

### Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. What pros and cons are there in SHB communicating with some of its customers almost exclusively through the Internet? Consider the fact that the employees at SHB are given training in the company IT systems, but the customers are not.

### V. EFG Bank

EFG International is a bank within the financial industry focusing on private banking. The multinational enterprise has a great number of subsidiaries in several countries, among others Great Britain, China and the USA, but its roots and parent bank are in Switzerland. EFG Bank, which we will call EFG, is one of the subsidiaries, based in Stockholm, Sweden with about fifty employees. In the interview, the IT administrator Robin Lindström says that the IT system structure within EFG International’s IT systems is mainly centralised. The parent bank in Switzerland makes sure that the core systems run properly, and they are aiming for the systems to be equal within every subsidiary. But some of the systems are decentralised. Regular employees work in about ten systems. Amongst these are an email system, a CRM system and an HRM system. The IT administrator works with about twenty different systems, one of which is Active Directory, a system that creates user-IDs. In the system, the user-ID is created and the proper membership for the user is added. Some of the systems used in EFG are proprietary and those most commonly used in decision-making within the enterprise are email and IP-telephone.
Different employees use different IT systems. For example, the system Active directory is only used by IT personnel. The employees in the HR department use the HRM system, and the CRM system is mainly used by brokers. The CRM system is used to gather information about the customer, to make notes about the results from a meeting with a customer, to register meeting plans with customers and also when important calls have been made. The customer has no access to the CRM-system. Many of the IT systems are integrated with other systems. For example, the IT system for email archiving is integrated with the email system. Emails which have been sent through the email-gate can easily be restored when needed. Some of the systems used at EFG are also used at EFG International.

The IT administrator states that it is easy to use IT, and IT makes his work more efficient. However, when the IT department in Stockholm needs support from the parent bank in Switzerland there may be some language difficulties. Problems may also arise concerning different opinions about the priority of issues.

Using IT in internal communication can ease the decision-making process because, for example, of the speed of sending email internally. The most important system used is the email system, in which both the internal and the external communication is facilitated. The IT department at EFG has an internal service desk system, in which it is easier to keep track and to systematize the problems. With the use of IT, it is also easier to organise the support issues and view statistics on the problems solved. Internally, the employees at the IT department have a special chat program, in which they can communicate with the IT department at the parent bank. No differences in IT are visible as regards working locally or globally other than the language barriers.

IT is also used within the field of marketing. To create ads or brochures, special systems are used. The company web page is also used to provide information about EFG, to find contact information and information about the service and products. For all employees at EFG International there is only one intranet, no matter where the subsidiary is based. For example, press releases and information about all the subsidiaries can be found on the intranet.

A goal of using IT internally is to speed up communication since it then becomes more manageable. “In today’s high technological society, it is impossible to run an enterprise without the use of IT, especially an MNE with subsidiaries all over the world.” Effective communication is the basic function in an enterprise. However, when communicating with people at different subsidiaries, some complications may occur; differences in cultures and legislation and language difficulties.
Something that is proper in one culture may be viewed as insulting in another as shown in the following quotation: “...the cultural differences are in the employee, not in the system.” The legislation is also a matter to be taken into account; in Sweden, the laws are not the same as in Switzerland where the parent bank is located. Furthermore, different languages may be problem, but the main language in the MNE is English.

At EFG, the IT audit consist of internal IT auditing which takes place once a year. During this period of time, all systems are being audited to make sure that every system has proper documentation and that tests have been performed, and that information is available about how the system is configured and how to act in case of an incident. It is of great importance to ensure that that the guidelines from the parent bank and the context of internal as well as external guidelines and demands are being followed.

Questions for discussion
1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. The IT administrator at EFG Bank explained that it is impossible to run an enterprise without the use of IT. Explore this statement and give examples of why it is/is not impossible.
4. What are the pros and cons of having one single intranet for all subsidiaries throughout the MNE?

VI. Logica

Logica is an international consultancy enterprise which supplies innovative business-oriented IT solutions within areas like financial services, industrial transport, telecom and media, energy and utilities as well as the public sector. Within these areas, Logica delivers services such as business consulting and helps enterprises with business solutions through consultants who specialize in the different areas. This is known as professional services, in which the consultants work with self-developed programs and outsourcing to maintain and develop various systems for customers. In Sweden there are 5,200 employees spread over 30 locations. Around the world, the number of employees totals 41,000 in 38
countries, and the market focus lies in Europe and India. The headquarters, from where Logica is mainly controlled, is in the United Kingdom. Logica's Consultant Manager Joakim Lönnér's role at the enterprise is to arrange employment opportunities for the consultants who are in his group. He also hires staff, maintains a good atmosphere within the group and contact with customers. In his daily work a resource planning tool and a competence database is being used. In this database the résumés of the consultants are stored and displayed to potential customers. Where the consultant is physically based may differ, but many consultants work outside the office as they have access to the information they need wherever they are in the world.

Logica has an intranet that has the same structure worldwide. The language is English and on the intranet it is possible to have access to different groups and also to send and receive information from that group. When working with groups within the system, it is possible to choose who has access to the information, and it also makes the work more efficient and the communication smoother. The group is used to communicate to other members, and it can be used instead of sending mail since the members have access to the same information all the time. It would be possible to have a Facebook page for the group, but for security reasons this is not an option. Though Logica does have a Facebook page on which information about the enterprise can be found. An internal chat program is used within Logica for internal communications. This program covers the entire enterprise and is also integrated with the mail system, so it is possible to see when an employee is busy.

When a new person is employed, an introduction day is provided to learn the system in which the employee is supposed to work. There are several online courses when it comes to learning environmental security as well as obtaining quality certifications. The enterprise’s education policy is efficient, as there is access to training all the time though IT. This way, the employees can always stay updated on new training programs that become available.

Before a new system is introduced, a calculation has to be made in which costs are considered and whether the system involves a cost-saving or not. An internal follow-up is then conducted in order to see the effects of the system and whether the calculation was right or wrong. Sometimes the result is unexpected, for example, when a system has helped in areas not included in the calculation. To find out what works when using the system and what does not, one needs to take into account the users’ opinions. There is a global group of members from different nations that constantly evaluates the systems currently in use and which
system should be retained. Sometimes, the system works very well, but the global group does not think it suits global work, and therefore the system is rejected. The Consultant Manager describes that there are some risks in using too many IT tools; the face-to-face aspect disappears when a great deal of information is simply emailed to a large number of people. Sometimes IT may make for information overload, and it may even be ineffective when a question is emailed back and forth for days instead of a quick solution provided by a few minutes’ phone. It may even be too impersonal if someone uses IT when communicating and factors like affinity may be reduced. It is easy to miscommunicate when using IT, as gestures and tone are lost when communicating digitally. Logica have their IT support in India and it functions very well. Sometimes there may be a language barrier, when a technical problem arises and the problem needs to be explained in English. “But it tends to get solved easily and the staff at the IT support are very service-oriented”.

Annica Isaksson is an IT consultant working for Logica developing different IT solutions for different customers. She states that “IT makes the work more efficient; by using IT everything is possible.” The work can mean anything from developing systems to implementing new ones. The IT consultant does most of her work from home, as the information she needs is in the database which can be reached from her work computer that contains all the programs she needs for accessing the different databases. The IT consultant’s main task is to work with the Swedish part of the enterprise and therefore she does not communicate globally, and her interest for global information on the intranet is low.

The intranet contains information from event booking at the office in Stockholm to global information about the enterprise. In her daily work, the IT consultant mostly uses the local information on the intranet that is also used for time reporting. In addition, an internal chat function is used. However when it comes to external communication, telephone and email is most commonly used. The disadvantage of communicating through email and chat is that verbal communication and social contact disappears. For example, problem solving may perhaps be more easily facilitated when meeting face-to-face. Brainstorming may be a little difficult when just using chat or email. IT is used to make the work more efficient, but social relationships are a key to a good performance at work.
Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. What obstacles/possibilities may arise when having IT support in India instead of one in every country in which the MNE is present?
4. Which is more important, maintaining the social relationships or implementing more IT systems?

VII. Scania

Scania is one of the largest producers of trucks, buses and industrial and marine engines in their industry. Its headquarter is located in Södertälje, Sweden and it also operates in over a hundred countries. Today it employs over 35,000 people. Scania’s core values are “customer first”, “respect for the individual” and “quality”. To reach those values the company works hard to shorten the lead times in the production. It is important simply to adjust the production volume to the demand. The company applies the Just In Time principle, which means that there is no storage of products and every vehicle is developed according to demand.

“Thinking is needed to get to the next step in the production; it is easy to let the computers do the thinking, but how shall we handle that in an IT crash for example?”

According to Petra Ålund, the Head of IT Infrastructure, IT is everywhere in the organisation and IT has evolved Scania as a company. Scania is using IT in logistics and was tracking deliveries long before individuals started doing it. Scania has developed the virtual testing of products from manual testing; this means that the lead times are shortened and the decision-making becomes more efficient. At Scania, they feel that it is impossible to make a decision without IT, since IT is used throughout the enterprise to obtain the information on which they base decisions. The employee needs to think that IT is a required tool, but cannot be too dependent on it.
Scania uses the same IT systems globally. Whether the IT systems are purchased or self-developed, it is important that they fit the way Scania works and are coherent and possible to integrate with each other. For internal communications, Scania mostly uses email. Depending on the importance of the information that needs to be transferred, different communication tools are chosen. If the information is of great importance they prefer to talk face-to-face, but if the information is general for several departments within the enterprise, it can be published in the enterprises’ newspaper and on the intranet. The newspaper is frequently used because every employee does not have access to a computer, for example, mechanics. Scania also has a chat program which is used in groups internally within the departments.

In its external communication, Scania uses email as the main communication tool. In addition, video conferences and telephone meetings are normally used. There is an internal help desk for supporting the employees with IT and the employees have the possibility of calling a number to get support. In the production departments, the support is in form of a physical person who provides expertise concerning the machines and its systems. The employees at Scania are also offered education and courses in IT.

To control the use of IT, Scania carries out an IT audit. That means that an external auditor looks through the company and ensures that results are not simulated or fixed by IT. Scania also conducts audits internally; they continuously check the risks related to the use of IT, the physical safety by access cards connected to IT and liabilities. By creating their own customised IT systems, Scania can choose the way they want to work.

On the other hand, the strong dependence on IT can be a weakness. Ass all information is stored digitally, it is hard to retrieve were anything to happen to the systems. In order to be prepared for such incidents, it is important to have knowledge of where and how IT is used in the company. Frequent backups of work and information in the systems need to be made. At Scania, the attitude towards IT is that the employees should not feel that IT is leading them, but that it is a tool that can make their work more effective.
Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. How can the lead times in production be made shorter? What role would IT-systems have in such a venture?

VIII. Powerwave Technologies

Benjamin Bayard is Manager of Sales Operations at Powerwave Technologies, an American MNE that is currently established in 16 different countries. Its headquarters is located in Santa Ana, California. Powerwave Technologies provides wireless solutions for wireless communication all over the world. The company is divided into regions, one being EMEA (Europe, Middle-East & Africa), where the regional HQ is located in Stockholm. The vision of Powerwave is to be the leading supplier of advanced wireless solutions. Today the MNE is a pioneer and innovator in the wireless industry and has over 2,000 employees. Many of Powerwave Technologies’ customers are to be found in the telecom industry.

At Powerwave Technologies, most of the internal and external communications are conducted through email, blackberries and telephone conferences. One of the main obstacles the frequent use of IT may result in is that the employees lose the personal (face-to-face) contact with the customers and also between colleagues within the enterprise. However, even though this obstacle exists, it does not create any major disadvantages, since the gains from using IT are considered to be greater. The company uses virtual clouds – backup and information storage to prevent losing valuable information if IT were to malfunction. It is very important for the company always to be online and have functioning IT units. For some departments, it would be devastating if production were to stop, since the different producing units are dependent on each other.
Powerwave Technologies has a shared reporting sales system which means that every region or office has access, through the global business system, to the information of all the different regions. This business system is the heart of the company and information flow is its backbone. Every salesperson has access, for example, to the order system, the stock numbers and the customer database through the common CRM system. Everything handled in the CRM system happens in real-time, which is crucial for the enterprise’s business.

Communication is of great importance to Powerwave Technologies, which is why every employee has the possibility of accessing the common networks that handle both general and confidential information. According to the Manager of Sales Operations, there are no cultural barriers concerning the use of IT that need to be overcome, but there is a hierarchy within the enterprise, and one needs to consider with whom one is communicating and adapt the information according to the recipient. Furthermore, all communication systems at Powerwave Technologies are integrated with each other, but it is the employees who make the system. The integrated IT systems are adapted to the working processes and are synchronized to provide the best possible overview of functions. However, a crucial factor that can mean success or failure in using IT systems within the enterprise is that all employees learn how to use them. The Manager of Sales Operations states that “IT is the backbone in our company; without IT the business would not work at all. One, unanimous system is the goal.”

Powerwave Technologies has grown through acquisitions and has implemented its own, already adapted, systems on all new business sites. These implementations are not especially time-efficient, but the learning process for the employees is quick. The IT systems need to be constantly improved in order for the enterprise to remain efficient, and no local adaptations of IT are made, as the company works with global IT systems. Powerwave Technologies has an intranet that is used to obtain updates and news, information and links to all the different systems. The intranet also provides a customer portal, where clients may acquire information about their orders and the enterprise, which exist in several different languages.
Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. Having a unified company culture facilitates the work processes and the information exchange at Powerwave Technologies, but what might the company lose due to this unification?
4. The entire company’s sales reports, CRM information etc. are stored so that the information can be accessed from all over the world. Despite the security measures taken with, for example, VPN-addresses, what are the risks of having this information accessible to everyone in the company?
5. IT is the backbone of Powerwave Technologies, but what would happen if:
   a) the system were to crash for some reason?
   b) a new, better system were to be introduced on the market and all other competitors adopted it, i.e. how should Powerwave technologies act in order to keep their competitive advantage?

IX. Grant Thornton

Grant Thornton is a leading accounting and consulting company in Sweden. The customers, mainly entrepreneurship companies, are the most satisfied customers in Sweden, according to the Swedish Quality Index 2011. Grant Thornton is also established in 99 other countries, assembled under the umbrella organisation of Grant Thornton International. In Sweden alone, Grant Thornton has over 900 employees. (Grant Thornton web page) According to Office Managing Partner Anders Rabb in Västerås, Sweden, the entire Swedish organisation is regarded as one company, even if every office operates quite independently. This is reflected in the IT system, where the focus is on the Swedish organisation, and local and international information is only given limited attention.
The main tools for internal communication at Grant Thornton are the intranet, called “The Portal”, and the email function. Email is both a blessing and a curse, as it is a quick and easy tool, but at the same time it results in a heavy news feed. The intranet is a major information source for the employees at Grant Thornton, where all information is stored which makes searching and use possible. The employees, as well as the customers, may find information about both international and local activities, as both have login accounts to the web office. This makes the web office an external tool in which the customers can do their own book-keeping, while the employees at Grant Thornton may see and handle the same information at the same time. The web office provides great flexibility to the customers and makes the communication as effective as it can be, as both parties may operate in the same system at the same time. The possibility of using the web office (both internally and externally) makes Grant Thornton a modern workplace. “We think that IT makes us very 2011”.

The Office Managing Partner states that, even though they may use other internal IT systems such as web conferences and web telephone meetings, they usually use physical meetings or email. Grant Thornton has different IT systems for all functions in the company, and the entire company uses the same systems everywhere, which facilitates the task of the support division. All systems are integrated, and by using a VPN (Virtual Private Network) connection, it is possible to work from outside the office. This makes the company flexible, which is appreciated by both customers and employees. There is no ordinary external international communication between the company and its customers. This is because Grant Thornton has local offices that take care of the local customers. For this reason, the internal international communication is also quite limited. The Office Managing Partner gives an example, explaining that an accountant sometimes turns to a fellow accountant in another country for advice. In the introduction process for new employees, there is no training in the company’s IT systems; the employees are expected to learn by working. Very often, new employees turn to their more experienced colleagues for advice.

Grant Thornton is represented in the social media, for example Facebook, LinkedIn and Youtube. These external networks are mainly used as a marketing source for recruiting new graduates. Furthermore, the Manager believes that the more the company grows, the more important the use of IT becomes. The main goal of IT is to have as few disruptions as possible, and the office managing partner is very content with the support for the company IT support function. Grant Thornton is continuously developing and maintaining the systems.
X. Skanska

Skanska is a Swedish construction company that often works on large projects in the multimillion euro area, such as building infrastructure, office buildings and homes. Skanska strives to be the leading construction company in green construction, quality and safety as well as in work ethics. (Skanska web page) With 52,000 employees, Skanska is the third largest enterprise in its industry in Sweden along with its competitor NCC, and number ten in the world. The goal is to grow to 70,000 employees by 2015. Skanska is present in Europe, the USA and to some extent in Latin America, and strives to be the customer’s first choice in all these markets. The markets most focused on today are mature markets in, for example, northern Europe, where Sweden, with its over 4,000 projects, stands for a quarter of Skanska’s entire turnover. Skanska is also working to establish itself in upcoming markets such as Colombia and China. The enterprise has four areas of business: construction, residential development, commercial property development and infrastructure development.

The IT for the Nordic countries in Europe is assembled under the Business Liaison Manager, Osborn Härmestad. His “interface role” means being a representative of the IT Nordic organisation (ITN) in the operational functions in Skanska. It is his task to investigate the problems concerning the information flow that exist in the different functions of Skanska, and ITN helps them find the proper IT solutions according to the function’s needs. By looking at the strategic aims and goals of the company, the Business Liaison Manager can see what?

Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. How much should the customer be involved in Grant Thornton’s services? What role will IT have in this process of change?
4. Why should an MNE carry out an IT audit?
5. What do you think about the fact that the customer's at Grant Thornton (or other auditing enterprises) do some of the work that the enterprise is paid to do?
functions should exist in the IT system, and from those observations ITN designs a new structure. One of ITN's goals with IT is to have the same IT systems throughout all three Nordic countries and to integrate these with each other. At times, a function may use different systems that resemble others used elsewhere in the organisation. Sometimes the same IT system is used but alterations have been made to meet the local demands of a special project. Even though Skanska is one organisation with the same four areas of business all over the world, the mode of working and the work process are not the same everywhere. Therefore, it is necessary for Skanska to be able to alternate the IT systems implemented according to their location.

Today, Skanska's IT function is somewhat separated from the other functions of the company, being more of a supportive function. The aim is however to make IT better integrated into the everyday operations of the company all over the world. As it is the employees working in the operational functions who set the demands for the enterprise's IT systems, it is important for ITN to communicate with these functions in order to create the best IT solutions possible for the company. The information flow in Skanska is made up almost entirely of its IT systems and its importance is expressed as follows: "IT is the lifeblood of the enterprise, if you shut IT down along with the information flow, nothing will happen."

Furthermore, IT is for Skanska an opportunity for reducing various costs and thus enlarging profit through effectivization. This is crucial for an enterprise in the construction industry: “IT is an enabler of making a higher profit.” However, Skanska has not yet reached the same maturity level concerning IT as many other construction companies. When comparing with the pharmaceutical industry, the construction industry is commonly less structured and more influenced by an entrepreneurial way of conducting business. As a result, the way things are done is not treated as an important issue, and this makes it very difficult to find and evaluate effective work processes that can be re-used. Even though there may be major advantages to be gained in doing so.

There is an internal web page by the name OneSkanska that can be compared to an intranet that exists in every country where Skanska is represented. It is usually only the employees working at offices who use OneSkanska, as they are the only ones with access to a company computer and a log-in. It is the aim of ITN to integrate the employees working at the different sites into the internal website as well, as around 90 percent of the entire working force in Skanska works outside at construction sites. On the internal web page, one can find all the information gathered together about Skanska's customers, current projects, work
processes and even certain courses given at Skanska. As training personnel can be a major expense for the enterprise, Skanska is giving more and more courses in, for example, safety procedures via web courses. The task for ITN is to make these courses available to the employees out on the construction sites. No customer has access to this system, as it is for internal use only, but there are different pages for each country, and when an employee logs on the relevant information is visible for that person’s position in the organisation.

As mentioned previously, 90 percent of the employees at Skanska work on the construction sites and they do not use IT in their daily work. However, IT could facilitate the work for these employees in the near future, e.g. by switching today’s way of reporting the time spent at work, a form that is filled in by hand and given to the supervisor to enter onto a computer, to a modern, digitalized system. Other areas where IT may make life easier for the employees on the sites are changing paper-form blueprints to digital hand-held devices such as iPads. Skanska has detected a demand from its employees to be better integrated into the enterprise information flow, but as the IT maturity level is extremely different from person to person, the integration puts a vast range of demands on its process for all employees to be properly integrated. One request that has been made is that the employees are given access to OneSkanska via their mobile telephones. This small investment might result in a larger, total streamlining.

When constructing buildings nowadays, companies use a system called Building Information Management (BIM). This is considered to be the most important IT system for companies in the constructing industry. The system enables the architect to first design the building and convert it into a 3D blueprint and later to use that same blueprint to calculate how much construction material is needed and how much time, all in the same IT system. Thus, BIM is used in the planning process of new construction projects. Skanska also has IT systems for planning the personnel working side by side with BIM in order to make possible the best planning possible. This is a crucial tool for any construction enterprise, and ITN is currently working on how to improve this system in order to facilitate the tasks for all construction employees out on the sites.

The employees working at the offices use various business systems based on an IT system called Oracle. Its positive feature is that it is very user-friendly, but it is also expensive to adapt to the specific needs of an enterprise and it is not very flexible. All information is stored in two separate, but compatible, computer centres that are leased by Skanska.
The support system is very important for Skanska, who needs to have its IT systems up and running in order for operations to run smoothly. Skanska chose to keep the support function in-house rather than outsourcing it, because it appreciates that the economic gains of avoiding misunderstandings due to cultural differences and lack of language skills are greater than those of outsourcing. The idea is to have a base of functioning, effective IT systems and to build new systems on top of that base. In order for this to work, the base needs to be problem-free, which further stresses the importance of an efficient support function. There are more reasons for Skanska to use a base of systems with new ones on top, and that is the risk of “harmonizing”. When too many employees work on the same project in the same IT system at the same time, the employees have to wait for one another due to work processing regulations. This is solved by implementing compatible, but slightly different IT systems that share about 90 percent of the base. When a subsidiary in another country wishes to develop a new system, the business liaison manager may present another one to them and say: “This is what we use in Sweden. We can adapt it to your needs and add some functions.” This way, Skanska can both direct the work process and be flexible at the same time. As integrating different IT systems is time-consuming and non-efficient over time, the optimal solution is to transmit work processes in a new acquisition to that of the parent company. By using the same IT system architecture, the entire multinational is more time-efficient. Every time a new acquisition is made, the IT in the new division is firstly synchronized with that of the parent company, but it is always gradually changed into the existing IT system of the parent enterprise. About two thirds of the IT budget at Skanska Nordic is devoted to maintenance and license payments; only one third is devoted to construction projects and making more significant changes in the IT architecture.

There are two ways in which a project can be run at Skanska; the project can either have its own budget funds, or it can apply for services at, for example, ITN. When the project has its own budget funding, it is free to invest in any IT solution it finds profitable. At times, this leads to single projects investing in IT systems bought from external companies in order to acquire an IT system that is quick to install. Unfortunately, this sometimes results in the project acquiring an IT system which does not quite suit the project assignment, as a solution from the ITN would have done. Hence, the project is “stuck” with an IT system that does not quite match its needs; the various projects all have different systems that might not be cohesive. When there is a problem with the externally bought system, the project managers call ITN to fix the problem. There have even been situations when a project has bought an IT system that was too old to fit the
project’s needs, leaving the Skanska organisation “straggly” and with many problems. Needless to say, IT has a very important role in the Skanska organisation.

As IT changes the work process for the employees in the company, a certain amount of complexity is involved in the job. A typical day at work for a staff member of Skanska consists of a lot of time spent reading emails, which is not always the most efficient way of spending one’s time, as there is a lot of “unnecessary” information passed via the email system. The most important information is usually shared face-to-face or over the telephone, whereas slightly less important things are communicated through text messages. Hence, email is normally used when the information is not urgent. IT is important because it enables staff employees to work from home. Even though, the physical meetings and face-to-face interaction are important and the risk of allowing the advantages of IT to reduce the physical interaction between people has to be acknowledged. At the same time, IT helps develop community. IT also facilitates the Business Liaison Manager’s work and enables him to do more than before. “IT is good but it can lead to information overload, because everybody receives all information.” Even if everyone can get all the information, not everyone needs to, or even wants to, have it all.

When answering the question whether the need for IT increases the more multinational the enterprise becomes, the Business Liaison Manager says that it is definitively the case at Skanska, since the enterprise both needs to handle information between more employees, but also because its new, disparate units must be integrated with each other and the parent company. He adds that Skanska is both growing “organically” but also through acquisitions, and that this means having to integrate and develop the cooperation and communication within the entire enterprise. When trying to become more cost-efficient and when trying to increase income, it is the small changes in the work processes, often made possible by IT, that result in a larger profit. Even the administration of the construction projects is made more cost-efficient thanks to IT.

Social media is an important channel when trying to reach people in an expansion process, especially when the enterprise wishes to reach young people. However, social media is not used extensively by Skanska as a marketing strategy. The most important way of communicating with customers, apart from as already mentioned, via face-to-face or telephone interaction, is via the Skanska’s web page. The customer interface is also very important, just like the need to create a well-known profile for the enterprise.
XI. ABB

Peter Strömberg works as a Sales person at ABB, in the Marine and cranes department. The end product that this department offers is electrical equipment that is delivered to crane building companies. The Sale person’s main work task is selling the end product; a system built of parts from different divisions in ABB. Every product is custom-made, meaning that it is constructed from the customer’s specifications. The customers are to be found in heavy industry and the marine industry. The key word for these cranes is automation. ABB is an enterprise dedicated to green energy, making sure it is more energy efficient. ABB operates in 103 countries and has about 110,000 employees. The company language is English.

There are more tools for internal communication than for external communication at ABB. The most useful tool is the Lotus Notes mail function. Databases are used to store information and are easily accessible. From these databases, the employees can share files and regulate access in a software system.

Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. “One of ITN’s goals with IT is to have the same IT systems throughout all three Nordic countries and that they will all be integrated with each other.” Is this necessary or unnecessary, considering that many projects are run separately from each other, but also that Skanska is a big MNE?
4. What could the business liaison manager do to better integrate IT with the other parts of Skanska? How? Why?
5. Most employees (around 90 percent of the workforce) at Skanska today work on construction sites. The goal is to integrate them into the intranet and possibly other IT systems as well. Would this mean that Skanska needs to adapt the information given in these systems, as the users become less uniform and their needs more varied? Why/why not?
called Teamspace. Lotus Notes is a licensed system that is used within the enterprise. The employees may use the Sametime chat and also share their screens with each other. An example of when it is useful to share screens is when a presentation is being given. A useful function in the Sametime chat is the possibility of booking meetings and checking one’s colleagues’ schedule. Telephone and video conferences are also used. Another tool is the internal community. There the employees have the possibility of setting up a brief presentation about themselves and what work tasks they are responsible for, which makes it easy to find the right person in the organisation. The intranet is the largest information source for the employees and can be subdivided geographically and functionally. On the newsfeed page, the employees can comment on articles and other messages written by, for example, the CEO. Parts of the intranet (called Teamspace) are soon to be available externally to customers.

During the sales process, all information is stored in a system called Pro Sales. As a deal is concluded, all the economic information is transferred to SAP, which is a tool for economic communication. It is a software package in which the economic information is stored. The software is a standard solution but has been adjusted to ABB’s needs. The Sales person does not think that IT is an obstacle; instead it has streamlined the working process. Furthermore, the generation shift has made it easier to make changes in the IT structure. Today it is possible to process a lot of information. However, this large amount of information might lead to information overload. SAP is a very big system and the users have limited access to it. Therefore, it might be hard for the individual employee to gain an overview of the process throughout the company. Concurrently with IT becoming more advanced, it is important that the hardware also follows developments.

The most used tools for external communication are email and telephone, since those are the preferred tools of ABB’s customers. Video conferences are not an alternative when contacting the customer, as they expect a visit or at least a telephone call. This is because the relationship is extremely important when every product is customised, and a physical meeting is better appreciated than a video conference. ABB is present on social networks, for example LinkedIn.

The Sales person says he has not had any formal introduction to the IT systems he uses at ABB; instead he had to learn by practising. There are manuals to read and co-workers are willing to help and instruct you if needed. ABB is conscious of the time lost when co-workers help each other, but the sales person thinks that ABB recognizes that it is more profitable than providing a formal course for the
Thomas Reinhold is Manager for Sourcing and Contract Management in the ABB Northern Europe Region. Even though he is mostly focused on IT in the Northern Europe Region, he has a deep insight into how IT is used globally.

The matrix organisation of ABB is divided into five business line divisions and eight geographic regions. ABB tries to keep its IT similar in all countries; however there are regional and local differences. Globally there are around 85,000 users of IT within the enterprise and more than 40 different ERP systems are currently being used. As ABB is such a large enterprise, it can be hard to standardise IT systems. However they have succeeded in using IBM’s Lotus Notes, which is used all over the world. Globally, there are over 50,000 Lotus Notes applications. Even though the same IT applications may apply to several countries, it does not necessarily mean that the employees in the country are actively working towards finding new IT solutions. ABB has, globally, 5,000 business critical applications. It has a global network (intranet) and 1,800 IT employees in over 100 countries. On a more regional scale, in the North Europe Region there are 22,000 users but only 12 out of the 28 countries have an IT department. The IT budget for the entire enterprise is 2.5 percent of the revenues. The overall IT business system is SAP, described earlier in the case. The ERP systems are sometimes adapted to the operations and are therefore not always the same.

In the Northern Europe Division, there is a common IT infrastructure, including support functions, within the region (for example, connected servers and networks) in order for the IT environment to function. For example, in that particular region there are three different “bubbles” in which this infrastructure is common. The first bubble includes the Baltic Region, the second includes Russia, Kazakhstan and Azerbaijan, and the third includes Sweden, Denmark, Norway, Finland, the UK, Ireland and Iceland. Since 2002, ABB has outsourced all their IT in the third bubble to IBM. This agreement will continue at least until 2016, when ABB will re-evaluate the relationship. The reason for outsourcing is that ABB was on the verge of disaster at the end of 2001 and was required to get rid of everything that was not part of the core business. Therefore parts of ABB’s IT department, with its equipment and resources, were sold to IBM in order to
avoid bankruptcy. This was a purely financial decision in order to save the enterprise. The reason for outsourcing is still to keep costs low. After being dissatisfied with one of its other IT suppliers in 2010, ABB changed to an enterprise in India, Tata Consulting Services (TCS), in order to achieve higher quality in deliveries, obtain valid documentation and push the prices. In order to make sure the operations with the Indian enterprise run smoothly, some representatives of TCS were stationed locally in Sweden. Even after the implementation of systems, some of the representatives continue working locally and have different areas of responsibility. Regular visits are made to India four times a year by management in order to build a relationship and to learn from and understand each other’s cultures.

Concerning culture, the Manager finds that it is important to appreciate each other’s differences and respect the fact that things do not work the same way everywhere. Sometimes there are extreme contrasts between nations, something that needs to be handled gently. The Manager states: “When it comes to cultural differences, it is crucial that the matter is handled in the right way”. He recognizes that both culture and language can be a barrier to the development of relationships between countries and that it is something every enterprise needs to work on if they want to do business globally. In order to try to overcome language barriers, the common language in the enterprise is American English. The headquarters is located in Zurich, Switzerland, where there is a global team that works exclusively with IT. Connected to the headquarters is also a global IT group with representatives from all of the different regions that meet once a month to discuss issues. This “network” is connected to one specific coordinator in Zurich who makes sure that the meetings take place.

ABB has a degree of outsourcing, at 75 percent in the Northern Europe Region, which is very high compared to other multinationals. This is part of ABB’s IT strategy – keeping as much as possible of the IT outsourced. The global IT systems are managed at a global level and the locally adapted systems are dealt with on a local basis. When there is a security update of systems, it is usually initiated at a global level and thereafter spread down through the organisation. When it comes to general systems, ABB tries to update them according to recommendations from the provider. In order to obtain the support that a major enterprise such as ABB often requires, it is “a necessity to keep the systems updated”. Sometimes the IT systems need to be adapted locally to the clients, for example, when cooperating with banks. The goal is to always keep the systems running at high performance. In order to measure this performance, ABB continuously checks the performance both locally and globally.
Concerning IT systems in business divisions, there are a lot of adjustments of the systems. For example, in order to keep licensing costs down (they can be very expensive), ABB uses a system for housing licenses. These licenses, for programs such as CAD systems, can be lent to divisions of the enterprise, regardless of their location. All that it takes is a Log-in and the borrower can use the license needed for a certain period of time. This has been developed in order to optimize the use of licenses. For storing ABB’s old data, the enterprise rents storage space from a mainframe at Volvo IT in Germany.

ABB continuously performs internal IT audits and has a special division devoted to the purpose. This is a necessity both for controlling its own investment and because ABB are publicly listed on the American stock exchange. This forces ABB to follow certain regulations and keep track of its financial processes the Manager is convinced that the bigger ABB gets, the more important IT becomes for the enterprise. ABB wants to use IT as an enabler in growing its business divisions; for example, making them able to deliver offers and products to clients quickly. The IT department also wants to deliver systems that provide the opportunity for ABB to grow as a business. ABB has a long-term goal of doubling its turnover by 2015 through acquisitions and organic growth. The Manager Sourcing and Contract Management believes that IT will play a major part in making this happen. When enterprise grows, so does the importance of IT.

When working at a major enterprise such as ABB, there is often an information overload, especially when one considers the frequently used email function. Often the emails received contain general information that does not necessarily concern the recipient. If someone has important information that needs to reach the recipient instantly, they use the telephone or chat function in Lotus Notes Sametime. Also when one needs to be in contact with colleagues not based at the same place, ABB employees often use video and telephone conferencing. The Manager states that there are some obstacles concerning IT at ABB, one being when entering an extensive 10-year contract that can eventually lead to higher costs than were initially estimated. Especially when there are several countries involved in the deal, it is harder to control the outcome. Since the reason for outsourcing is to lower the costs, the Manager finds this to be an obstacle. He also thinks that strategies, for example the way ABB delivers IT to its business divisions, could be made clearer. The Manager finishes by saying “one needs always to find new ways of delivering IT, to make it as effective as possible.”
XII. Marineparts.fi

Marineparts.fi is a small, yet multinational, company that sells parts for marine vehicles through its web page (all commerce is operated via the Internet). Its parent company is Alandia Tech Trade, an umbrella company that provides several different services and products. Its largest market is Finland, as the company is situated on Åland. However, it sells products to customers, both private individuals and business customers, all over the world. There is also an establishment in Sweden in terms of subsidiaries, mainly to facilitate commerce with Swedish customers. The enterprise is also about to enter the Spanish market by developing the business through a cooperation partner. The language most used in the company is Finnish when communicating with customers in Finland; however, Swedish is used internally and English is mostly used when contacting foreign suppliers and customers.

Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. One can see that internal communication is often achieved through IT tools, but when it comes to external communication, the personal meeting is most important.
   a. Why is this, in your view?
   b. Is the need for personal contact less when it comes to the people you know, like your colleagues, than with the people you do not know, like potential customers? Why/why not?
4. Why will IT never be able to replace a personal meeting? Or can it?
5. What else might "information overload", mentioned in the interview above, result in (except for difficulties for employees to acquire an overview of the company's operations)?
6. What are the benefits/disadvantages of having extensive contracts with suppliers?
Jonathan Gustafsson is Creative Director and Andreas Rosenberg is CEO at Marineparts.fi. They explain that Marineparts.fi’s web shop is connected to a sales system where orders are registered. There is also a business system where new customers are registered. These two systems are soon to be integrated. Today, orders are registered manually, which means that the risk of errors is quite high. Since the company is so small, there is no actual need for advanced internal communication systems. Instead the employees use a task manager system to coordinate the daily work. To keep the company flexible, no formal planning is carried out on an intranet. The employees state that if the calendar were filled with tasks, they would not be able to help customers. It is more important to focus on the customer’s needs. Instead the task manager is used for resource planning. Subsidiaries abroad are commonly contacted via email. This is because many foreign suppliers are not mature IT users, which mean that there is no need for Marineparts.fi to implement a shared system for purchase. All systems are bought as standard solutions, but are customised by the company. Therefore, it is important to maintain good relations with the company’s IT consultants.

Marineparts.fi is constantly undergoing a development of its IT systems in order to become more efficient. Efficiency is measured by turnover. The IT strategy that they use is a part of their business plan, just like the sales strategy and the company’s targets. Investing in IT is very expensive for a small company, but the CEO believes that in the long run it is a profitable strategy; “An investment now can result in a higher profit later on” and continues; “Time is money”, so when saving valuable time in using IT systems instead of working with information manually, money is saved.

Advanced computer skills are a requirement when hiring new employees. There is no need for a formal introduction course, because the systems’ layouts are very graphic. Support for the systems exists, but since the systems are so customised, the enterprise solves most of the problems itself. The Creative Director explains that “IT is a platform for the company’s business. It is the basic tool and the core for operations.” The information is stored in databases on a server that can be reached from anywhere in the world and is protected by a firewall for security reasons. It is updated in real time, making it easy for the employees to work on shared projects. No IT audit is carried out, but IT itself is used as a controlling tool. For instance, when products are gathered from the warehouse, the new stock numbers are registered automatically. In the same way, the numbers from the web shop are compared to the numbers in the business system.
The web page is Marineparts.fi’s largest marketing channel, but the enterprise is also present in various social media. Newsletters are distributed to all registered customers via email and, as a part of their marketing strategy, Marineparts.fi uses search engine optimization. In the future, Marineparts.fi will change its domain to Marineparts.eu in order to become even more international. According to the CEO, this new domain and its customised systems will enable the company to enter new markets without encountering any major barriers. The company does not use any non-digital channels for marketing, which means that Marineparts.fi is a great IT user in its industry. Its competitors have recently discovered the advantages of using web shops, giving Marineparts.fi a head start. Overall, the representatives of the company see no obstacles when using IT.

Questions for discussion

1. All enterprises want to streamline their business activities; how is this possible in this MNE?
2. Argue for or against: IT can restrain this MNE.
3. What obstacles may occur when the company prefers using e-commerce (web shop)?
4. What does it mean for Marineparts.fi when many of its customers are not as mature as IT users as staff at Marineparts.fi?

Marineparts.fi require “high computer skills” when they recruit new employees. Do today’s university courses and programmes offer this?
PART III

Synopsis and Conclusion
I. Synopsis of Part I and Part II

In the book *The IT Phenomenon in the Multinational Enterprise* the desire is to connect MNE and IT and describe how the phenomenon IT can give MNEs competitive advantages. The book also describes problems that may occur when implementing IT systems. In order to provide a deeper understanding, both a literature study and a collection of cases based on interviews with different enterprises are presented. Definitions of both MNE and IT and their connection to globalisation are provided. An MNE that works on the international market has to consider obstacles such as cultural and language differences, local and global legislation, and so on. There are also considerable advantages to be gained when entering the global market, such as a larger number of customers and thus greater business opportunities.

Subsequently, a description of organisational tools is presented, including internal marketing and communication and the overall IT systems used by most MNEs. The organisational structure of the MNE and whether it is dependent on IT is discussed, as well as how IT facilitates decision-making within the MNE. At the end of Part I of the book, an anthology is presented of *Information Technology in Multinational Enterprises*, a work that describes the connection between IT and MNEs up to the year 2000. In the second part of the book, interviews conducted with representatives of twelve enterprises are presented in order to exemplify the theoretical findings. The MNEs are established in different industries, including the financial industry and the manufacturing industry. All enterprises operate in different parts of the world in at least three countries. The employees interviewed point out the strengths of using IT in their daily work as well as the obstacles, for example, when communicating through email or the intranet with employees in foreign countries. When interviewed, the employees were asked what IT systems they use in their daily work and how these facilitate their daily and long-term operations.

*The IT Phenomenon in the Multinational Enterprise* is recommended for anyone who wishes to learn more and acquire a deeper understanding of the use of IT in the MNE. Because there is a limited amount of previous research connecting IT and MNE, this work is pertinent to students and others who wish to work in a global setting. The advantages and obstacles of using IT are presented, as well as how IT affects organisational structure and decision-making and the book provides an insight into the real world as the use of IT in twelve well-known MNEs is presented.
II. Discussion and Conclusion

IT is continuously changing, and with globalisation so are MNEs. MNEs that want to compete in the global field need to think innovatively in their development and to strive to be as efficient as possible, and one way to stay ahead is through IT. New information technologies allow enterprises to improve their communications, obtain better business systems and become more efficient.

Will an MNE lose the respect of other actors on the market due to poorer or inferior information technology in the future, as it develops faster, for example, if IT cannot meet the expectations of its suppliers, customers and so on? This happened when the world started to crave applications from their favourite enterprises. The new technology has put pressure on enterprises to develop new and exciting applications for, for example, iPhones, iPads and Android phones. Combined with social media, this is the new way to connect and reach out to customers, as well as for employees in MNEs to receive and exchange information. If an enterprise is not familiar with new technology, it can be difficult for it to succeed.

The development of IT has had a major impact on MNEs around the world. The many different IT systems that have been developed over time have enabled MNEs to adapt each system to their overall company structure. IT has also enabled the enterprise to implement its company culture in an easier way, and to coordinate from the top down to every subsidiary. Even though most MNEs strive to standardise their IT systems in order to reduce costs, many IT systems need to be adapted to the specific needs of each division. IT has facilitated the operations of many MNEs; it has also created obstacles for the enterprises. What is more, IT has helped connect the many subsidiaries with each other and with their parent enterprise, but in doing so, other problems have been encountered. Cultural, linguistic, legislative and purely organisational differences between the divisions may be difficult to coordinate and synchronize, especially if a unified company culture is perceived, when the different parts of the enterprise are located not just in different countries but on different continents. IT may enable the MNE to streamline its operations and to take advantage of the time difference between its different units, for instance by having one set of employees in one country start work as another set leaves for the day. This requires constant and effective communication flow containing information that is correct and up-to-date.
Many enterprises are stuck with IT systems, even though the systems are complicated to use and difficult to train new employees on. The reason for this is because a large amount of money is invested in the system, and developing or purchasing another one may be considered to be even more unprofitable than retaining the more difficult system already implemented. Depending on the size of the enterprise’s IT department, IT systems can be self-developed or bought from an external actor. When separate units in the enterprise have the possibility of choosing either to develop their own IT system or to buy from an external actor, some obstacles may arise when trying to integrate the new systems with the pre-existing ones in the enterprise. Skanska was one of the cases in part II with this issue; separate units in the enterprise handled their own budget and could therefore buy their own IT system from an external actor or turn to the IT department within Skanska. When developing an IT system on an internal level, a more detailed investigation is carried out into the functions required for the system. The separate units of the enterprise may consider it to be too time-consuming that an external actor is chosen instead of developing a system in-house. A problem may rise when trying to integrate this system with the overall systems in the enterprise, and there can be a mismatch.

If IT systems are advanced and interlinked and there is a change in one of the IT systems, the consequences can escalate throughout the organisation with its connected systems. That is why it is important that employees are trained in the IT systems, so that the human risk factor is minimised. However, employees are sometimes not taught the IT systems and may be required to have extensive computer skills when first employed. Another problem that can occur when changing systems is that they may not be compatible with existing systems; consequently, changes and adaptations may need to be made throughout the enterprise. Some enterprises try to implement more IT at production or “floor” levels, which can bring both advantages, for example digitized records and time reports, and unwanted consequences, for example, some employees may not want to change their traditional way of working or lack IT skills. Implementing IT at several levels of the enterprise can have a positive effect on efficiency and streamlining. However, this can be a costly and difficult endeavour that requires investment of both time and resources. The question that arises is whether the implementation is profitable in the long run? Managers may also need to consider whether employees feel that the alleged improvement is desirable.
Advantages of as well as obstacles to the use of IT have been presented in this book. But can IT be seen as something that actually provides the MNE with competitive advantages? IT is not in itself a competitive advantage. IT is a means for MNEs to gain competitive advantages. Through the use of IT, the MNE can cut administrative costs and optimise its communication flows. By using IT in new ways, unknown to other actors on the market, the MNE can gain true competitive advantages. This type of competitive advantage is easily lost to other competitors, since they are fast to catch onto the trend. Then the IT solution is no longer an advantage, but a necessity to survive on the market. An example of this is online stores connected to internet banking services. It is of great importance to the MNE to use IT successfully, due to the difference it makes in the many business sectors where IT is present. Using IT may not be such a great advantage for an MNE today as it was when it was a new phenomenon, since nowadays it is a commonly used tool that can be adapted to every company's needs, and since it is expected of most other actors on the market. It is only when the MNE has succeeded in fully implementing its IT systems and integrating them throughout the organisation that it can provide the MNE with economies and advantageous operative improvements.

IT is only a competitive advantage if the MNE is innovative in its IT structure and if it uses IT in new ways in order to improve its management and marketing processes and does so successfully. If an MNE only uses basic IT systems, it is not taking full advantage of the possibilities it provides. When an MNE implements IT systems later than other actors on the market, it does not gain advantages but merely avoids losing valuable connections. The same problem arises when the MNE has implemented a system but has not yet learned how to fully use its tools successfully. Having an enterprise IT system that is difficult for the employees to use and comprehend, or that is not yet fully implemented, can slow down the work processes and create frustration among the employees.

Several of the interviews conducted for the cases in this book have shown that IT has helped to increase overall information sharing in organisations, for example resulting in a higher rate of emails sent and received. Many of the individuals interviewed state that reading emails takes up more time every day than they would wish, and they consider sending emails to be the most popular communication tool. This has developed into a new business climate where not being up-to-date is understandable if information is sent only by email. However, general and less important information is commonly communicated through email. When the information is of greater importance, many enterprises value the importance of face-to-face and telephone interaction.
When using IT, it is important to take into account a drawback such as information overload. Employees in an enterprise may be tired of having to deal with the large amount of information provided through the intranet or email, especially when they receive up to fifty emails a day. In fact, the more frequent use of the internet may have made communications more time-consuming for the enterprise. In one of the cases it is stated that an email can go back and forth for days without being resolved, when it could take five minutes to resolve it over the telephone or in person. Perhaps the illusion of IT as a way of resolving all the communication problems is so strong that sometimes a more effective way of communicating, by telephone or personal meeting, is forgotten. Has the workplace become a more stressful place as IT has facilitated the work flows for the enterprises? As information moves across functions and between individuals at a more rapid pace, the overall pace of working has also accelerated. Customers, subsidiaries, suppliers and other business connections expect to be given information instantly, which puts pressure on the MNE not only to take in and process information quickly, but also to react fast, produce a product fast, and organize its organization so that no information gets “stuck” somewhere along the way.

As people in enterprises all over the world communicate with each other through the same channels, using the same language, compressed into specific, commonly accepted abbreviations, the cultural differences and language difficulties may not be as extensive as before. However it is important not to underestimate the power of culture and to take into consideration, for example, the differences in the subsidiaries. Most people are affected by the internationalisation of society in their private lives. As a result of a more common international language and shared culture; communicating through IT systems is becoming easier with other parts of the MNE located on other continents. The ordinary employee is often familiar with at least a few IT systems, and as the communication mode is generalized throughout the world, thanks for example to virtual communities online, the risk of having cultural misunderstandings is no longer as extensive as before. All this may result in a larger profit for the MNE, which does not have to handle the results of ineffective communication within the enterprise. However, employees in an MNE have a responsibility to be able to communicate with anybody within or outside the MNE irrespective of language.

An IT system with a common business language facilitates the spread of information to all parts of the MNE. Several of the MNEs in the cases investigated use English as their business language, whilst others adapt their IT systems to the local language for each subsidiary. A common language for all parts of the MNE facilitates many aspects of communication within the organisation, but it also
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means that many employees have to work with a language other than their own. When two people communicate in a language that is foreign to them both, misunderstandings may occur.

Many things have changed due to the development of IT, not just the systems but also the perception of IT in the minds of the users. Today IT is used almost everywhere within an enterprise through various IT systems such as CRM, HRM and intranets. To communicate externally with actors on the market, IT is heavily used through, for example, the MNE’s web page and social media. The early IT literature discusses how IT will change the way business is done, but it is now possible to see that many enterprises still prefer to have personal interaction and meetings face-to-face in combination with the use of IT in their daily work. IT systems such as CRM systems are used to design personal marketing messages and combine them with, for example, m-commerce. This is in order to give the consumer a sense of having a personal contact with the enterprise. Social media and Facebook are other ways for the MNEs to try to connect with customers and provide new services and exciting offers. Thus, as IT systems are based on general information and provide streamlined solutions for the user, the need increases for personalisation and adaptation of both communication and marketing operations.

Even though many MNEs consider IT to be a necessity when it comes to communication, some examples given in this book describe how IT is ranked further and further down the list of efficient communication tools, and some enterprises emphasize the importance of physical, personal meetings. Personal meetings can also be a requirement on the part of the customer, so MNEs need to rely not only on their IT for communication. IT has become yet another tool for coordinating business, but the importance of social skills and commitment to the customer has not been reduced. As with all technological evolutions over time, IT has helped reduce monotonous, routine work tasks and cut costs as well as making the communication process more efficient. Efficiency and well functioning communications are repeatedly emphasized factors for the MNE to consider, something that is demonstrated both in the literature investigated and in the practical examples given. Today’s business world is a fast-moving, organic network that requires fast communication tools in order for people to make the right decisions at the right time. IT has made it possible for people to be available at every hour of the day, irrespective of whether they are on a train or at home, in Stockholm or New York. IT systems connect the worldwide divisions of the MNEs, so that information and communication can happen in real time. The subsidiaries
in an MNE may also be connected with the enterprise's external customers and suppliers, creating a worldwide network reaching all affected parties.

As shown in the cases in the second part of the book, MNEs may look and act rather differently from each other. They are all defined as an MNE, an enterprise which exists in at least three countries, but its organisational structure, the way it sells products as well as markets them, looks different in each enterprise. With that in mind, it is easy to understand that the structure and use of an IT system also differs depending on the enterprise. In Marineparts.fi the web page through its web shop is the only method employed to sell its products, while in most of the MNEs the web page is merely a way of providing the customer with information about the product and the enterprise, a channel for marketing. Concerning this, there may be some difficulties in providing a general image of how IT and MNEs are connected. However, the purpose of this book is just to provide examples of how IT can be used in an MNE. These examples are given in the literature study in part I but also in the case studies in the second part of the book.

A question that arose during work on *The IT Phenomenon in Multinational Enterprises*, was whether IT is an influencing factor on the MNEs, a factor that pushes them to develop and grow. Or do MNEs affect the development of IT and new technologies, in that IT is used in and demanded from practically every MNE in the world? After an extensive study of the literature and the investigation of cases, a bottom line can be drawn that IT and MNEs are strongly influenced by each other. It is important for enterprises to realise the possibilities that come with IT, and for the developers of IT to follow the demand of MNEs. If an enterprise chooses to ignore the fast-paced development of IT, it may lose its competitive force. In the future, it is not only economic, political and cultural forces that will have an impact on the global business environment, but technological factors will also continue to shape the world’s new economic geography. From the case studies a conclusion can be drawn that the more multinational an enterprise becomes, the more useful and valuable IT becomes. When growing in an ever-changing economic climate, the MNE is dependent on IT. However, the MNE needs to make continuous investments in and updates of IT in order to be competitive and use its resources in the most efficient way possible.
III. Managerial Implications

The management of an MNE has to be aware of the advantages that can be gained from using IT. It is important to constantly evaluate the IT systems to ensure that they function properly, otherwise the risk may arise of encountering obstacles. The education of employees in different IT systems is a major factor in making the IT system more efficient. For example, when an expensive system is bought or developed and its functions are not fully understood by the employees, the MNE will lose resources, time and money. It is up to the managers to evaluate and make decisions regarding the needs of the enterprise, and to find systems with functions that suit their operations.

Managers need to be aware of which costs are associated with profit and to see whether there is a symmetry between the two. Managers often make the mistake of focusing on the actual cost of the system instead of including the costs of implementation and training of personnel. This awareness of costs in terms of resources and time is crucial for managers when making decisions.

It is important to integrate the IT department early into the decision-making process and at a managerial level to have an understanding of which systems and functions are needed. As stated earlier; integrating IT at a managerial level and integrating the management in the IT department is the key to having a successful organisation. Time-consuming and expensive personal meetings can make the MNE less efficient when taking into account geographical differences, hence the importance of functioning IT connections. The management needs to be involved in all the operations of the enterprise in order to keep track of what needs to changed or improved. Furthermore, decision-making processes, resource planning processes and so on are facilitated when communication is at its most efficient and managerial units in the different parts of the MNE are coordinated. When used in the right way, an updated IT structure can provide the enterprise with opportunities for getting ahead on the market. Instead of trying to mimic what others are doing, managers should look to the future and try to think one step ahead, take advantage of the technology that exists today and develop new technology for tomorrow.
IV. Future Research

*The IT Phenomenon in the Multinational Enterprise* has only begun to scratch the surface of the IT phenomenon, and for future research an extensive empirical study would be an interesting way of obtaining more information. This would also be necessary in order to generalise from empirical material about IT and its function in the MNE. Although IT is used differently in every MNE, generalisations could be made if the study were to encompass more questions, discoveries and empirical findings. A larger study could provide answers to interesting questions such as:

- How well is the capacity of an IT system utilized in an MNE? How would it be possible to increase the use of unused systems?
- How can the integration of IT systems work in practice?
- Is IT used the same way in enterprises on a local level as on global ones? What are the differences?
- Are there any optimal ways of implementing a new system in an MNE?
- How should the balance between face-to-face communication and communication through IT function within an MNE? Can IT help to enhance cooperation between subsidiaries?

IT and MNE are subjects that constantly change, and change fast. Therefore, future research should take into consideration the new developments that have occurred in the world of MNEs and IT after the publication of this book.
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**Interviews**


Appendix

Interview questions for the IT administrator

Enterprise and system structure
1. Describe the enterprise (Organisational structure, industry, number of employees, location etc.)
2. What do the structure of the systems look like internally? Describe the IT systems used and their field of application.

Communication
3. How does IT affect (facilitate, complicate) the internal communication and internal marketing?
4. Is IT being used continuously in marketing?
5. Which system is the most important for internal communication between different countries and what is the company language?

Applicability
6. Are there any goals with using IT internally? In that case, how are these goal achieved?
7. How are cultural differences and differences in legislation overcome? Does IT help to overcome these obstacles?
8. Are there any obstacles to using IT? (Language barriers, age)
9. How are course introductions and training in the systems prioritized?
10. Is there any support and how does it function?
11. How is information stored and how is it made available to the users?
12. Is IT audit preformed? How often is it conducted? What is the purpose of the IT audit?
13. Is IT used as a means of control? (for example work progress and safety measures)
14. Is IT used for coordination of information and resources?
15. How is IT perceived among employees? What is the general perception?

Financial aspects
16. Are there any competitive advantages/disadvantages of IT in the enterprise?
17. How much of the enterprise’s total investments go to IT? How is IT profitability calculated?
18. Are the IT solutions optimal, or is there something that can be improved?
Interview questions for the IT user

Structure of the enterprise
1. Describe the enterprise (Organisational structure, industry, etc.)
2. What is your job description?

Communication
3. How do you communicate internally vis-à-vis externally?
4. Which systems do you use in your daily work?
5. Are there any obstacles, difficulties or issues with communication in the enterprise?
6. Do you use IT in a different way when you communicate locally or globally?
7. How flexible is the system; are there any opportunities to work outside the office?
8. Does the enterprise provide an introduction to/training in the systems?
9. Do you think using IT makes your work more effective?
10. Are you satisfied with the IT support?

The IT system
11. Do you have an intranet? What functions does it have, and which do you use most frequently?
12. Are there any parts of the intranet that are available externally?
13. How is the intranet adapted to the local/global market? (for example newsfeed, sales statistics, product information)
14. Are the IT systems compatible/integrated with each other?

E-business (questions only asked of Marineparts.fi)
15. Describe the structure of your e-business? How does it work from order to delivery?
16. How does IT apply in your daily operation?
17. Is e-business your primarily sales channel?
18. How do you find your customers? How do the customers find you?