PERFORMANCE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) COMPANIES IN ASEAN AND EAST ASIA

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<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
</tr>
<tr>
<td>BvDEP</td>
<td>Bureau van Dijk Electronic Publishing</td>
</tr>
<tr>
<td>CAGR</td>
<td>Compounded Annual Growth Rate</td>
</tr>
<tr>
<td>CAS</td>
<td>Computerized Accounting System</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CMBP</td>
<td>Composite Measure of Business Performance</td>
</tr>
<tr>
<td>DCs</td>
<td>Developed Countries</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Earnings before interest, taxes, depreciation and amortization</td>
</tr>
<tr>
<td>EIU</td>
<td>Economist Intelligence Unit</td>
</tr>
<tr>
<td>GAAP</td>
<td>Generally Accepted Accounting Principles</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>GRS</td>
<td>Growth Rate of Sales</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IDC</td>
<td>International Data Corporation’s (IDC)</td>
</tr>
<tr>
<td>INSEAD</td>
<td>Institut Européen d'Administration des Affaires</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>ITU</td>
<td>International Telecommunication Union</td>
</tr>
<tr>
<td>IFRS</td>
<td>International Financial Reporting Standards</td>
</tr>
<tr>
<td>MFP</td>
<td>Multi-factor productivity</td>
</tr>
<tr>
<td>MYOB</td>
<td>Mind Your Own Busines</td>
</tr>
<tr>
<td>NICs</td>
<td>Newly Industrializing Countries</td>
</tr>
<tr>
<td>NRI</td>
<td>Networked Readiness Index</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>PC</td>
<td>Personal Computer</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and development</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on total assets</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>ROCE</td>
<td>Return on capital employed</td>
</tr>
<tr>
<td>ROS</td>
<td>Return on Sales</td>
</tr>
<tr>
<td>ROSF</td>
<td>Return on shareholder funds</td>
</tr>
<tr>
<td>SME</td>
<td>Small Medium Enterprise</td>
</tr>
<tr>
<td>SMIDEC</td>
<td>Small and Medium Industries Development Corporation</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>UBS</td>
<td>Union Bank of Switzerland</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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</table>
ABSTRACT

Development of the ICT industry has become a major factor of economic growth. Previous ICT researchers have examined the importance of growth and performance in ICT development, ICT diffusion, ICT investment and ICT production. However, very few studies has been conducted to measure the performance of ICT industry using both questionnaires and financial ratios.

The first study investigates the Small Medium Enterprise (SME) practice of computerized accounting system (CAS) and identifies the factors affecting the adoption of CAS among SMEs in Melaka, Malaysia. The findings indicate that CEO innovativeness, perceived usefulness and business competitiveness are negatively correlated but only perceived ease of use shows statistical significance and positive correlation to CAS adoption. The second study explores the performance of 93 ICT companies by analyzing sales growth ratio and profitability ratios in the ICT industry among Japan and three ASEAN countries such as Malaysia, Thailand and Philippines using ORBIS of Bureau van Dijk (BvDEP) database. The result of this study reveals that Japan has better performance in sales growth rate compared to ASEAN countries, but lower profitability. The next study extends by adding China and South Korea to form six Asian countries. Using 255 ICT companies, China shows higher performance in the sales growth rate compared to other countries because of the rapid development in ICT sector. However, Malaysia and South Korea exhibit lower performance in several profitability ratios.
CHAPTER 1
INTRODUCTION

1.1 Background

Information and communications technology (ICT) refers to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions. Since 20 years ago, ICT technological innovation which has changed extremely and comprised of several players in this industry. The rapid growth of the world’s economy is driven by the advancement in ICT technology, which is widely recognized around the globe.

ICT is pervading all parts of business and society revolution with faster economic growth (Oliner and Sichel, 2000; Timmer and Ark, 2005). According to Khalil and Kenny (2008), the World Bank surveys on approximately 50 developing countries suggest that firms had faster sales growth, higher productivity and faster employment growth by using ICT.

Porter and Millar (1985) mentioned that due to ICT competitive advantage, over the years, information technology plays a major role in changing the nature of business. With the introduction of new technologies and more user friendly software, the computerized accounting system (CAS) appears to reduce the problems in book record-keeping practice. The first study investigates the Small Medium Enterprise (SME) practice of computerized accounting system (CAS) and identifies the factors affecting the adoption of CAS among SMEs in Melaka, Malaysia. Small business owners who have the ability and competency in ICT will implement its training by themselves (Delone, 1988; Raymond, 1988).

The second study explored the performance of the ICT companies by analyzing sales growth ratio and profitability ratio in the ICT industry between Japan and three ASEAN countries using financial data. Meanwhile third study expanded the second study by adding South Korea and China with Japan to form a group known as East Asia.
Previous ICT researchers have examined the importance of measuring ICT developments (Hilbert and Vásquez, 2010), ICT diffusion (Wu and Chu, 2010; Vicente and López, 2006), ICT investment in growth performance (Colecchia and Schreyer, 2002; Jorgenson, 2001;), ICT production and productivity (Sam, et.al, 2012; Jorgenson, 2003; Oliner and Sichel, 2002; Bharadwaj, 2000; Powell and Dent-Micallef, 1997; Mata, et.al, 1995; Nault and Dexter, 1995;), ICT business owners and their characteristics (Thatcher and Perrewe, 2002; Attewell, 1992; Delone, 1988). Lee and Blevins (1990) compared 400 companies in manufacturing and non-manufacturing industries between two developed countries (DCs) and two newly industrializing countries (NIC's) using financial data, but none measured the performance of ICT industry by using profitability ratio and sales growth rate. The present study is the first of its kind.

1.2 Research Objective

This study attempted to examine the importance of ICT, which is not limited to the technology itself but also to enhance information and communication for further usage and application. Organizations which are look into engaging in the digital economy are adopting ICT as part of the strategic planning. Determining the performance of ICT companies can also be done by analyzing the financial data from the company’s financial statement. More specifically, the objectives of this study were:

i. To observe related issues on the application of CAS with the CEOs of SME in Melaka. The objectives are to determine whether CEO’s innovativeness influences the adoption of CAS, to determine the perceived ease of use and perceived usefulness in the adoption of CAS and to determine whether business competition influenced the adoption of CAS in SMEs in Melaka.

ii. To investigate the performance of ICT companies by analyzing the sales growth ratio and profitability ratio in the ICT industry between Japan and three ASEAN countries.

iii. To determine whether the results from analyzing sales growth ratio and profitability ratios support the Sales Maximization or Profit Maximization model.
iv. To investigate the performance of ICT companies by analyzing the sales growth ratio and profitability ratio in the ICT industry among six Asian countries and between two major groups, namely ASEAN and East Asia regions.

1.3 Research Contribution

This dissertation is divided into two parts. The first study was conducted using interview and questionnaire research method, whereby this research project aimed to investigate SME practice of CAS and to identify the factor affecting the adoption of CAS among SMEs in Melaka, Malaysia. The findings indicate that CEO innovativeness, perceived usefulness and business competitiveness are negatively correlated but only perceived ease of use significantly and positively correlated to CAS adoption. Therefore, it can be deduced that CAS adoption among SMEs in Melaka is caused by its ease of use. Research results do show that the performance of the companies depends on the usage of ICT tools such as CAS in their firms operation.

The second study was done using quantitative research method and using a financial database to determine the performance of ICT companies by analyzing sales growth ratio and profitability ratio in ICT industry between Japan and three ASEAN countries. This study also looked into the sales and profit maximization model, which support the findings of this study. The results of this study reveal that Japan had better performance in sales growth rate compared to ASEAN countries, but low profitability. Japanese consumers see the total product as consisting of tangible and intangible components. The tangible value is placed on the product by the purchaser and it is considered as an image associated with the use of the product. The determination includes the relationship between cost and quality. International ICT companies can be expected to first broaden the total number of their products as they penetrate the markets in the international stage and then focus on selected products as they enter the global alignment stage (Douglas and Craig, 1989).

ICT companies from South Korea and China were added in the third study and grouped with Japan to create the East Asia region. This was the extension from the second study and the analysis was done by each individual country and also by region (ASEAN and East Asia). From the findings, China showed high performance in the Sales
Growth rate compared to other countries because of the rapid development in their ICT sector. Meanwhile, Malaysia has a low performance in profitability ratio, return on shareholder funds (ROSF), return on capital employed (ROCE) and Korea with its return on total assets (ROA), profit margin and earnings before interest, taxes, depreciation and amortization (EBITDA) margin mean values.

1.4 Dissertation Structure

This dissertation is divided into five parts and begins with the introduction in Chapter 1 and is distributed into the following subsections: background, research objective and research contribution for all three studies. The next part, Chapter 2 consists of the qualitative research, which investigated SME practice of CAS and the factor affecting the adoption of CAS among SMEs in Melaka, Malaysia. We analyzed whether CEO innovativeness influences the adoption of CAS, determined the perceived ease of use and its influence on the adoption of CAS, determined the perceived usefulness in the adoption of CAS and determined whether business competition influences the adoption of CAS in SMEs in Melaka, Malaysia.

In Chapter 3, through a quantitative study method, we made a comparative study between Japan and three ASEAN countries involving Malaysia, Thailand and the Philippines in the ICT industry using a financial database from ORBIS. We evaluated financial data for the ICT industry from Japan and three countries from the ASEAN region to investigate the performance by analyzing the sales growth ratio and the profitability ratio. In addition, from the findings, we examine whether the result from analyzing sales growth ratio and profitability ratios support the Sales Maximization or Profit Maximization model.

Meanwhile, in Chapter 4, we made an extension from the second study by adding South Korea and China ICT firms with ICT firms from Japan to form a group known as East Asia. By adding a few variables for the analysis, we made a comparative study between countries and also between regions (East Asia and ASEAN). We also made a correlational analysis between these variables to look at the performance of the ICT sector.
In the last part, Chapter 5, we conclude all the studies that had been conducted and present the implications, limitations and directions for future research associated with the research findings.

1.5 Theoretical Background

1.5.1 Information and Communication Technology (ICT)

Information and Communication Technology (ICT) is a term used to describe technologies in operating and interactive information. Internet was born in the late 1960s, beginning with e-mail in the late 1970s, followed by the domain name system in the 1980s, the World Wide Web in the 1990s, and portal/repository concepts in the 2000s, which are popular applications of ICT that have been powerful tools for business and development. The comparable development in computer communications in business and science has driven the merging of computing technology and telecommunications, and has become the leading data communications system in use today. Takaya (2008) mentioned in his study that the increase in the digital divide reduces ICT investments and interrupts the innovation of ICT from a macroeconomic point of view.

After the Second World War era, ICT became the most prevalent technical innovation which gives rise to a wide range of new products and services, and generates strong industrial attention as a means for competitive advantage and profitability (Avgerou, 1998). By providing sufficient information at a minimum cost and time, ICT can give significantly through the economic development of a region, whereby it can enhance the productivity of different sectors in an economy (Kraemer and Dedrick, 1999; Pohjola, 2000).

Nevertheless, the vast diversity in living surroundings, and an exceptional and fusing global media culture have developed that challenges and often exceeds the traditional forms of socialization. Technology devotees, who distinguish ICT as a source of social invasion, will transform every aspect of the world. Meanwhile, those who gather statistics about the global diffusion of ICT are in between, with little emphasis on their interpretation (United Nations, 2004).
ICTs represent a wide range of technologies, services and applications using several types of hardware and software, often running over telecom networks. ICT does not include only the internet, but it includes various sets of technological tools and resources to store, distribute, create, bring value-added and manage information. The significance of ICTs is not just on the technology itself, but also on the permitting role to enrich information and communication to further distances. ICT is believed to be a key driver which encourages faster growth in productivity by increasing investment if reducing barriers to access the information (Levine, 1997).

The importance of ICT in social transformation and a country’s economic growth show the strength of country participation into the global economy. Lam and Shiu (2008) proved that the efficiency and the productivity of the ICT sector were enriched by privatization and liberalization. The quick and effective way for policy makers to compare their countries’ ICT performance by benchmarking the financial performance progress over time. As a result, firms are under increasing pressure to accomplish above-average performance using ICT technologies.

1.5.2 Technology Adoption

Innovation refers to the degree of a new advanced technology being adopted and adoption refers to an individual or business to acquire and use a new technology. When the new technology is broadly diffused and used, its contribution to economic growth can be recognized. An important factor for technology adoption in some business firms is a secure and constant consumer base. As for high investments in new production technologies, a company needs to be productive that there will be profitable in the future to pay back the investment.

Rogers (2003) defined technology as a design for action tools that reduces the doubt in the cause-effect interactions involved in attaining a preferred result. It is composed of two parts: hardware and software. Adoption refers to a choice that had been made and utilizes the innovation as the best available course of action. Rogers’ diffusion of innovations theory is the most appropriate for investigating the adoption of technology in higher education and educational environments (Medlin, 2001; Parisot, 1995).
Rogers (2003) stated that the innovation-decision process involves five steps: knowledge, persuasion, decision, implementation, and confirmation. These stages typically follow each other in a time-ordered manner (refer to Figure 1.1).

![Diagram of the Innovation-Decision Process]

**Figure 1.1: A Model of Five Stages in the Innovation-Decision Process**

*Source: Rogers (2003)*

During the knowledge stage phase, the individual tries to determine what the innovation is, and how and why it works. Seemann (2003) in his study mentioned that to create new knowledge, technology and practice should provide not only a how-to experience, but also a know-why experience. The next step is persuasion where someone has a positive or negative approach toward the innovation and does not always lead directly or indirectly to an adoption or rejection of the new technology. At the decision stage in the innovation decision process, the individual chooses to reject or adopt the innovation and at the implementation step, an innovation is put into practice. The final step is the confirmation stage whereby the individual looks for support for his or her decision.

### 1.5.2.1 Technology Adoption in ICT/IT

ICT adoption occurs in a country when organizations invest in technology to support their business activities, and when people begin to use the technology. ICT adoption and the capacity of a geographical region to produce technological innovations
are of the top importance when comparing social welfare and economic growth potential between different countries (Sachs, 2008). The main common reasons for most companies to adopt ICT in their firms are to improve survival growth, enhance innovation abilities and stay competitive (Bu’rca et al. 2005; Bruque and Moyano, 2007).

Andries and Debackere (2006) confirmed that companies look into ICT adoption due to internal and external changes. Internal changes include the maturity or the life cycle of the company, while, external changes are the stability or the existence in the market. In a similar context, information technology (IT) adoption is also measured through competitiveness and innovativeness. In SMEs, all decisions come from the management team starting from daily operations to future investment, so their roles directly affect the ICT adoption process (Bruque and Moyano, 2007). The management role also applies to the decision to adopt ICT from planning to maintaining and upgrading the system. This is to make sure that the decision meets the necessity of current ICT technology and satisfies the organizational objectives such as maximizing productivity and maintaining the quality of its products and services (Bruque and Moyano, 2007; Riemenschnieder and McKinney, 2001).

Thong and Yap (1995) mentioned that successful managers adopting new Information Technology (IT) in their company have competency in IT background and positive attitude towards IT. Greater more positive perception toward IT leads to higher chances of implementing and adopting IT (Harrison et al. 1997). The IT adoption process requires cooperation and acceptance across all functions within a company. It requires the top management support, clear communication with the employees, and employees acceptance of the changes (Anderson and Huang, 2006; Premkumar and Roberts, 1999; Sarasvathy, 2003; Smith, 2002). IT should provide a source of communication among the employees, and must be linked between partners. Otherwise, one of the parties will be inaccessible.

1.5.3 SME in Malaysia

Starting in 1996, small and medium enterprises (SMEs) under the Small and Medium Industries Development Corporation (SMIDEC) are established by providing infrastructure facilities, financial assistance, advisory services, market access and other support programs. Malaysian SMEs are a significant element of the country’s economic
development. According to SMIDEC definition, SME is a company in: 1) the manufacturing sector, with a sales turnover not exceeding RM50 million or full-time employees not exceeding 200 workers, or 2) the services and other sectors (including ICT), with a sales turnover not exceeding RM20 million or full-time employees not exceeding 75 workers (SMIDEC, 2013). Malaysian government offered incentives and benefits for SME companies and with that, technology growth improved and developed the work force quality through experience, education and skills development. Table 1.1 below shows the definition by size of operation of SME in Malaysia.

<table>
<thead>
<tr>
<th>Category</th>
<th>Small</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Sales turnover from RM300,000 to less than RM15 million OR full-time employees from 5 to less than 75</td>
<td>Sales turnover from RM15 million to not exceeding RM50 million OR full-time employees from 75 to not exceeding 200</td>
</tr>
<tr>
<td>Services &amp; Other Sectors</td>
<td>Sales turnover from RM300,000 to less than RM3 million OR full-time employees from 5 to less than 30</td>
<td>Sales turnover from RM3 million to not exceeding RM20 million OR full-time employees from 30 to not exceeding 75</td>
</tr>
</tbody>
</table>

Table 1.1: Definition by Size of Operation

Source: SMIDEC (2013)

In preparation for the global market, SMEs in Malaysia employ a comprehensive product design and new technology activities by implementing developments in distribution and marketing. Saleh and Ndubisi (2006) revealed that by 2020, value-added products from SMEs are expected to worth RM 120 billion or 50 per cent of the total production, especially in the manufacturing sector. SMEs in Malaysia contribute to a large share in GDP because of the huge number of businesses in various sectors. As in many other countries, SMEs in Malaysia are involved in a diverse range of industries.

Companies need to prepare themselves and their employees with a knowledge-based economy successfully towards the global competitive level. Information technology is an important tool in meeting that challenge. According to Lal (2007), the
cause of low level of IT usage in Malaysia is that most SME owners are anxious in IT and also because of their unfamiliarity of the technology. Moreover, due to the competitive trend, Malaysian government needs to deliver several guidelines to ensure that SMEs become a global business center. To achieve such standard, many Malaysian SMEs begin to adopt ICT in global business strategies.

1.5.4 Sales and Profit Maximization

The main goal of leaders in large companies is to maximize the revenue and to continue increasing the sales, even at the expense of lower profits, in both short- and long-terms (Baumol, 1959). The basic economic theory is that the goal of all firms is profit maximization, which can come in a number of forms, depending on the managerial philosophy. Targeting sales revenue maximization as a goal is actually a form of profit maximization. The general rule is that firm maximizes profit by producing that quantity of output where marginal revenue equals marginal costs. This strategy is used by companies that wish to maximize long term profits by increasing market share. In order to receive a larger share of the market, the company is willing to forgo current profits by lowering prices below the (short-term) profit maximization level to attract customers from competitors.

The objective of profit maximization is stimulated by (1) disappearance of firms that depart too far from the profit maximization objective and survival of those that conform to it knowingly or unknowingly, and (2) adaptation of behavior of surviving firms by other firms. (Scherer, 1970). Profit maximization is interpreted as the desire to maximize the present value of the firm. Since net revenue, total revenue and assets all expand permanently at the same rate, these are all in the context of the permanent growth maximization model interpretation. Meanwhile, based on a study on Japan industry, the inter-firm relationships among Japanese corporate groups (kigyo keiretsu) and collusion are often portrayed as a barrier for entry into the Japanese market and a major reason for high prices in Japan (Fung, 1991; Lawrence, 1991).

Baumol had proven that the oligopolist is in equilibrium as the output and the price where recognized profit is equal to the minimum suitable profit. Without concerning about the reactions from competitors, the firm varies output by increasing or decreasing prices. Hence, the oligopolist has an independent price policy, which can be
used to increase sales revenue by a minimum adequate profit. By increasing the advertising budget and price, the oligopolist continues until a maximum revenue is achieved, which is just equivalent to the total cost plus the minimum suitable profit. The total revenue curve increases throughout the relevant range because of the assumption that increased advertising expenditure can always increase physical volume, though after a certain point, a sharp diminishing returns may be expected to set in. Therefore, an increase in advertising outlay must necessarily increase the total revenue.

Baumol (1959) noted the importance of a minimum profit constraint: profits must be at least acceptable to satisfy shareholders and to provide funds for growth. Scherer (1970) argued that although firms in highly competitive markets are constrained to maximize profits, firms in less competitive markets earn enough profits to pursue goals other than profit maximization.

1.5.5 Financial Ratio

Assessing a firm's performance using financial ratio has been a powerful tool for decision-makers, creditors, business analysts, investors, and financial managers. Financial managerial performance is defined in terms of profitability, debt management, and asset management. Debt management is measured by the total debt to equity and the long-term debt to equity. National accounting standards are the task of a country’s legal, political, social, cultural, and economic environments. Often, they reflect the needs of the anticipated end-user of the financial statements and are heavily influenced by the accounting principles of other countries (Decker and Brunner, 1997).

Profitability is the greatest concern for every company and is the most significant measure of a company’s financial performance. One of the most commonly used tools in financial ratio analysis is profitability ratios, which are used to define the company's survival. Profitability measures are important for company managers and business owners. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors (Bernstein and Wild, 2004).

Ratio analysis can help investors analyze the financial strength of a company. Using these financial ratios, comparisons can be made across companies within an
industry, between industries, or within a firm itself and even with several countries. Matsumoto, et. al. (1995) discovered that earning per share growth rates is the most important in the analysts rank, followed by valuation, and then profitability ratios. Financial ratios are also used for the purpose of predicting future performance and provide very useful information about the strength and the weakness of an industry by obtaining a better understanding on a firm’s position and performance.

According to Ross, et. al. (2003), from the financial statements, using those financial ratios can provide benefits such as evaluating the performance of managers for the purpose of rewards, measuring competitive positions of competitors, giving information to dealers and creditors, assessing the financial performance of purchases, and projecting the future by supplying historical information to existing or potential investors. Delen, et. al. (2013) mentioned that most research and books provided between 20 to 30 most commonly used ratios, which are to be found acceptable to analyze a company’s performance.

Depending on the industry structure, sales growth may also provide additional market power, which firms can use to increase performance. The sales growth rate denotes the percentage of change in the sales of a company in a given year with respect to the previous year’s sales. It tells whether the company’s sales increase or decrease during a specific year and also tells the size of change. Kaplan and Norton (1992, 1993, 1996) claimed that to reach their financial objectives effectively, firms must use a wide diversity of goals, including sales growth.

1.5.6 ORBIS Database

The Bureau van Dijk Electronic Publishing (BvDEP) Ownership Database is established by a group of specialized researchers based in Bureau van Dijk Electronic Publishing’s Brussels office. The BvDEP Ownership Database is a complete source for owner and subsidiary links worldwide with over 21 million active and archived links providing information on over 8 million companies and is continually growing. BvDEP collects the most relevant firm’s database(s) in each country taking into account their quality insurance, category of firms, and accuracy of the information.
The validity date of the information directly collected by BvDEP in the annual reports of the companies or on Stock Exchanges is respectively the closing date of the annual report or the date mentioned by the Stock Exchange. BvDEP collects ownership information directly from the companies, from official bodies or from the associated information providers (BvDEP, 2008). Laws and rules regarding disclosure of ownership data differ widely between countries. Figure 1.2 shows the data collection process by BvDEP.

Figure 1.2: Data collection process by BvDEP
Source: Bureau van Dijk Electronic Publishing (2008)

BvDEP provides several products tailored for customers’ use and in this study, we use the ORBIS database. The ORBIS database is a collection of business records, rather than a comprehensive and coherent business register. It contains information on both listed and unlisted companies. The information of listed companies is in a more detailed format. ORBIS database have accounts in both local and standardized formats (plus local Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) formats). They developed their own standardized format, which is ideal for creating cross-border searches and analyses, while the local format is ideal for deeper analysis of individual companies. The balance sheet information (the main interest of Organization for Economic Co-operation and Development (OECD), in addition to profit/loss statements and ownership information) is collected by the local Chambers of Commerce and disseminated in electronic format by national data providers.
ORBIS Database has accounts in both local and standardized formats (local Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) formats). Appendix B shows the IFRS adoption by country. Based on the database used in this analysis, all countries used their own local GAAP, but standardized by ORBIS.