

# Corporate Disclosure and Investor Relations In Electronics Industry

By S.M. Zubair



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**Corporate Disclosure and Investor Relations**  
In Electronics Industry

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## **ABSTRACT:**

This thesis contributes to the academic literature by examining two areas - corporate internet disclosure and information sharing over internet for investor relations purposes. The research focuses on electronics industry. To assess the corporate disclosure level, firstly a questionnaire study has been conducted to know the types of information deem important to the investor community for making viable investment decisions. Afterwards, on the basis of those variables (collected from the questionnaire study) a detailed analysis has been carried out on corporate disclosure level. The results show that, companies in electronics industry are not exploiting the full potential of internet as a disclosure medium.

Secondly, for information sharing over internet an explorative study has been done that looks at recent changes in web tools and technologies. The study shows that, the development of new web tools have excellent possibility to make real time information sharing very effective, less costly, more secured and highly convenient with their target audiences. However, the study reveals that companies do not use the emerging web tools to their fullest capacity and there is significant room to harness the benefits.

**Key words:** Investor relations, corporate internet disclosure, Electronics industry, Information sharing tools, information for investment.



## **DEDICATION**

This thesis is dedicated to my dearest parents -

Md. Sirajul Islam & Mrs. Zuaria Yeasmin

My angels, may Allah the almighty always take care of you!



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## Abbreviations and Symbols

AGM	Annual General Meeting
AICPA	American Institute of Certified Public Accountant
CEO	Chief Executive Officer
CF	Cash Flow
CFO	Chief Financial Officer
CG	Corporate Governance
DPS	Dividend Per Share
DS	Disclosure Score
e.g.	Exempli gratia ("for example")
EPS	Earning Per Share
et al.	And others
etc.	Etcetera
FAQ	Frequently Asked Questions
FASB	Financial Accounting Standard Board
GAAP	Generally Accepted Accounting Principle
GM	General Motors
HTML	Hyper Text Markup Language
IASC	International Accounting Standards Committee
IFRS	International Financial Reporting Standard
IR	Investor Relations
KSF	Key Success Factor
MD&A	Management Discussion and Analysis
M&A	Mergers and Acquisitions
n	number of observations
NI	Net Income
NIRI	National Investor Relations Institute
NO.	Number
NYSE	New York Stock Exchange
PDA	Personal digital assistant
ROA	Return on Asset
ROE	Return on Equity
ROI	Return on Investment
ROCE	Return on Capital Employed
RSS	Really Simple Syndication' or 'Rich Site Summary'
SEC	Securities Exchange Commission
SMS	Short Message service
Sn	Serial Number
TA	Total Asset
UPS	United Parcel Services
US	United States
WAP	Wireless Application Protocol
WWW	World Wide Web



# Chapter 1- Introduction

## 1.1 Introduction:

This master thesis will provide a snapshot of the extent of corporate disclosure over the internet by the top tier multinational companies in the electronics industry. In this regard, the starting point is to know the different types of information deemed important to the investor community. Then on the basis of these information, the level of corporate disclosure will be assessed methodically. The other area is to investigate how new web tools and technologies are changing the investor relations information sharing over the internet, which on its own right will open up a new dimension of academic research.

## 1.2 Problem definition:

Financial capital is very essential for the smooth operation of any business and it enables the businesses to grow, sustain and move forward, (Chandler and Hanks, 1998). Investors provide financial capital to the companies to help them floating in the bigger play ground. Investor invests their valuable money in those companies in which they have confidence and stay away from those which lack trustworthiness. The external flow of financial capital (external investment) depends on investor's trust and the investor trust depends on timely access to complete, relevant and trustworthy information (DiPiazaa & Eccles, 2002; Maria and Manal, 2005).

Information is crucial and investor community seeks a wide variety of information to make an appropriate and viable investment decision (Rosenfield, 1994). Information from the companies is very useful as it provides real signals to the investor community about the performance of the companies (Brealey and Myers, 2000). Without adequate information investors cannot judge and determine the opportunities and risks of an investment decision. There are various types of information, such as; financial information, corporate governance information, management information, environmental and sustainability information, strategy information, company and product information, operational information, stock information etc. So it is very important to know what types of information that investor community really want and also assess to extent their expectation is served by the company (Cooke, 1989b). Investor community can gather information from various sources but they expect information from the companies themselves



because the management of the company knows more about their business than others (Jensen and Meckling, 1976; Fama and Jensen, 1983). Investor relations department of corporations communicate and explain the future challenges, opportunities, discuss present strategy, past performance of the company to the interested investor (Ellis, 1985). However, among all other activities, providing information to the investor is the main responsibility of investor relationship department (Farragher et al., 1994).

Investor relationship department and their investor relations activities have recently caught the world-wide interest because of major corporate failings (Laskin, 2006). Corporate failings and scandals of the giants likes of 'Enron', 'MCI Inc' (former 'World Com'), 'Tyco' and 'Global Crossing' in the United states of America, 'Brex' in Canada, 'Parmalat' in Italy, 'HIH Insurance', in Australia, 'Skandia' and 'ABB' in Sweden have brought down investors trust and confidence in the company (Connell et al., 2004; Maria and Manal, 2005). These failures and lack of trust from the investors opened up a new dimension of roles and responsibilities for the investor relationship department and renewed interest in investor relations emerged in the academic world.

Quite a large number of studies have been conducted in the area of investor relations linked to valuation of firms and stocks, dissemination of information in the web for the investors, measuring quality of the investor relationship activities, model of investors sentiment, approaches of investor relations, ethical challenge of investor relations, corporate social responsibility and investor relations, investor behaviors, CEO's perceptions and investor relations, investor relations as marketing activities and public relations activities etc. Recently the academic research focus has been shifted on the area of investor relations activities on the internet and studies on this area have grown significantly (Lymer et al., 1999; Geerings et al., 2003; Froidevaux 2004; Marston and Polei, 2004; and Bollen et al., 2006). Most of the prior researches on this area are plotted to the extent of internet usage for disseminating information (Bollen et al., 2006). Studies on dissemination of information in the website for investor relations have been done on specific countries for example; in Australia, Belgium, France, the Netherlands, South Africa and the UK (2006), Europe (2001), Sweden (1999), USA (1999), UK and Germany (1999), Poland (2007) and etc. Beside these, studies on information disclosure on internet have also been conducted in Fortune 100 firms (2001), Fortune 500 firms (2004), and Euronext (2002). Nonetheless, the scope





of studies in relation to investor relations activities over internet has not been exhaustive. Previous studies showed that there is still demand for research on web disclosure (Froidevaux, 2004). For example, no previous studies have been found to have taken into consideration the industry specific characteristics of investor relations activities and information dissemination on the internet. It is logical that different industries operating in different business environments, have different approaches to manage their investor relations activities and may have own industry specific characteristics (Marcus and Wallace, 1997). Since the scope of multi-industry studies are too broad, this thesis is limited and focused on electronics industry. In this regard the main research question is:

- **‘What is the current status of corporate disclosure over the internet in the electronics industry?’**

Furthermore, a company may disclose a lot of information to the investor community but it is not rational that all of that information is useful to the investors for making investment decisions. So it is necessary for both the investors and company to know, what types of information is useful to the investor community for making viable investment decisions. Accordingly, it would be a good idea for the company to disclose information which investor community demand because disclosing unnecessary information don't create value for both investors and companies. As different investors seek different information for making their investing decisions, so before studying dissemination of information by the companies on the corporate website, it is important to know the types of information required by the investors.

As investor community consists of diverse groups and the information required by each group may be of different nature due to the environment they operate or industry specific criteria e.g. institutional investors and individual investors. They can be further differentiated by their investment horizon, such as; transient and long term. There are also equity investors and bond investors. Beside these, investors can also be differentiated by their buying nature, such as; sell side investor and buy side investors. Since the scope of whole investor groups are too broad, this study will be limited to and will focus on to the long-term, buy-side, institutional equity investors



(e.g. pension funds, insurance companies, banks, investment advisors, mutual funds). In this regard, following research question becomes viable;

- ‘What types of investment information buy side institutional equity investors expect from the companies on their corporate website?’

As discussed above, investor trust and confidence is mandatory for external flow of financial capital. To establish trust and confidence of the investor, companies provide information by various media. Among the media internet is being used extensively by the companies for transmitting information to the investor bringing cost efficiency, information sufficiency, enhanced timeliness of information and improved quality communication with minimum effort. This research aims to discuss the dissemination of information for investor over internet focusing on electronics industry (i.e. information dissemination by the top tier multinational companies in the electronics industry). Hence the following research question is feasible;

- ‘To what extent multinational companies in electronics industry provide desired information to the investor community on their corporate website?’

Furthermore, since the inception of investor relations activities on the internet, investor relations department generally uses internet to put specific information via website. With the emergence of new web-based tools, significant changes are noticed in how communications are done today and it is expected that this will also have a significant impact on corporate and social relationship management in the future. Investor relations activities may be greatly benefitted using different web tools for conveying information. Different web tools like twitter, facebook, MySpace, RSS feed, LinkedIn, reddit, dig, delicious, YouTube, flickr etc are just a few to name. Elaborate search failed to locate any academic study on the use of those web tools for investor relations activities over the internet. So, this study aims to open up a new dimension of academic research in that area and thus the following research question is viable;

- ‘How the recent changes in web technologies are shaping the directions of the investor relations information sharing activities on the internet?’



### **1.3 Academic and business relevance:**

The discipline of investor relations is very much pioneering in its own right. This study will shed the light on the scale of investor relations activities over internet which will be beneficial for the investors - by helping them in focusing on the important information for making investment decision. The study will further unveil the categories of information companies in electronics industry give most priority to disclose. For the corporations, this study will help them to decide which information they should focus on to maintain good investor relations so that they can increase the investor's trust and confidence in the company.

Using websites for investor related information disclosure is not a new practice. Recently new and advanced web tools and techniques are being used by the corporations for information dissemination to the investors. Since using those web tools for investor relations purposes is not a mature practice, this study will show how those web tools can be used for investor relations purposes particularly how those tools can be used for real time information dissemination for company audiences.

### **1.4 Structure of the thesis:**

The 'Introduction' chapter (Chapter One) begins with a background to the problem discussion of corporate disclosure and investor relations. Afterward the objectives are discussed.

Chapter two (Literature study: investor relations and corporate disclosure) continues with the extensive literature study about investor relations and corporate disclosure. This chapter discusses various topics of investor relations, investors expected information, theories of investor relations, corporate disclosure over internet etc.

Third chapter (Research design: approaches, methodologies and process)' begins with a literature study of general research approaches and methodologies. Later, research methodologies followed in this study has been discussed. The chapter provides an explanation of what kind of experimentation has been used to reach the research objectives.



Chapter four (Analysis and results) contains statistical analysis of the corporate disclosure. Section 4.2 discusses the results of the questionnaire study which reveals the information items deem important for the investor for making feasible investment decisions. Section 4.3 discusses the results of the extent of corporate disclosure over internet by the top-tier multinational electronics companies.

Chapter 5 (Web tools and technologies for investor relations: an explorative study), discusses various web tools and technologies and their prospects for investor relations information sharing.

The last chapter (Conclusions) provides the summary of the analysis. Afterwards, limitations of the research and future research directions are introduced.



## Chapter - 2: Literature study: investor relations and corporate disclosure

### 2.1 Introduction:

This chapter begins with the definition of investor relations and discusses relevant topics from literature. Then a comprehensive overview of previous studies conducted on ‘investor relationship activities and the use of internet’ is provided to give the reader a clear essence of the investor relations and disclosures practices undertaken by the corporations.

### 2.2 What is investor relation?

Modern ‘investor relations’ as a discipline has been defined in the late 70s (Lake and Graham, 1990). Different academics and practitioners of investor relations defined ‘investor relations’ in various ways. In general, ‘investor relations’ can be seen as a connection or link between the companies and the investor community. According to Ellis (1985), investor relation is an overall process by which a corporation communicates with the investor community, explaining the companies’ future challenges and opportunities, discussing present strategy and past performance and developing a constituency of informed and interested investors.

NIRI<sup>1</sup> in 1996, defined investor relations as “a corporate marketing activity combining the disciplines of communications and finance and providing present and potential investors with an accurate portrayal of a company's performance and prospects. Conducted effectively, investor relations can have a positive effect on a company's total value relative to the overall market and a company's cost of capital” (Petersen and Martin, 1996). But in 2001, NIRI redefined investor relations as - “a strategic management responsibility using the disciplines of finance, communication and marketing to manage the content and flow of company information to financial and other constituencies to maximize relative valuation” ( Hockerts and Moir, 2004). The difference between these two definitions implies that, the scope of investor relations is dynamic and new dimensions are being added in investor relations activities.

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<sup>1</sup>National Investor Relations Institute - founded in 1969, is the world’s largest professional association for investor relations practitioners (corporate officers and investor relations consultants) which is located in Vienna (Austria) and Virginia (US), responsible for making communications among corporate management, shareholders, stakeholders, securities analysts, various financial publics.



Regester (1990) noted that an investor relation is nothing but a defensive or aggressive attempt to stimulate the company's value and shares price. This is ultimately not true. 'Investor relations' is not only responsible for stimulating firm value and share price, but also have other striking importance (for further information please see section 2.5 : Goals and importance of investor relations'). However, Dolphin (2003) quoted Rao and Sivakumar (1999), "an investor relation is the financial end of the communications function, rather than the communications end of the financial function" meaning investor relations starts with financial activities and it finishes when that financial information communicated to the audiences.

So, investor relations can be seen as a task of the company management to provide timely, accurate, useful, meaningful, understandable and complete information about the company's fundamentals, present and past situation and future prospects to the investor community, which incorporates the discipline of marketing, communication, accounting and finance and influence the value of the corporations. The impacts of governments and various institutional requirements (SEC<sup>2</sup>, stock exchanges etc) also have positive influence in providing timely, accurate and meaningful information to investor community by the companies.

By practicing various activities investor relationship department communicate various information to the investor community. The general investor relations activities are depicted in table 2.1.

The purpose of the investor relations is to make a proper connection or link between the company's management and the financial community (Miller, 1991). Basically investor relationship department of corporations deals and communicates with these influential financial groups. According to Miller (1991), the financial community consists of the following sixteen influential financial groups - stock exchange member firms, customers' brokers, security analysts and individual analysts, unlisted or over-the-counter dealers, investment bankers, commercial bankers, registered investment advisory services, insurance companies and pension funds, mutual funds and investment trusts, investment counselors, trustees of estates and institutions, financial

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<sup>2</sup> Securities and Exchange Commission



statistical organizations, investment magazines and financial publications, large individual shareholders, debt rating agencies, portfolio managers and lender banks.

Table 2.1: General investor relations activities

Conveying information about	Activities
Present business status	<ul style="list-style-type: none"> <li>• Explaining information about the business and environment.</li> <li>• Explaining recent developments and decisions on the basis of company's long term planning and strategy.</li> </ul>
Forecasting future status	<ul style="list-style-type: none"> <li>• Highlighting future prospects of the business rather than historical performance.</li> <li>• Focusing on long term strategies.</li> <li>• Focusing on long term opportunities for the business.</li> </ul>
Transparency	<ul style="list-style-type: none"> <li>• Avoiding over expectations from the target audiences.</li> <li>• Facing adverse news openly and honestly.</li> </ul>
Managing relations	<ul style="list-style-type: none"> <li>• Providing analysts with access to the top management.</li> <li>• Being proactive rather than re-active.</li> <li>• Employs an investor relations staff or a department, that is able to explain details and is responsive to analysts' inquiries and requests.</li> </ul>

Source: adapted from Farragher et al., (1994).

Whatever the principle activities and whoever the audiences, communicating and transmitting relevant, concise, trustworthy, real time information are the key activities for investor relations.

### 2.3 Development of investor relations:

As a management specialization, investor relation has first been identified in the USA (Farragher et al., 1994; Dolphin, 2003). From different books, magazines and articles it is known that investor relations has first emerged in 1953 when public relations department of 'General Electric' developed a new communication program that targeted at the individual shareholders of 'General Electric'. Then this program was called 'investor relations'. Initially the target of investor relations was to communicate with the shareholders as a way to build and hold existing shareholder's loyalty. Prior to that time the so called investor relations activities were accomplished by the public relations practitioners of the company (Lake & Graham, 1990).



In the late 1969, NIRI was formed by a small group of investor relations practitioners to deal with credibility crisis that started when few public relations practitioners began to hype the stock of their client companies. At the beginning, NIRI was responsible to develop code of conducts and ethics for the investor relations practices which should be the prime guideline for investor relations. The formation of NIRI gave birth to investor relations as a discipline and formalized investor relations activities in corporations. Since the inception there are three distinct stages of investor relations development can be tacked –

- Stage 1: from the early 1970 to the early 1980
- Stage II: from 1982 to 1987
- Stage III: began in 1988 to present day

In the first stage of investor relations development, the responsible department of investor relations spent most of their time on fundamental communication, e.g. producing annual reports, quarterly reports, financial releases, providing information to the brokerage firms and arranged meetings for the investors. Generally investor relations functions were organized by security houses or banks (Lake and Graham, 1990). During the 1970s, in the US the investor relations practices were mainly centered on the individual investors because at that time the financial market was dominated by them. In that period annual reports and quarterly reports were the important sources of conveying message to the individual investors.

The second stage of investor relations development started at the beginning of 80's when the situation had changed entirely, prior that time where individual investors group were the market dominator, the financial market was found dominated by the institutional investors. During the time these investors group were responsible for more than 80% daily trading on the NYSE (New York Stock Exchange). This significant shift in the capital market caused a change the focus of investor relations practices from the individual investors to the institutional investors. Intense M&A (mergers and acquisitions) activities took place and this factor coerced executives and managers to take those investor relation activities to the next level (Lake and Graham, 1990).





The third period started from 1988 which is noticed by junk bonds, equity derivatives, globalization of financial markets, low investment turnover etc had forced investor relations activities developments move one step further (Lake and Graham, 1990). Investor relations practices became a strategic corporate function in the capital formation process of the companies. It was getting difficult for the investor relations practitioners to deal with the dynamic changes of investor relations activities, because only communications skills were not enough to tell the real story of the company, but knowledge of finance, marketing, and accounting became noticeably significant. In this era, investor relations got its recognition in the finance and corporate world. As the financial markets continue to grow over time, investor relations activities prove its necessity. In the 90's M&A (mergers and acquisitions) trend, internationalization of capital market, capital market innovation, disintermediation, privatization, globalization, advancement of technology, these factors are treated as the main drivers of investor relations dynamics. According to Thomson, (1997) the emergence of international investors, globalization and overseas mergers and acquisitions has placed a new spin in the investor relation practices.

The investor relations practices in the US have always been on the top, provided matured investor relations activities compared to the other part of the world such as Europe or Japan. Investor relations practitioners of US inaugurated a new and advance meaning of the management and investor relationship and this is caused by the significant activism of the corporate community. On the other hand, Europe is treated as the next innovator of investor relations activities because now it is facing the same mergers and acquisitions climate as US faced in the 1980's.

The table 2.2 summarizes the three distinct phases of investor relationship activities.

In practice, 'investor relations' is very dynamic. Thus the development of investor relations and Inception of new tools, techniques for these activities has not exhausted, therefore promising new directions and changes in the future.



Table 2.2: Developments of investor relations activities

Stage	Stage1: early 1970s - 80s	Stage 2: 1982-1987	Stage 3:1988-present
Drivers	Basic communications	M&A activities, privatization offering	Various characteristics of capital market e.g. junk bonds, equity derivatives, further globalization of capital markets, low equity turnover.
Communication agent	Investor relations department	Investor relations department and investor relations practitioners	Investor relations department and investor relations practitioners.
Target audiences	Brokerage firms	sell side analysts and buy side analysts	Individual and institutional investors, buy side and sell side analyst, different brokerage firms etc.
Communication medium	Various paper based printed materials (annual reports, interim reports)	Paper based printed materials, meetings, speech etc.	Paper based printed materials, meetings, speech, conferences, internet etc.
Activity organizer	Security houses and banks	Investor relations practitioners	Investor relations officers or investor relations departments.

Source: Lake and Graham, 1990 (adapted by author).

## 2.4 Theories of investor relations:

Three theories have been found in relation to investor relations. They are;

1. Agency theory (economic theory)
2. Stewardship theory (business management-oriented theory)
3. Stakeholder theory (also business management-oriented theory)

The agency theory and stewardship theory targeted on attaining firm's corporate goals, where as Stakeholder theory centered on the firms' advantage (Cullen et al., 2004). Each of the three theories denotes or establishes a better relation with the shareholders or investors.

### 2.4.1 Agency theory:

Agency theory explains the agency problems arising from the separation of ownership and control (Cullen et al., 2004). Agency theory explains the relationship between the principals (shareholder or investor) and agent (management or executive). The problem that arises from the separation of the ownership and control is known as principal agent problem. Agency theory is applicable for any relations linked with agency (management) (Cullen et al., 2004). Generally, the management is responsible for conducting daily functions of the business. Management need to act towards the benefits of investor (shareholder), if the goals of both parties are not aligned with each other, conflicts may arise in the principal agent relationship. This problem can be reduced by effective communication between the investor and management. Information asymmetry is the focal indication of principal agent theory.

Shleifer and Vishny (1997) explained the problem of information asymmetry and agency problem from the perspective of agent (management), who wants investors' money to run the business or organization nicely. They explained that, since the agent does not have enough capital of his own to invest or employ, needs external capital. But how the investors who put capital on the business can be assured that, their money will be back from the agent? In this context the agent assures the investors that their capital is not employing or going to be employed on unattractive projects (Shleifer and Vishny, 1997).

In economics and contract theory, information asymmetry resulted from the situation when one party has more or better information than the other party, which creates an imbalance of power in the relationship. If information asymmetry cannot be reduced, investor community will face problem to value their investing decision (Healy and Palepu, 2001). Information asymmetry causes market inefficiency, which lead to lower trading volume, higher transaction cost, illiquid market and at last breaking down the market (Lev, 1988; Pavabutr and Sirodom, 2007). This problem cannot be solved if investor community search and collect information by themselves because collecting information from outside and from outsiders is time consuming, inefficient, difficult, costly and may not be trustworthy (Froidevaux, 2004). These problems can be eased if the companies provide information to the investor, because the management knows better about their business than others, so it should be trustworthy, time efficient and relatively easy for the



investor to collect information. To reduce or eradicate information asymmetry, companies use different tools and techniques. The key solutions proposed in the literature are (1) Information disclosure and (2) Optimal contacts between investor and companies (Froidevaux, 2004). These two key solutions lead to the conclusion that, effective and efficient investor relationship can lessen the information asymmetry problem.

#### **2.4.2 Stewardship theory:**

Stewardship theory rejects the assumptions of agency theory and argues that executives and directors frequently have interests that are consistent with the shareholders (investors) (Cullen et al., 2004). This theory implies that a steward protects and maximizes shareholders' wealth through firm performance (Fame and Jensen, 1983; Davis et al., 1997). This theory suggests that the management act as steward of the shareholders (investors) and helps the organization to acquire its goals through self-serving behavior. Furthermore, it states that the management gets maximum sovereignty which is build upon trust between them and the shareholders. The cost of monitoring and controlling the steward (management) will be reduced if the management works towards the goals and welfare of shareholders (Davis et al., 1997; Cullen et al., 2006). The management can do that by transmitting internal information to the shareholders. According to Shleifer and Vishny, (1997) managers return finance to the investors to establish a good reputation, permitting them to re-enter the future financial market. A steward's behavior is collective, aimed at achieving the goals of the organization, which consequently satisfies the desires of shareholders (Davis et al., 1997).

#### **2.4.3 Stakeholder theory:**

“If organizations want to be effective, they will pay attention to all and only those relationships that can affect or be affected by the achievement of the organization's purpose. That is, stakeholder management is fundamentally a pragmatic concept. Regardless of the content of the purposes of the firm, the effective firm will manage the relationships that are important” (Freeman, 1999). Managers must build up relationships, inspire their stakeholders, and create communities where everyone strives to give their best to deliver the value that the firm promises and certainly shareholders are the important constituent (Freeman, 2004). Corporation has



relationships with many constituent groups ('stakeholders') that affect and are affected by the stakeholders decisions (Freeman, 1984).

According to Sundaram and Inkpen (2004), the Stakeholder theory attempts to deal with the question of, 'to which groups of stakeholders that the management's need to pay attention'. The theory is concerned with the nature of these relationships in terms of both processes and outcomes for the firm and its stakeholders (Jones and Wicks, 1999). Figure – 2.1 shows the different stakeholders and their interactions with corporation.

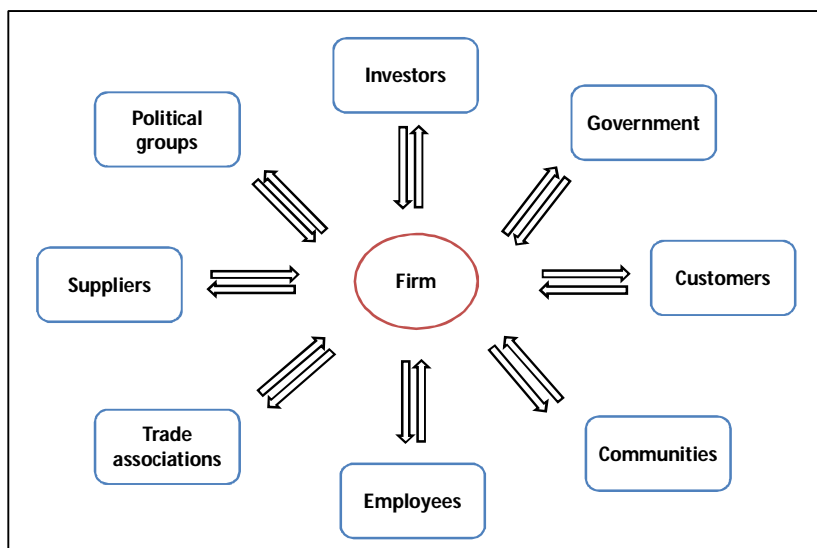


Figure 2.1: The Stakeholder Model, Source: Donaldson and Preston (1995, p.69)

According to Donaldson (1999), management considers that he or she is morally bound to acknowledge the intrinsic value of stakeholder interest. "All person or groups with legitimate interests participating in an enterprise do so to obtain benefits and that there is no prima facie priority of one set of interests and benefits over another" (Donaldson and Preston, 1995), which argued that all the stakeholders have same importance in the organizations. But Sundaram and Inkpen (2004b) argued that maximizing shareholder value is the only objective of management which boosts result for all stakeholders. The duty of management is to denote the core values of different stakeholders as the basis of decision making. But denoting all the stakeholders and their core values is an impractical task for the management (Sundaram and Inkpen, 2004b). So for the

management maximizing shareholder value is the best among all other alternatives (Sundaram and Inkpen, 2004a), that leads to better relations with the shareholders (investors).

## **2.5 Goals and importance of investor relations:**

The basic proposition for the investor relations is to build informed and interested constituency (Ellis, 1985). There are wide varieties of investor audience and the task of the investor relations department is to deliver the right message to the right people at the right time. Craven and Marston (1997) stated that, management of corporations would be happy to lead an investor relations programs to attract and sustain various investment in their company if they know importance of investor relations program very well. They added investors are interested to invest or put their stakes into those companies, which provide well structured and controlled investor relations program.

For investor relations department, initially there was a role of simple communication about the company's actions with the investor community but now the recent focus of investor relations is to communicate financial information. In more advanced companies, there is a trend to encourage investors to buy or hold the company's stock and also act to ensure that the firms are fairly valued in the market (Hockerts and Moir, 2004). Since the investor's decision reflects in the market, it influences the stock price of the corporation's (Ellis, 1985).

Successful investor relations programs help the corporation to build and sustain corporate image (Dichter, 1985; Dolphin, 2003). Dolphin (2003) argued that investor relations help the organization to establish financial reputation and management can make maximum strategic use of the financial reputation for long term benefit. Investor relations helps the corporations to be known widely and it is relatively easy for the widely known reputed corporations to raise new capital from the investor community (Ellis, 1985). When lack of capital is a problem for companies, an investor relation is an effective way to help the companies to collect required capital (Lake and Graham, 1990). As the world capital markets are difficult play ground for the companies to acquire financial capital, investor relations is a retort to that situation (Marston, 1996). On the other hand at the time of mergers and acquisition, corporations will be well valued



by the opponent, if the company is well known and respected by the investor (Ellis, 1985). More importantly, the investor relationship department works to create long term relationship between the investor community and the company's management (Ellis, 1985). Investor relations have strategic significance and it can help a company in developing strategies by creating closer links with investors (Ryder and Regester, 1989).

The importance of investor relations is manifold. Because of such importance companies see investor relations department as an indispensable part of management activities.

## **2.6 Target groups (individual and institutional, multiples):**

McMullen (1990) suggested that there are wide varieties of investors that require attention because the management needs to understand the target investor community very well. Since the main duty of the practitioners of investor relations is to transmit information to the right people, they have to know who the target audiences are. The target audiences for investor relations might be the sell side or buy side analyst, mutual fund, money managers, high asset individuals, retail brokers, hedge funds and various institutions with the preference of market size, turnover, investment time horizons etc (Lake and Graham, 1990).

According to Ellis (1985), there are basically two types of investors. They are institutional investor and individual or personal investor. He framed a definition for a typical investor, which is "a typical investor would be an individual who owns six to ten stocks in a portfolio worth 200,000 dollars to 500,000 dollars, invests primarily for long term gain, buys a little more on price weakness, and knows the companies he owns well because he reads annual reports carefully, does his homework on regular basis". But he argued that the concept of individual investor is more popular but the concept of institutional investor works more because today's stock markets are dominated by the institutional investor since at least seventy five percent of the investment activities are done by the institutional investor.

The institutional investors are concentrated and diverse in nature. They differ in size, type, demand, environment, activity, approach and the way they operate. Ellis (1985) showed in his



study that the institutional investors are the target constituency for management of the corporations. Many individual investors around the world are selecting mutual funds, pension funds, or retirement products offered by institutional investor, as their main investment vehicle (Ferreira and Matos, 2006). If any company targets institutional investors, then simultaneously they can target the individual investors because the institutional investors are the representative of the individual investors (Ellis, 1985). It might be true, but the recent emergence of hedge fund and private equity firms might have changed this conception. Regardless of the developments of hedge fund and private equity, in the financial markets institutional investor still plays a prominent role as, if any institutional investor shows attention in a particular stock or bond, the price of that particular stock and bond will be increased, since they can take a bulky stake. On the other hand, that institutional investor may destroy the stock or bond price if it decides not to hold it and withdrawing its money. Other investors may follow this example and finally the price of the stock may be destroyed.

Institutional investors are more powerful than the individual investors because institutional investors are full time, well staffed, well informed about a wide variety of alternative investments and their decisions are dominant in the market (Ellis, 1985). The focus of targeting specific institutional investors to purchase and hold corporations stocks has an important trend in the investor relations activities (Bushee and Noe, 2000). The percentage of stocks owned by institutional investor has grown significantly (Dolphin, 2003).

There are two types of institutional investors; short-term institutional investor and long-term institutional investor. The differences of the investment behavior between the two institutional investors stem from their objective and strategies (Chan et al., 2007). The transient institutional and long term institutional investors are different in nature both in terms of investment decision and investment style. Transient institutional investors are short term oriented, prefer current earnings and sell share when underperforming. On the other hand long term institutional investors focus on long term horizon. This is why corporations should attract, hold and sustain the long term institutional investor because those institutional investors are responsible for increasing the firm value, when they invest a big chunk into a company and reduces the firm value when they remove money from the firm.





Since reaching to the target audiences is the task of investor relations department, they have to transmit information via different intermediaries and channels. The following figure shows how investor relations can reach their target audiences through different channel and intermediaries.

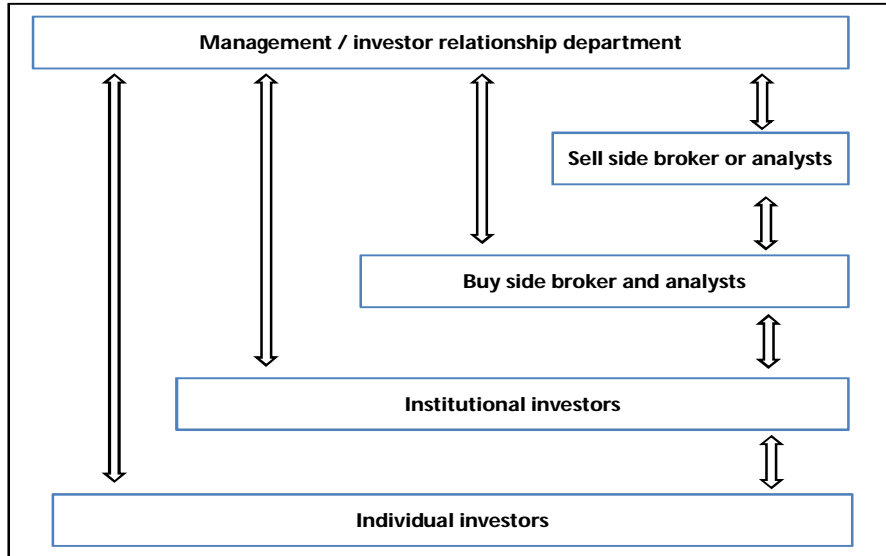


Figure 2.2: various channel for reaching target audiences. Source: Hockerts and Moir, 2004

The figure implies that, the target groups of investor relations are not only the individual and institutional investor but the whole financial market participants and all interested parties of companies. By using various communication channel investor relations department try to reach all audiences directly or indirectly.

Audiences or users' differ in their needs for information. The information need of an investor depends on the approach followed, the instrument being evaluated, the company's businesses and circumstances, and the investor's personal preferences. Short term investors most likely have extensive needs for information that helps forecast near-term earnings and yet they probably need little information about the expected long-term impact of key trends. In contrast, long term investors are less concerned with short-term earnings but need more information about the long-term impact of key trends (AICPA, 2001).

## **2.7 Information that investor need for investment:**

Information is very crucial for the investors for making investment decisions. When asked, investor demands various types of information. An investor's most important objective is to take decision about the absolute and relative value of companies and meeting that objective investor need wide variety of information to value investment decisions (AICPA, 2001). The following section is going to provide an essence about the types of information deem important for the investor community to make viable investment decisions. As extensive search was failed to locate academic research regarding information need about the investor for making investment decisions, thus this study wants to contribute this domain by indentifying information items that investor community perceive important (see section 4.2 for the findings).

The AICPA, (2001) study identified the categories of information that investor need, for making feasible investment decisions and those information are limited to company-specific information for which management is the best available source. According to the study there are five categories of company-specific information, which are;

1. Financial and non-financial information.
2. Management's analysis of financial and non-financial data.
3. Forward-looking information.
4. Information about management and shareholders.
5. Background about a company.

### **2.7.1 Financial and non financial information:**

Financial information of a company depicts the financial picture of that company, both at present and over a period of time. Investors use financial statements to decide whether to invest, buy, hold, or sell securities; and how to price transactions etc (AICPA, 2001). The study established the importance of financial statements. Financial statements generally provide users with essential information that greatly influences their decisions. Financial statements are indispensable for the investor for making investment decisions. The study also indicates that financial statements are an excellent model for capturing and organizing financial information which allows analyzing a wide range of trends and relationships among the data. The examples of



trends and relationships are; growth, market acceptance, costs, productivity, profitability, liquidity, collateral, and many others. Financial statements provide a wide array of financial information which allows many users to focus on the particular trends and relationships they perceive most important (AICPA, 2001).

### **2.7.2 Management's analysis of financial and non-financial data:**

To investors management's analysis is important as it helps to understand the business as management is closest to the business and often has analyzed data of the company for purposes of managing the business (AICPA, 2001). The study also stresses that, management's analysis includes two elements. The first one is the reasons for changes in the financial, operating, and performance-related data and investors want to know about the changes relating to market acceptance, productivity, costs of key resources, profitability, innovation, changes in financial position, liquidity. The second category identifies key trends and discusses the past effect of those trends. Management's analysis of each business segment helps users analyze a company's business segments separately (AICPA, 2001).

### **2.7.3 Forward looking information:**

The AICPA, (2001) study found that investors are interested on two types of forward looking information. The first is about opportunities and risks and the second is about management's future plans.

#### ***Opportunities and risks:***

Understanding opportunities and risks a company face is critical to the investors and is common to most of their analytical approaches. Opportunities and risks result from changes in a company's industry conditions, such as a threat from substitute products or services, changes in the bargaining power of customers or suppliers, including employees, and changes in the nature of competition with competitors. Investors can assess opportunities and risks from many sources of information, including industry and trade publications, financial statements, operating data, discussions with other users etc. but management is the perfect source of information as it is closest to the business and usually has considered opportunities and risks in planning for the future and managing the business (AICPA, 2001).



### ***Management's future Plans:***

Understanding management's plans is also crucial for investors. Information about management's future plans helps to dictate the direction it intends to lead the company and its plans are an important leading indicator of the company's future (AICPA, 2001).

Investors need forward-looking information to predict a company's financial prospect. (AICPA, 2001) argues that investors follow three subsequent methods:

- I. Study information about the past and the present: The process of guessing the future usually begins with a study of the past and present. Information about a company's businesses helps users identify opportunities and risks facing the company. Past information is useful only to the extent it conveys insight into the future.
- II. Search for leading indicators in historical data: Leading indicators help the investor to have future insights in which existing conditions are the basis. Examples included; trends affecting the business, performance measures, correlated measures etc.
- III. Search for forward-looking information: Forward-looking information is any forecast or information that aids prediction. It includes management's plans, assessments of opportunities and risks, and forecasted data.

### **2.7.4 Information about management and shareholders:**

According to AICPA, (2001), the following information about management and shareholders are necessary to decide an investment decision;

1. The identity and background of directors and executive management.
2. The compensation of executive management and the number of shares owned by senior management.
3. Identity and ownership of major owners and the nature of existing arrangements that result in a change in control.
4. Related-party transactions and relationships among major stakeholders.



### 2.7.5 Background about a company:

Investors also need background information about a company which provides a rational image of a company's present and future businesses. According to AICPA, (2001) the three following information are important in the following categories;

1. Broad objectives and strategy — help investors to recognize the business goals and the strategies that management is following to achieve those goals.
2. Scope and description of business and properties — help investors to realize the scope and nature of a company's businesses, which can be used to analyze a company.
3. Impact of industry structure on a company — help investors to assess opportunities and risks.

Beside those five categories there are some information items which are also important for investors:

- *Historic information:*

A company's present situation can affect the degree to which investors need historical information. To evaluate future of a company in most cases, historical information over a ten-year period of time provides foundation. In some cases historical information is not useful for predicting future, such as: at the time of bankruptcy, typical situations of start-up companies (AICPA, 2001).

- *Segment information:*

Business segments information is important to analyze a company's performance. Segment report is a powerful instrument to recognize and examine opportunities and risks that various companies face. Determining opportunities and risks is the key to decide how to value the investment and whether to invest or not. Furthermore, it is relatively easy for the investor to project earning cash flows on a segment basis for a whole company. When valuing companies, investor frequently apply a different discount rate to a segment's earnings or cash flows, which reflects the diverse opportunities and risks of each segment and segment data thus provide for more sophisticated valuation information. Segments information of companies included include industry, product



lines, individual products, legal entities within a company, geographic based on where a company produces products or delivers services, geographic based on where a company sells its products or services etc (AICPA, 2001).

- *Information about competitors and other companies:*

Comparing various companies requires a basic form of comparison yardstick against which to evaluate one company against others. When comparing companies, investors assess relative strengths and weaknesses. The basis for comparison measurements are; financial measures about assets, liabilities, equity, revenues, expenses, gains, losses, and cash flow. Measures must be computed in the same fashion to compare (AICPA, 2001).

- *Information about / in quarterly report:*

Quarterly reports are very crucial for the investor to decide about an investment and they think it should be retained by the public companies (AICPA, 2001). It also argues that, quarterly report is important for the following three reasons;

1. Quarterly reporting helps investors to give future focus of the business. It is critical that, an investor with a long term focus detect, on a timely basis, changes in long-term trends. Quarterly reporting helps provide that information.
2. Quarterly reporting discloses an orderly dissemination of trustworthy information.
3. Quarterly reporting reduces problems of trading on inside information.

To predict and compare future financial prospect of companies investors are likely to use historical financial statements or a variety of information, none of which comes from financial statements. In general, investors are concerned in a company's business activities, business processes, and events affecting a company as they are in financial measures about a company (AICPA, 2001).



## 2.8 Disclosure and investor relations:

When disclosure is done by the corporations, it is known as corporate reporting. Corporate reporting can be defined as the process by which corporation provides company's information to the present and potential users (Froidevaux, 2004). Users include current and potential individual investors, different institutional investors, buy side financial analysts and brokers, sell side financial analysts and brokers, companies other stake holders (employees, suppliers, competitors, trade associations, public etc) and other financial market participants who have an interest in the firm. Adina and Lon (2008) categorized users into two groups; namely sophisticated users and non-sophisticated users. Sophisticated users include buy side and sell side brokers, financial analyst, and various investment funds. Sophisticated users need a wide range of different information to guide the non sophisticated users since non sophisticated users don't have superior or specialized knowledge and they expect that from the sophisticated users. Users and the interested parties' curiosity in corporations performance depends upon the information disclosed by the corporation (Percy, 1997).

The main objective of information disclosure by the corporations is to help different group of investors so that they can evaluate the company's performance and make profitable investment decisions (Charlotte, 2006). Disclosure whether it is compulsory or voluntary, diminishes information asymmetry between shareholder and management and ensures effective allocation of resources (Adina and Lon, 2008). It also reduces the knowledge gap between different groups of investors (Froidevaux, 2004). According to Adina and Lon (2008) the most significant option for disclosing information is represented by the compulsory disclosure. There are two types of disclosure; mandatory or compulsory disclosure and voluntary disclosure. Compulsory disclosure refers to the information which must be available as an outcome of some current statutory or legislative provisions, capital markets' requirements and accounting authorities regulations. Companies disclose mandatory information to the users which refers to the dissemination of annual and semi-annual financial statements, consolidated financial statements, administrator report, audit report, annual, semi-annual and quarterly reports, financial calendar, footnotes, management discussions and analysis (MD&A) and other regulatory filings etc. Compulsory disclosure is being practiced by all listed firms in most of the countries in spite of their size, fiscal or national accounting system. The main characteristic of mandatory disclosure is feint at national



or regional level of professional organizations or government authorities. Adina and Lon, (2008), defined mandatory characters of disclosure are:

- Issuer: company
- Receivers: shareholders, employees, creditors, customers and other stakeholders
- Regulations: commercial law, accounting law, accounting standards: IFRS , US GAAP, European Accounting Directives, national accounting standards, SEC requirements, etc
- Content: format and object of disclosed statements
- Period of disclosure: annual, biannual, quarterly or occasionally
- Dissemination means: printed or website.

The voluntary disclosure can be defined as an additional offer of information to its users, something that is not compulsory by the law or legislative provisions. Voluntary disclosure mainly aims to fulfill the users' informational need by completing the mandatory disclosure process which appears to be insufficient to the users. The voluntary offer of information disclosure results from the outside pressures of the capital markets, different financial analysts, consulting firms, prospective and potential investors etc. Companies provide voluntary information which includes release of earnings forecasts by management, conference calls, press releases, investor presentations, analysts recommendation and presentations, CEO and CFO's presentations, webcast and summary, information about annual general meeting (AGM), information about general business principles, information about KSF (key success factors), credit rating summary, environmental information, sustainability and growth information, other corporate governance information, risk management information etc.

According to Adina and Lon (2008), voluntary information disclosure is an effective tool for the companies, in order to obtain financial capital as well as to attract outside investors. Various studies suggested that voluntary disclosure reduces information asymmetry among informed and uninformed market participants (Diamond and Verrecchia, 1991; Frankel et al., 1999; Brealey and Myers 2000). Brealey and Myers (2000) suggested that a reduction of information asymmetry also helps to reduce the agency cost.



Welker (1995) and Leuz and Verrecchia (2000) proved in their study that, as the level of a certain company's disclosure linked positively to the increase of trading volume that results to market liquidity. Glosten and Milgton (1985) and Healy et al., (1999) also stress same result. (Froidevaux, 2004) argued that, increased market liquidity make a company's stock more attractive to various investors that lead to increased information intermediation. Healy et al. (1999), Lang and Lundholm (1993, 1996) showed that extended disclosure level can improve the intermediation for a firm's stock in the capital market.

Information disclosure is productive only when it is useful. According to various accounting literatures there are five main characteristics which are mandatory for the fulfillment of the useful information (Froidevaux, 2004) e.g. the information must be trustworthy, timely, relevant, comparable and understandable.

False or unreliable information misleads investors to make viable investment decision. Investors need complete, reliable, trustworthy and transparent information which is free from bias to make appropriate investing decision (Froidevaux, 2004). Moreover, to be useful information must be comparable, that means comparable in terms of intra-company comparability and inter-company comparability (Froidevaux, 2004). Beside these, information should be timely. Timeliness of information increases the efficiency and effectiveness of capital market for the benefit of investors (Ettredge and Gerdes, 2004 quoted from SEC website)<sup>3</sup>. In addition to that, investors need relevant information to evaluate the present, past and future of a business (IASB, 2000) which leads them to choose a suitable investment decision. Complete, reliable, trustworthy, transparent, relevant, comparable and timely information are still not sufficient to fulfill the criteria of usefulness. Information must be understandable as (IASB, 2000) argued that Information should be provided in such a way that it must present a clear meaning of the information substance.

The cost of disclosing is significant and the corporations have to incur cost of disclosing information to the investor (Gray et al., 1990). Managers are reluctant to disclose information if

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<sup>3</sup> ([www.sec.gov/edgar/aboutedgar.htm](http://www.sec.gov/edgar/aboutedgar.htm))

the advantages of such disclosure doesn't outweigh the cost of disclosing information (Kelly, 1983; Maingot and Zeghal, 2008). According to Manigot and Zeghal (2008) there are two types of direct cost of disclosing. The first direct cost is related to the preparation of the information for disclosure which is borne by the corporations. The second direct cost of information disclosure is related to the analysis of the disclosed information which is borne by the different users of the information. They also argued that competition has a positive relation to cost and level of disclosure. In a very competitive environment corporations have to disclose more to earn the satisfaction of different users and by doing so corporation losses their competitive advantage as their rivals can gather sensitive information (Darrough and Stoughton, 1990; Clinch and Verrecchia, 1997; Bonson and Escobar, 2003). There are three factors that determine the competitive advantages of corporations; the type of information for disclosing, the level of the disclosing information details and timeliness of information disclosure (FASB, 2001). IFRS could increase the cost of disclosure as IFRS influences those three factors. The cost of implementing IFRS development for corporate disclosure might be significant as it requires special training of the personnel. Timely information disclosure and informing detailed information also can increase cost. But Ball (2006) argued that, implementation of IFRS in companies can reduce the cost of investors as investors get more accurate, comprehensive and timely information.

Froidevaux (2004) stated another type of cost which is related to disclosure; the potential cost of litigation. Litigation costs are not obvious. Corporations have to bear litigation costs if they don't disclose information (Manigot and Zeghal, 2008). Field et al. (2003) showed in his study that the level of disclosure reduces litigation risk.

Irrespective of the types of information and their purposes the company has to decide what to disclose, whom to disclose, when to disclose, how to disclose (Ellis, 1985).



## 2.9 Internet disclosure and investor relation:

Generally, companies disclose important corporate information in their general assembly and provide that information to their audiences through different types of traditional printed materials like; annual reports, interim reports, semi annual reports, quarterly reports etc (Lang and Lundholm, 1993; Frankel et al., 1999; Froidevaux, 2004; and Maria and Manal, 2005). The traditional printed materials for transmitting information are losing their significance to its users because they are becoming less timely as they are published in a specific time period (Koreto, 1997; Portes and Rey, 2000). Portes and Rey (2000) also argued that the traditional paper based printed materials for transmitting information has become very expensive as there is a considerable increase in global investments and in number of investors. To communicate with a wide range of users with paper based printed materials is not only difficult but also impossible.

The disclosure medium dictates what to be disclosed, when and how. According to Debreceeny and Rahman (2005), there are two types of disclosure regimes; periodic disclosure regime and continuous disclosure regime. In periodic disclosure regime firms are responsible for making in depth analysis about their performance. Generally firms use traditional paper based printed materials for periodic disclosure. On other hand, in continuous disclosure regime it is necessary for the firms to disclose information as they occurred. Internet has been considered the most efficient way for the firms to disclose real time information and thus clearly links to the continuous disclosure. Nonetheless, internet can also be efficiently used for disclosing periodic disclosure. Whether it is continuous regime or periodic regime of information disclosure, internet plays a significant role (Debreceeny and Rahman, 2005).

Geerlings et al. (2002) stated that the internet can be used as medium to provide investors with a copy of the traditional paper-based materials, but it also offers new opportunities to communicate by presenting and publishing wide ranges of information. Gowthorpe and Flynn (1997) argued that traditional paper based information disclosure will be replaced soon by the online and real time information on the internet. Bury, 1999; Trites, 1999; Bonson and Escobar, 2003; suggested the same. Debreceeny and Gray (1999) predicted that, in the near future the internet will become the primary means of communicating company's information.



According to Deller et al. (1999) and Sullivan (1999) providing information on the internet reduces cost of communication compared to the traditional printed materials. The internet facilitates the speedy communication of information at a low marginal cost relative to other alternatives available (Rowbottom et al., 2005). Beside these Ashbaugh et al. (1999) argued that transmitting information in the corporate website is a strategy to provide more relevant information to the users. Internet based dissemination can reach a wide variety of audience than the traditional paper based materials (Kaplan, 1996; Ettredge et al., 2001; Row bottom et al., 2005) which leads to improve communication efficiency and quality by reaching more people with less effort (Deller et al., 1999).

In their study Lymer et al. (1999) found that among the largest 30 companies in Australia, Germany, North America, Sweden and the United Kingdom almost every one of them already used internet for corporate reporting. The majority of the largest listed companies are found in developed countries having corporate website on which they disclose various information (for further information see; Craven & Marston, 1999; Pirchegger & Wagenhofer, 1999; Ettredge et al., 2001). It is assumed that, disclosure from the companies take place when they find it is convenient for them to disclose information (Frankel et al., 1995; Kasznik, 1999; Abbody and Kasznik, 2000). Several studies found that recently dissemination of corporate information via the internet has increased significantly (for further information see Lymer et al., 1999; Trites, 1999; Ashbaugh et al., 1999; Deller et al., 1999; Geerings et al., 2003) which suggests that companies have convenience in disclosing information over internet.

Internet can be treated as an efficient and effective medium for disclosing corporate information (Waroff, 1995; Mahoney and Wessendorf, 1996; Elgin, 1996; Rowbottom et al., 2005) and considered as a comprehensive instrument for company's business operation as well as investor relations activities (Deller et al., 1999; kuperman, 2000). Internet has been used as a very important tools or medium for corporate reporting and investor relation activities since early 1990s (Rowbottom et al., 2005). Kuperman (2000) argued that the internet has a significant impact on investor relations activities.



Internet as a medium for corporate reporting and investor relations activities is changing as a result of rapid developments in the communication industry (Geerlings et al., 2002). According to Ashbaugh et al. (1999) companies' website represent distinct category of communication. Internet with its incredible capability (global reach, versatility, interactive capacity and speed) is shaping the relations between companies and investors (Bonson and Escobar, 2003). The internet offers the facility to supply well equipped information to all interested users so that they can make timely investment decisions (Mahoney and Wessendorf, 1996). According to Deller et al. (1999) internet enhances disclosure timeliness. According to Ettredge et al. (2001b) the main objective of the use of the internet for investor relations activities is to provide comprehensive and timely information which previously was available only to a few of interested users.

The increasing number of users (individual and institutional investors, customers, competitors, communities, employees, trade associations, suppliers, government, political groups, and other stake holders), speed, security of communications and low costs enable companies to obtain some competitive advantage. Internet allows companies to provide real time and customized information to the users (Bonson and Escobar, 2003). Internet enables corporations to provide information in more innovative ways (Jones and Xiao, 2004) and also in large volumes (Taylor, 1998; Bury, 1999). These incredible features (speed, flexibility, security, wider user's coverage and low cost) have a significant impact on the various information users (Green and Spaul, 1997; Wallman, 1997; Gowthorpe and Flynn, 2001).

Generally, the internet is best considered as a potential solution to some well recognized problems of general purpose reporting (such as lack of customized information, users' common and different information needs, companies' limited willingness and ability to provide customized information). Internet enables more customized information to its users which facilitates them with their various information need and taste (Jones and Xiao, 2004). Option for searching information and extensive appearance of information on the website allow companies to add value in their information disclosure. Searching for information on the internet not only enables investors to have information on demand but also satisfy their hunger for information (Bonson and Escobar, 2003).



Hedlin (1999) described three distinct stages for investor relations activities from the companies over the internet (Geerlings et al., 2003), which are described in the table 2.3. According to Geerlings et al. (2003) in stage I, companies provide that information which is already accessible through other medium and companies mainly provide stage II and stage III information on the internet for the investors.

Table 2.3: Three stages of investor relations activities on the internet

Stage I: Various types of reports	Stage II: Press releases and other information services	Stage III: Internet featuring activities:
<ol style="list-style-type: none"> <li>1. Corporate annual report (Current and historic)</li> <li>2. Balance sheet, profit &amp; loss account statement, Cash flow statement</li> <li>3. Interim reports</li> <li>4. Environmental and social reports</li> <li>5. Various sustainability reports</li> </ol>	<ol style="list-style-type: none"> <li>1. Press release</li> <li>2. Financial calendar</li> <li>3. Share price information</li> <li>4. Organizational structure</li> </ol>	<ol style="list-style-type: none"> <li>1. Providing hyperlinks and internal search options</li> <li>2. Presentation of data in different formats</li> <li>3. Multilingual pages options</li> <li>4. E-mail access to IR department</li> <li>5. Providing regular updates to the mailing lists subscribers</li> <li>6. Providing answers of FAQ</li> <li>7. Company executives' presentations</li> </ol>

Source: Hedlin, (1999).

Disclosing over internet may have some disadvantages in corporate reporting, such as information overload; lower information quality; and lack of security (Jones and Xiao, 2004). Trites (1999) and Debreceny et al. (2002) argued that, since internet has unlimited capacity to store information, may be a reason for information overload. Groves (1994) reviews 25 large US companies and argued that the huge amount of disclosed information reduced its value as it creates information overload. Outdated information or lack of timeliness can also be a drawback of internet disclosure (Hussey et al., 1998). Misleading presentations of information and disclosure of unaudited financial information also address the quality issues of internet disclosure (Gowthorpe & Flynn, 1997; Hussey et al., 1998). Perhaps companies are reluctant to provide real time information as real time disclosure of information on the internet requires regular maintenance which consumes significant amount of time and cost. According to Gowthorpe and Flynn, (1997) and Hussey et al. (1998), producing misleading or unclear information and selective information could be other limitations of internet disclosure. The presence of frauds may create security issue over internet disclosure (Baker, 2002). The risk of information overload



takes place when company posts lots of information and lacks quality. This happens if the website is not frequently updated with current information. These risks also may come from outside of the company because it is possible to collect lots of information from outside which may have lack of quality and create information overload.

Though there are various issues of using internet for investor relations related information sharing, in the present time there is no other efficient and effective alternative available to internet. The inception of internet was seen by companies as a lucrative tool for information sharing. The transition from traditional paper based materials to internet based information disclosing became a necessity due to cost advantages, reliability, speed and flexibility. The internet is and will remain as the most prominent medium for investor relations and information sharing on internet in the future.

## **2.10 Determinants of disclosure:**

Disclosure of information has both cause and effect where cause is the influential factor that determines the level of disclosure and effect determines the response of market or investor in relation to the disclosure (Debreceeny and Rahman, 2005). There are several factors that influence the level of disclosure such as cultural factors, economic and political factors, and firm specific Factors (Wang, 2007). Several studies identified various factors that influence the level of disclosure and these Studies showed that the degree of corporate disclosure is a function of the following factors, which are depicted in the table 2.4.

Among the determinants and factors some have strong influence and some have weak influence. Most researcher found size, listing status, leverage, ownership concentration, profitability, the level of agency and proprietary cost, audit firm size are the most significant and consistent determinants of disclosure (Froidvaux, 2004; Wang, 2007).

Table 2.4: Determinants of disclosure and their directions

Determinants	References	Impact and directions
Firm size	Singhvi and Desai (1971); Buzby (1974); Firth (1979); Chow & Wong-Boren (1987); Susanto (1992); Lang & Lundholm, 1993; McKinnon & Dalimunthe (1993); Hossain et al., (1994); Wallace & Naser (1995); Zarzeski (1996); Aitken et al., 1997; Adams & Hossain, 1998; Ahmedet & Courtis (1999); Craven & Otsmani, 1999; Bonson & Escobar (2006).	<ul style="list-style-type: none"> <li>• The association between firm size and disclosure is not clear. Both arguments supports presence of negative and positive relations.</li> </ul>
The need for equity capital	Lang & Lundhom (2000); Schrand & Verrecchia (2002).	<ul style="list-style-type: none"> <li>• No consistency over findings (presence of positive, negative and no relation).</li> </ul>
Number of independent directors	Fama & Jensen (1983); Chen & Jaggi (2000).	<ul style="list-style-type: none"> <li>• Presence of positive association.</li> </ul>
Listing status (domestic and foreign listing)	Singhvi & Desai (1971); Meek & Gray (1989); Ahmedet & Courtis (1999); Hossain et al., (1994); Saudagaran & Biddle (1995); Wallace & Naser (1995); Archambault & Archambault (2003).	<ul style="list-style-type: none"> <li>• Has positive relationship with listing status. Companies with multiple listing disclose more information.</li> </ul>
Profitability	Singhvi & Desai (1971);Wallace & Naser (1995);Archambault & Archambault (2003)	<ul style="list-style-type: none"> <li>• Both positive and negative association found.</li> </ul>
Ownership concentration	McKinnon & Dalimunthe (1993); Hossain et al., (1994); Schadewitz & blevins (1998); La porta et al., (1998).	<ul style="list-style-type: none"> <li>• Negative relationship with disclosure.</li> <li>• Positive relationship between foreign ownership and disclosure.</li> </ul>
Industry type	AIMR (1997); Cooke (1989); Wallace & Naser (1995);Archambault & Archambault (2003).	<ul style="list-style-type: none"> <li>• Industry type has effect on disclosure and different industry has different disclosure behavior.</li> </ul>
Growth	Kanto & Schadewitz (1997)	<ul style="list-style-type: none"> <li>• Has a positive relationship.</li> </ul>
Size of audit firm	Singhvi & Desai (1971); Malone et al., (1993); Ahmad & Nicholls, (1994); Hossain et al., (1994); Raffournier, (1995); Ahmad, (1996); Patton & Zelenka, (1997).	<ul style="list-style-type: none"> <li>• Most studies supported positive association with disclosure. Not significant association found by Wallace and Nasser (1994).</li> </ul>
Foreign sales	Zarzeski (1996); Archambault & Archambault (2003).	<ul style="list-style-type: none"> <li>• Positive association between foreign sales and disclosure.</li> </ul>

Size appears to be the most significant determinant for disclosure (Froidvaux, 2004), but the relationship between size and disclosure level is not clear (Wang, 2007). It is assumed that large firms tend to disclose more than small firms because larger companies have higher information asymmetry between managers and shareholders (Chow and Wong-Boren, 1987) and to reduce the consequences of information asymmetry large corporations do disclose more information. Corporate reputation also leads the larger corporations to disclose more (Froidvaux, 2004).



According to Ahmed and Courtis (1999), large corporations disclose more information because they have a diversified portfolio of activities. They also argued that larger firms disclose more as they need to respond to a wide range of owners. On the other hand, Wallace and Naser (1995) insisted that, there are several reasons that may cause a negative relationship between disclosure and firm size, Such as; political cost and proprietary cost. Big corporations don't tend to disclose some information as there is a chance to lose competitive advantage (Wang, 2007).

In their study, Ahmed and Courtis (1999) and Lang and Lundholm (2000) found a positive relationship between the level of disclosure and level of required capital. Lang and Lundholm (2000) showed that corporations increase their degree of disclosure activity six months before any equity offering. In contrast Zarzeski (1996) argued that corporations which mainly depend on external finances disclose less. Kanto and Schadewitz (1997) stated that the required amount of external finances is negative related with disclosure. Beside these, Wallace and Naser (1994); Hossain et al. (1995) found no significant relationship between the level of disclosure and required capital.

Listing status or dispersion of ownership is another major influencing factor of disclosure. Studies have found a positive correlation with the level of disclosure and multiple listings of companies. (For further information see; Adhikari and Tondkar, 1992; Wallace and Naser, 1995; Ahmed and Courtis, 1999; Archambault and Archambault, 2003).

When it comes to Size of audit firm as a factor that influences disclosure, several studies have found a positive relationship with the level of disclosure. (For further information please see; Singhvi and Desai, 1971; Malone et al., 1993; Ahmad and Nicholls, 1994; Hossain et al., 1994; Raffournier, 1995; Ahmad, 1996; Patton and Zelenka, 1997) but Wallace and Naser (1994); Ahmed et al. (1999) and Archambault and Archambault (2003) did not find any positive relations between the disclosure level size of audit firms (Wang, 2007).

Singhvi and Desai (1971) found that profit margin and earning return have a positive association with the degree of information disclosure. In 1995, Wallace and Naser found the same result. Managers are encouraged to disclose information about the firm's profitability so that investors



feel confident to invest in the firm (Wang, 2007). Beside these Zarzeski, 1996; Saudagaran, 1988; and Archambault and Archambault, 2003; found disclosure level is also related with foreign sales.

Various empirical researches argued that companies in different industry have different information disclosure behavior (for further information please see; Cooke, 1989; Wallace and Naser, 1995; Archambault and Archambault 2003; Xiao et al., 2004).

Nevertheless, various researchers found different determinants of disclosure level and there is no clear cut conclusion about the above all determinants with level of disclosure.



## Chapter 3 - Research design: Approaches, methodologies and process

### 3.1 Introduction:

This chapter is going to provide an overview of the research procedures that were followed in this study. As discussed in chapter one, the main objective of this research is to know the level of disclosure by the top tier multinational companies in the electronics industry. The evaluation of the extent of information disclosure by the companies can be done by utilizing some type of index (Marston and Shrives, 1991). In order to develop an disclosure index the first step is to denote the variables that will encompass the disclosure score of a business and the second steps is to determine the values of the variables, whether these variables should be given some form weighting or not (Bonson and Escobar, 2006). Botosan (1997) used a disclosure index based on the information provided on the companies' annual reports. Ettredge et al. (2001) used a check list to evaluate the information disclosure by group of companies. Bonson and Escobar (2006) used a disclosure which is a mixed reference of various study (AICPA, 1994; Botosan, 1997; Debreceny et al., 2001; Ettredge et al., 2001 and Xiao et al., 2004). From various academic literatures it becomes evident that developing a disclosure index is best way forward in determining the disclosure level and this very approach is followed in this study. Since this study relates to the information disclosure by the companies for the investors, it is essential to know the information items, which are seemingly preferred by the investor communities. When the information items will be known, then on the basis of these information items a disclosure index is determined. Afterwards, the corporate disclosure level by the electronics companies is assessed methodically by using that disclosure index.

In the following sections (3.2, 3.3, and 3.4) theories related to research approach, research design, research process and the data collection process are discussed and in the section (3.5) the chosen approach, research design, research process are presented.



### 3.2 Research approaches:

There are lots of methodological approaches, which can be used for conducting research. The main intention for using different methodologies is to justify the information used and to ensure the accuracy of various sources (Hair et al., 2002). The choice behind a research approach depends greatly on the extent of precision on which the original research question can be originated and solved, and how much knowledge that exists in the area of the selected subject (Kumar, 1997). Academic literatures generally point to treat three different types of approaches dealing with research problems;

1. Exploratory research approach
2. Descriptive research approach and
3. Hypothesis testing

#### *Exploratory research approach:*

When information is insufficient, the study becomes exploratory. Exploratory research is undertaken with the objective to explore a research area where little or nothing is known (kumar, 2005). The main purpose of the exploratory research is to collect as much knowledge about a certain problem area as possible. This collected knowledge helps researchers to analyze the problems from number of different viewpoints. This type of study often provides a basis for future research (Hair et al., 2002). Exploratory research is often conducted to obtain better understanding of a phenomenon or to crystallize a research problem. Exploratory research is used to spot crucial variables to be researched.

#### *Descriptive research approach:*

Descriptive research attempts to describe systematically a research situation, problem, and phenomenon. The main purpose of descriptive research is to portray what is dominant or established with respect to the research topics (Kumar, 2005). Descriptive research answers the questions e.g. *who, what, where, when, why and how*. In a descriptive study, only the essential characteristics of a phenomenon are looked upon. The descriptions of these aspects are detailed, factual, fundamental, accurate and systematic. But descriptive study is unable to describe what caused a situation, so it cannot be used for causal relationship research.



### *Hypothesis testing:*

Hypothesis testing (sometimes known as confirmatory data analysis) is a process to analyze experimental data by statistical tools. This method of research is used when information is extensive enough to test theories. The researcher collects information and makes hypotheses and those hypotheses are tested, which result in acceptance or rejection.

### **3.3 Research design:**

Theory can be seen as a large landscape of interconnected propositions about some phenomenon (Hair et al., 2002). There are three main ways to form a theory. Those are;

1. Deductive approach (Discussed by Kam, 1990)
2. Inductive approach (Discussed by Kam, 1990) and,
3. Abductive approach

#### *Deductive approach:*

The deductive approach (also known as hypothetical approach) can be described as when a theory concerning a selected subject matter exists and a hypothesis is formed from the previous studies to test the hypothesis or to extend the theory (Hair et al., 2002). They also argued that this type of research examines whether the existing theories are combined with reality by making observations. Deductive approach attempts to clarify or predict the reality. Bryman & Bell (2007) said that, the deductive aim of a research frequently connected to the quantitative research approach, which indicate that the main goal of deductive approach is to test an idea or hypothesis.

#### *Inductive approach:*

The inductive approach is opposite of deductive approach which illustrates that the researcher doesn't have any idea or hypothesis to test or prove. In an inductive approach, researcher follows earlier investigations. The researcher primarily conducts observations on the reality, after that a conclusion is drawn, and a theory is formulated (Kam, 1990). The main purpose of the inductive approach is to build up a new theory or knowledge (Hair et al., 2002).



### *Abductive approach:*

Researcher sometime uses both deductive and inductive approach in a research, which is known as abductive approach. This research approach produces empirical findings together with previous theories (Hair et al., 2002). This approach helps to create efficient cross-fertilization where new combinations are developed through a combination of established theoretical models and new concepts that derived from the confrontation of the reality (Dubois and Gadde, 2002). In an abductive approach researcher use both theory and empirical data in order to gain understanding of the research areas (Bryman and Bell, 2007).

### **3.4 Research process:**

Lundahl and Skärvad (1999) described a general process to conduct an academic research. According to their model, the process has three distinctive phases which is depicted in the following figure;

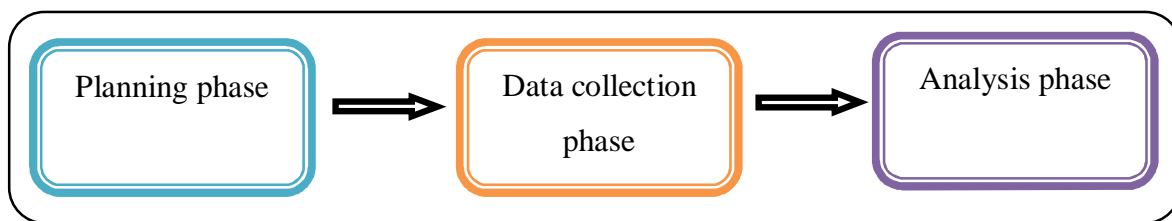


Figure 3.1: Research process, Source: Lundahl and Skärvad (1999)

In the planning phase, the main research problem is defined and a literature study concerning the research issue is conducted. In the data collection phase, data is collected from various sources to reach the research objective. And the analysis phase, concerns the processing and analyzing of the data and reaching conclusion or conclusions.

#### **3.4.1 Data collection:**

Collecting right data from the right sources for a research is very important to the relevance of the outcome of a research or the problem solving. Data collection process depends on the decisions which produce the best answers to the research problems (Kelly et al., 2003). To reach research goal, a researcher should first decide upon whether he would opt for primary data or secondary data. Primary data is information that is collected for the first time and secondary data is the

information that already exists, like statistics, literature, material of law and electronic sources which all contribute to form a wider perspective. Secondary data can be divided into internal or external data. Internal data can be collected within a company and external data can be collected from books or articles that are publicly available. An overview of the advantages and disadvantages of using primary and secondary data is given below (see table 3.1).

Table 3.1: Advantages and disadvantages of primary and secondary data

<b>Data type</b>	<b>Advantages</b>	<b>Disadvantages</b>
Primary data	<ol style="list-style-type: none"> <li>1. Directly address the research problem.</li> <li>2. Reliability, credibility, accuracy are high and known.</li> <li>3. Can address any research question.</li> </ol>	<ol style="list-style-type: none"> <li>1. Collecting data can be expensive</li> <li>2. Researcher need special skills to conduct data collection.</li> <li>3. Require more time</li> </ol>
Secondary data	<ol style="list-style-type: none"> <li>1. Cost effective</li> <li>2. Time efficient</li> <li>3. Doesn't require special skills</li> <li>4. Shows deficiencies and gap.</li> <li>5. Can be used for comparisons of primary data.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reliability, credibility, accuracy may be unknown</li> <li>2. Format of data may be unusable</li> <li>3. Interpretation and data analysis skills required</li> <li>4. Data may be out of date.</li> </ol>

Source: Morgan and Summers, (2006) and Kumar, R. (2008)

Once the choice is made in terms of using primary and secondary data for the research then the researcher should decide upon whether he would collect qualitative data or quantitative data. Quantitative data (hard information or the data which can be quantifiable) like; value of net income or sales, number of shares, earning per share etc. is generally collected by close ended questions which helps to provide reliable statistics. Qualitative data (soft data or the data which can be exemplified) describes properties or characteristics of population. Qualitative data is generally used in order to explain any thoughts, feelings, beliefs or any event (Kothari, 2004). Commonly qualitative data is collected by open ended question or focus group discussion.

According to Eriksson and Widersheim-Paul, (1998) at the time of collecting data, a researcher has to weigh between three important variables. The three important variables are depicted in the following figure:



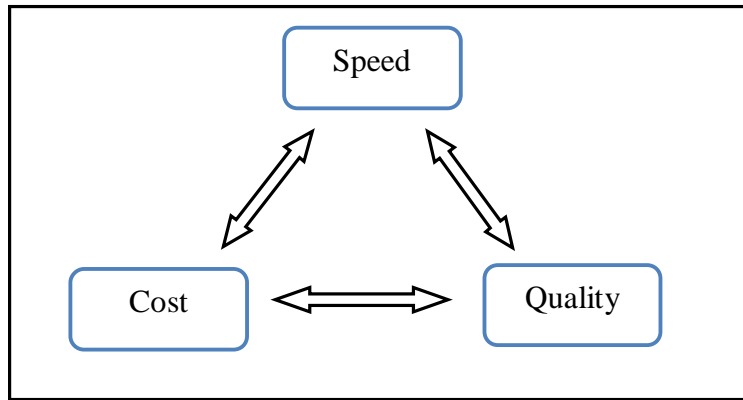


Figure 3.2: Three important variables for data collection. Source: Eriksson and Widersheim-Paul, (1998)

The figure above suggests that, a researcher should weigh in between these three variables (speed, cost, quality) at the time of collecting data. Quality brings higher costs, and a fast collection of data can narrow down quality. Fast collection of data sometimes may increase cost.

### 3.4.2 Data collection from questionnaire study:

Questionnaire study is one of the most popular and widely used data collection methods when information is scattered widely. To collect primary data, questionnaire study is one of the prominent methods (Parajuli, 2008). The advantages and disadvantages of questionnaire study are given in the table (3.2).

#### *Open or closed questionnaire:*

A questionnaire may have both open and closed questions. An open questionnaire is one where the ranges of possible answers are not provided in the questionnaire form and respondents are asked to answer the questions. On the other hand closed question, a set of answers are provided to the questionnaire form so that the respondents can answer that questions (Brace, 2004). According to Parajuli, (2008), a good questionnaire should contain both the open and closed questions.



Table 3.2: Pros and cons of questionnaire survey

Sn.	Advantages	Disadvantages
1	Able to collect data more objectively.	Length of questionnaire affects response rate.
2	Require less time to collect data.	Poor designing questionnaire can be misleading.
3	Data can be collected from a big sample by sacrificing low cost.	Risk that some respondents from a sample may not response.
4	Permitting respondents enough time to think to give their valuable responses.	Respondents may not understand the wording of the questionnaire.
5	Identical questionnaire to all respondents enables researcher interpret data easily.	Open ended question may come up with lots of data, which will create problems for analyzing.
6	Questionnaire allows anonymity that increases the rate of response.	There is no control over how respondents interpret the questionnaire.
7	No interviewer bias, as every respondents receive same questionnaire to answer.	Risk that other may fill the questionnaire on behalf of the sample respondents.
8	Questionnaire stimulates free thoughts, provides possibility to express feelings and is convenient for the respondents to fill the questionnaire.	Respondents are limited only up to literate respondents.

Source: John Milne, Aberdeen University<sup>4</sup> & University of Bristol<sup>5</sup>, Parajuli, 2008.

*Characteristics of a good questionnaire:*

In order to receive quality data it is necessary to develop a good questionnaire. According to Parajuli, (2008) a good questionnaire should have the following characteristics to receive attention from the respondents;

1. A good questionnaire should tell the purpose of the study through its title and give directions how to complete the questionnaire.
2. The questionnaire should be short and easy to read.
3. Explaining the respondents why their cooperation needed and their input is valuable.
4. No ambiguous question was asked and correct wording and familiar vocabulary should be used to make the questionnaire more understandable.
5. The questionnaire should be organized in a logical order.
6. Clear branching, effective title reflecting contents.

<sup>4</sup> [http://www.icbl.hw.ac.uk/ltidi/cookbook/info\\_questionnaires/index.html](http://www.icbl.hw.ac.uk/ltidi/cookbook/info_questionnaires/index.html)

<sup>5</sup> <http://www.economicsnetwork.ac.uk/handbook/questionnaires/13>



*Selection of medium:*

There are various medium to reach the respondents for collecting information. The most popular media are; direct mails, phone interviews, online or web based questionnaire survey and face to face interview. The advantages and disadvantages of the four medium are discussed in the following table 3.3.

Table 3.3: Comparison of different medium for surveys

	<b>Mail</b>	<b>Phone</b>	<b>Online</b>	<b>Face to Face</b>
Response Rate	20%-	60% -	20% -	High
Advantages	1. Easy and cost efficient 2. Interview bias lowered since no contact with interviewer	1. Large reach - most homes have telephones 2. Rapid contact with respondents	1. Quick response times 2. Reduced cost 3. Increased respondent 4. Flexibility	1. Good response rates 2. Longer interviews more likely to be tolerated 3. Attitude can be observed
Disadvantages	1. Response rates are typically low 2. Not appropriate for low literacy audiences	1. Can be expensive 2. Calls can be screened out	1. Some age, ethnic and income groups do not yet have equal access to the internet	1. Expensive 2. Time consuming

Source: The health communication unit, University of Toronto<sup>6</sup>

Email and web-based forms have been used increasingly for survey research (Smith 1997; Coomber 1997; Selwyn and Robson 1998; Stanton 1998, Debreceny et al., 2003). Email surveys commence by emailing the survey instrument to the respondents group by asking them to complete the questionnaire and return by e-mail. On the other hand web-based surveys use a ‘web form’ that captures the responses and writes the response to a file or database (Debreceny et al., 2003). The web form of survey is adapted to react to particular responses by branching. Table 3.4 shows the advantages and disadvantages of web-based surveys.

<sup>6</sup> <http://www.thcu.ca/infoandresources/publications/surveytable.pdf>

Table 3.4: Advantages and disadvantages of web-based surveys

Sn	Advantages	Disadvantages
1	Efficient and cost effective	Limited pool of potential respondents
2	Rapid responses	Absence of population lists
3	Identical, standardized questionnaire for all	Risk of the others may completing the survey
4	Ability to provide explanations of the particular questions to respondents	Questionnaire may not be appropriate to many respondents.
5	Real time completion	Inflexible tool
6	Sooner than traditional mail survey	Low response rate
7	Audio & video can be used	Respondents may perceive questions controversial
8	Undamaged or intact data	Remain unchanged throughout the process
9	Scope to engage enlarge sample size	
10	Can be administered form distance location	
11	Many question can be asked	
12	User's convenience	

Sources: Colorado State University<sup>7</sup>, Schillewaert et al. (1998)

According to Brace (2004), web-based questionnaire survey should not be seen as paper based questionnaire which is just transferred to a web page or screen. According to him, the web-based questionnaire study is better than the traditional mail based surveys for the following reasons;

1. There are various ways to ask questionnaire, which enables flexibility of the researcher.
2. It helps to ask more complex question without the question appearing to be so.
3. It can cope with complex routing.
4. It helps to randomize orders of the questions.
5. Flexible presentation of the questions is possible.
6. It helps to adapt questions depending on the answer to the previous question.
7. It enables to adapt responses lists depending on the answer to the previous question.

#### *Preparation of questionnaire:*

Duverger (1964) stated, “The preparation of questionnaire is a complex and delicate operation. The nature, form and order of the questionnaire are of great importance to the results of the inquiry”. He also argued that, the subject of the questionnaire, questions order and question

<sup>7</sup> <http://writing.colostate.edu/guides/research/survey/com2d1.cfm>



grouping are difficult and should be carefully studied before sending the questionnaire to the respondents.

According to Brace, (2004) it is very important to pilot the questionnaire before going live. Pretest of questionnaire helps to revise and test the questions. Failure of the pre-test of the questionnaire represents severe risks of the success of the research and the success of pretest makes sure that questionnaire is acting properly. Brace (2004) stated that, the pre-test of the questionnaire is important for the following reasons and these are used as a check lists for this study:

1. Do the questions sound right?
2. Does the questionnaire brief?
3. Do the respondents understand the questions?
4. Do the respondents face any problems to answer those questions?
5. Is there any ambiguous questions?
6. Time to fill the questionnaire.
7. Does the technology works?
8. Have mistakes been made?
9. Does the questionnaire retain the attention of the respondents throughout?
10. Can the respondents understand the routing instructions on the questionnaire?

To gather right information by questionnaire study, the success of pretest of questionnaire is essential. The questions contain in a questionnaire should sound right and brief to the respondents. It is also necessary to check the wording of the questionnaire so that the respondents should understand the questions because an ambiguous question may lead to incorrect information thus faulty results. It is also necessary to check how much time it requires to fill the questionnaire because if any questionnaire requires long time to fill, there will be risk that respondents may not answer or fill questionnaire attentively. It is also crucial to check mistakes (spelling, grammar, correct word, numbering etc), technology (so that it works nicely) and routing of questionnaire.



### **3.5 Choice mode: Research approaches, methodologies, design and processes:**

In the previous section of this chapter general theories of research approaches, methodologies, design and process have been discussed. The following section will explain the chosen approaches, methodologies, design, and process applied in this study.

#### **3.5.1 Research approaches:**

Researcher should choose those approaches which would satisfy and best capture the research issues. To choose the best approaches for this study, the objectives should be justified first. The main objective of this study is to know the extent of corporate disclosure and investor relations information sharing. To know the answer the starting point is to know the types of information required seemingly important to certain investor group (institutional, buy side, equity investor). When the information variables will be known, the extent or degree of corporate disclosure by the top tier multinational companies in electronics industry will be assessed methodically. Afterward, how the recent changes in web technologies affect the investor relations information sharing will be explored.

Firstly, the research aims to know the types of information, which are important for the investor community to value or determine an investment into a company. Exploratory research approach is used when there is no information or little information about the research area. As extensive search failed to locate sufficient information about this research area, it seems that exploratory research on this issue fits best. To follow the approach, firstly a literature study was conducted to collect as much information as possible. With the help of those information a questionnaire study has been conducted by targeting the real world investors to know the information types, that they emphasis at the time of investing to a company.

The second objective of this study is to know the degree of corporate disclosure by the top tier multinational corporations in the electronics industry. Depending on the characteristics of the three different research approaches, descriptive research approach will be followed to reach this goal. Descriptive research describes what is established with respect to the research subject. On



the basis of the information types found in the first exploratory research, data will be collected from the website of sample electronics companies. Later statistical analysis will be done to know the level of current corporate disclosure by the companies in the electronics industry.

Another objective of this study is to know, how the web technologies is affecting investor relations information sharing. Since this dimension of this research aims to open up a new research frontier and no previous studies were found in this regard, exploratory research suits best to achieve the research objective.

The exploratory research methods including previous research study, structured questionnaire study to collect data and statistical methods to reach the research objective, use of these multiple research methodologies permits triangulation of the data to improve the validity of the findings and enable to reach conclusions from the results. Since the main research issue of this study will be looked upon three different issues both the exploratory and the descriptive approach are suitable to answer the research questions.

### **3.5.2 Research design:**

As discussed earlier in this chapter, there are three ways to form a theory or form knowledge. Since the objective of this study is not to test any hypothesis, deductive approach and abductive approach don't suit for this study. Subsequently, this research is the observation of the reality and based on the reality conclusions will be drawn, so inductive approach is appropriate for this research. The main research problem of this study is to know the current corporate disclosure level by the companies in electronics industry and what web tools and technologies can be used for investor relation information sharing. Answering such a broad question is a complex task. There are three different research building blocks of this study, which will lead to the effective, efficient and appropriate conclusion. The three different research building blocks are;

- i. Research building block I: will help to know the types of information seemingly important for the investor community to make viable investment decisions.



- ii. Research building block II: Will help to assess current corporate disclosure level of the companies in the electronics industry over the internet.
- iii. Research building block III: Will help to know what the web technologies are and how the web technologies are affecting investor relation information sharing.

By satisfying the research questions for the three research building blocks as proposed earlier section, the conclusion will be reached. A schematic research framework shows the links between the different research building blocks and how the output from each block finally helps together in deriving a final conclusion to the central research question.

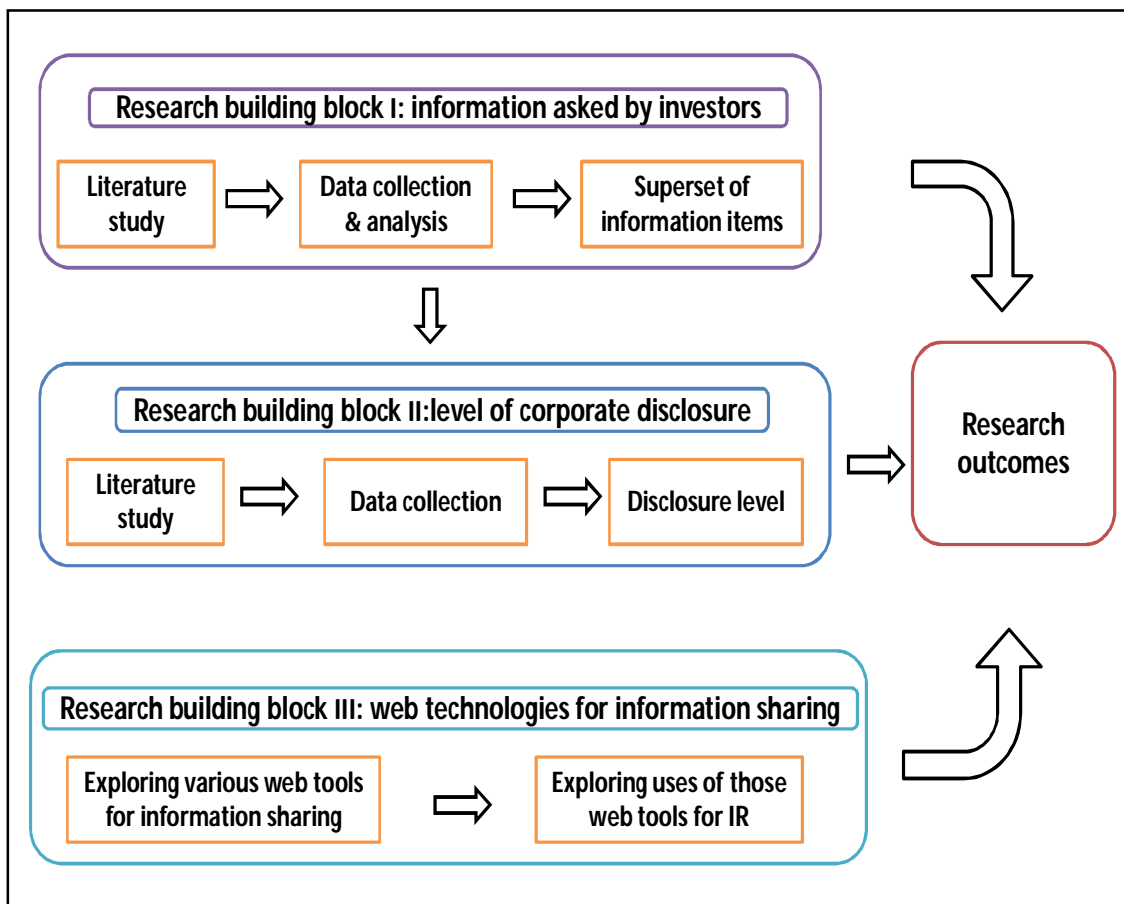


Figure3.3: Research design – showing research output linked with different building blocks

### 3.5.3 Research process:

The purpose of research process is to form a plan of executing the research. In this research, to reach the research objective (current corporate disclosure level by the sample electronics companies), the research process of Lundvhal and Skarvad (1999) will be followed. The following figure explains how the research process will be executed by following the three distinctive phases (discussed earlier in this chapter – 3.4).

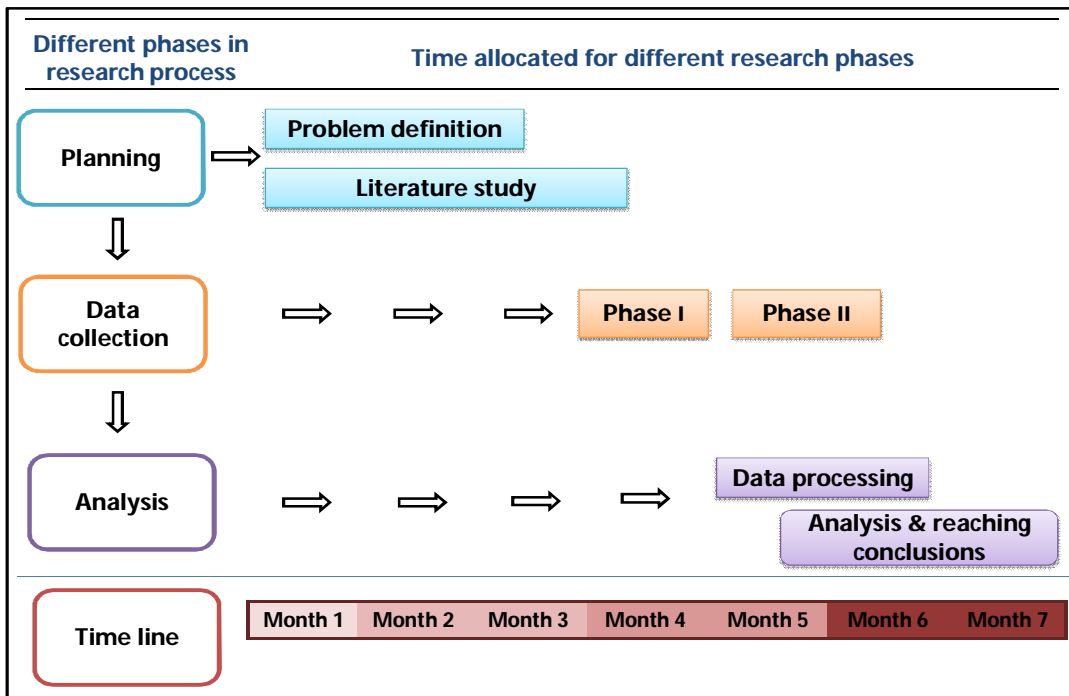


Figure 3.4: Research process

In the planning phase, the main research problem and sub research problems were defined (Introduction – chapter 1). A comprehensive literature study concerning the research issues has been done (Literature study – Chapter 2). In the data collection phase (discussed in section 3.5.4), data has been collected from various sources (such as; literature, questionnaire study, websites). And last phase, ‘the analyze phase’ (Analysis and results – chapter 4) concerns the processing and analyzing of the data and reaching conclusion or conclusions.



### **3.5.4 Data collection:**

To reach the research goals, data need to be collected into two different Phases. These two different data collection phases are discussed below;

#### **3.5.4.1 Data collection phase I: questionnaire study**

The objective of this data collection phase is to know the type of information preferred by the investor community for making viable investment decisions. A blend of primary and secondary data appears appropriate to reach the goal. Since there are little secondary data are available, the collection of primary or new data is necessary.

Eriksson and Widersheim-Paul, (1998) claims that, researcher should weigh in between the three variables (speed, quality and cost) at the time of collecting data and data collection is a time consuming and costly process. To suit the claims of Eriksson and Widersheim-Paul, (1998) web-based data collection process is seemed the best. A questionnaire study is one of the best methods for collecting data and internet or web-based questionnaire survey emerged as the best method for collecting primary data for this phase of this study because, web-based questionnaire survey will help to collect primary data efficiently since it is cheap, reliable, time efficient, easy to conduct, flexible and has good response than the other methods of data collection for example; telephone interviews, direct mails and face to face interview. By web-based questionnaire, thousands of questionnaires can be sent to the respondents with a blinking of an eye. This type time efficiency is not available to the other methods of data collection. Web-based data collection also appears cheaper than the others data collection process. In some cases web-based questionnaire study is free of charge. In this study a free web-based questionnaire service was used for collecting data. Though the web-based questionnaire study does have some limitations, for example; limited pool, absences of respondent lists, possibility of low response rate etc but these disadvantages would have a little impact for this study as well defined respondents lists are available and they are chosen in such way that they can represent the universe (for more information, see sample selection for the questionnaire – on page 54).

The questionnaire used for this study was prepared with great care and pre tested (for more information please see questionnaire preparation and pre test – on page 53), so that the



questionnaire can avoid wrong perception of the respondents. A good amount of time was given to the respondents (40 days) to answer the questionnaire so that best data could be collected from the sources. A reminder e-mail was sent to all respondents after one week of sending the initial e-mail. Considering those three variables (speed, quality and cost), there was always a keen attempt to collect the quality data.

***Web tools used for the questionnaire survey:***

There are lots of web-based survey tools available. Such as; SurveyMonkey, thesis tools, online survey tools etc. In addition to these tools, there are many websites which provide facilities to conduct surveys online. For this study the web-based tool ‘SurveyMonkey’ is used. ‘SurveyMonkey’ facilitates users to create their own web-based questionnaire by using the web browser. ‘SurveyMonkey’ is used for the survey for couple of reasons. Such as; it is reliable as more than 80% of the fortune 100 firms used ‘SurveyMonkey’ for their survey purposes<sup>8</sup>, it is free (if the total question doesn’t exceed ten), easy to organize and easy to make nice design, presentable and also helps to gather data in systematic manner. Though there was a question limit in the free account, meaning in a free account posting of more than ten questions is not possible and considering the limitation, all the questions were managed within the question limit.

After putting all the questions in to the questionnaire page, a link of that questionnaire was sent to the respondents by e-mail. Two links of questionnaire were prepared, one link was sent to analysts and another link was sent to the investors so that no problems occur at the time of analyzing particular group of data from different group of respondents.

***Questionnaire preparation:***

After collecting all the variables from literature study for the questionnaire, the task was to categorize them for better organization and design. This division not only simplifies the process of collecting information but also facilitates the respondents to answer accurately to a certain area. To categorize the variables help from various previous studies has been taken (e.g. FASB, 2000; AICPA, 2001; Debreceny et al., 2001; Etterdige et al., 1999; Ettredge et al., 2002; and

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<sup>8</sup> <http://en.wikipedia.org/wiki/SurveyMonkey> (last checked- 22 February, 2010)



Froidevaux, 2004). Depending on all collected information, firstly they were grouped according to the variables characteristics. According to their characteristics there were 9 (nine) types of information categories. If all information categories used individually, then the questionnaire appears big and it would affect respondents to response. To categorize those information items, experts and corporate specialist's (from Philips internal people – e.g. investor relations managers, investor relations officer) and opinions of academics have been considered in making the division more acceptable in the business world. After reviewing eight (8) versions of the questionnaire the variables were divided into five information categories and the questionnaire format was set. The five information categories are;

1. Company and strategy information
2. Financial and stock information
3. Risk management information
4. Management and corporate governance information
5. Other information

The company and strategy information category contains information about the company and their strategy such as company strategies, business unit's structure, company targets, investment proposition, lists of major participants etc. The financial and stock information category summarizes the main financial information and stock information, such as debt information, financial ratios, dividend information, management financial outlook, and also information in relation to analysts. The risk management information category consists of variables like; compliance risk information, operational risk information, environmental information, financial risks information, markets risks information etc. The management and corporate governance information category contains of directors' biographies, management discussion, and various corporate governance information. Beside these, other information category consists of information about conference call and transcript, financial calendar, FAQ, IR subscription process, management presentation and peer overview. A copy of questionnaire is included in the appendix (see appendix – 3).



### ***Result of the pre-test of the questionnaire:***

Before going live the questionnaire was sent to three different respondents (three different investors) for pre-testing it. The checklists of Brace (2004) were used to pre-test and the results are documented below;

Table 3.5: Results of pre-test of questionnaire

<b>Sn</b>	<b>Checklists Items</b>	<b>Results of pre-test of questionnaire</b>
1	Do the questions sound right?	No objections from the respondents
2	Do the respondents understand the questions?	No objections from the respondents
3	Is there any ambiguous questions?	No
4	Do the respondents face problems to answer questions?	No
5	Does the questionnaire hold respondent's attention all over?	Yes
6	Can the respondents understand routing instructions on the questionnaire?	No routing in the questionnaire. It was a one page questionnaire.
7	Does the questionnaire brief?	Yes
8	Time to fill the questionnaire.	less than three minutes
9	Have mistakes been made?	No
10	Does the technology works?	The link worked fine.

### ***Distribution of questionnaire:***

To distribute the questionnaire to the right respondents for collecting information, it is necessary to draw sample precisely.

### **Sample selection for the questionnaire study:**

The outstanding power of a sample survey is its ability to estimate, with precision, the distribution of a characteristic in a defined population (Dillman and Bowker, 2000). So defining a representative sample of the population is very important for the outcome of the research. As the focus of the study is on electronics industry, the all selected investors were the investors of 'Royal Philips electronics' assuming that they have general interests to invest in electronics industry. The targeted investors of 'Philips' have owned more than 70 percent of Philips' stocks and which seems representative as investor groups. To identify the investor group (who are equity investors, buy side) first, a tool of Philips SID<sup>9</sup> was used. Afterwards, Bigdough<sup>10</sup> was used to

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<sup>9</sup> Share holder identification file: used to know the current state of different investors, amount of share owned by individual and institutional investors, geographic concentration of investors, investors investing styles etcetera.

<sup>10</sup> Bigdough is the most innovative provider of capital markets contact and ownership data. Bigdough is a communications software platform, a London-based financial data provider. <http://www.bigdough.com/>



define who the buy side investors and who the sell side investors are. Besides this, searches were accomplished to trace those institutions that are not hedge fund. Hedge funds are excluded from the sample as they are different on the basis of characteristics from the long term institutional investors. Hedge funds are characterized by unregulated organizational structure, flexible investment strategies, relatively sophisticated investors, substantial managerial investment, and strong managerial incentives (Ackermann et al., 1999). Ackermann et al. (1999) also said that these characteristics allows hedge funds to be extremely flexible in their investment options and use short selling, leverage, derivatives, and highly concentrated investment positions to enhance returns or reduce systematic risk. These characteristics and investment nature of hedge fund made them different from the long-term institutional investor such as; Mutual fund (Ackermann et al., 1999). It would not be a good idea to draw a sample consisting different types of respondents. As a result 125 (one hundred and twenty five) institutional investors excluding hedge fund were chosen to participate in the survey.

Since analysts play an important role in making investment decisions, a group of analysts were also included in the questionnaire study. The link of the questionnaire was sent to 40 analysts from different banks and institutions. A complete listing of all analysts' institutions is included in the appendix 1

#### **3.5.4.2 Data collection phase II: from the corporate website**

In data collection phase II, data is collected from the websites. To collect data from the website firstly it is necessary to decide on a sample which will be representative of the electronics industry.

##### ***Selection and descriptive statistics for the sample:***

Since the target population of this study is the electronics industry, 19 multinational companies in electronics industry in the year 2009 has been chosen. To choose the sample of electronics companies, the first attempt was to search a complete list of ranked electronics companies on the internet and other sources. But elaborate search failed to locate any recent ranking in this context.



Although a ranking of 300 electronics companies have been found, that was prepared in 2006<sup>11</sup>. Due to the old ranking, it would not be a good idea to take the rank as the basis of sample. Then a ranking list of world’s 500 biggest companies has been derived from the [cnnmoney.com](http://money.cnn.com)<sup>12</sup> which has been prepared in 20<sup>th</sup> July 2009. Next the companies who operate in the electronics industry were identified. For this study, electronics industry is defined as these companies who are generally known as the producer or manufactures of electronics products and services. The process of sample selection is depicted in the following figure;

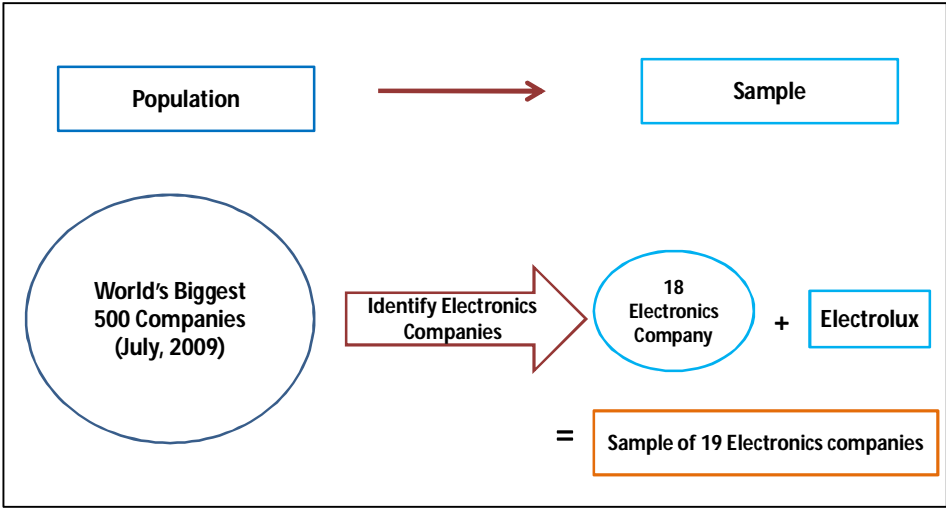


Figure 3.5: Process of sample selection.

Table 3.6 gives an overview of the sample companies of the electronics industry. Although Electrolux was not in the list of ranked world biggest 500 companies, but included in the sample as this company is a well known company in the electronics industry and treated as a peer of the other electronics companies.

<sup>11</sup> <http://www.edn.com/article/CA6452868.html>

<sup>12</sup> [http://money.cnn.com/magazines/fortune/global500/2009/full\\_list/](http://money.cnn.com/magazines/fortune/global500/2009/full_list/)

Table 3.6: Sample companies of the electronics industry

Rank	World Ranking	Name
1	12	General Electric
2	30	Siemens
3	40	Samsung Electronics
4	52	Hitachi
5	69	LG
6	79	Panasonic
7	81	Sony
8	97	Toshiba
9	117	Microsoft
10	182	NEC
11	195	Royal Philips Electronics
12	212	Honeywell International
13	215	Mitsubishi Electric
14	309	Sharp
15	330	Schneider Electric
16	350	Emerson Electric
17	351	MMM
18	445	Ricoh
19		Electrolux

Two studies were found those used less than 20 companies as sample for their disclosure study. An overview of the number of sample size used in different studies is provided in appendix 2. Deegan & Renkin (1996) used 20 companies and Chatterjee and Mir (2006) used 19 companies as sample for their studies. Since individual industry related study was not found in this particular area, it seems that the total number of 19 companies seems adequate for this kind of research. Some descriptive statistics stressing the scope of sample firms of electronics industry is provided in a table (please see table 3.7).

***Methodology for internet disclosure level:***

For collecting information, first the websites of the sample electronics industries have been sited and saved for each company. Then the information was extracted from the website manually and prepared for analysis.

***Collection of Information from website:***

In order to find the representative websites of the companies of the sample, the search engine ‘Google’ was used. Each and every company’s website was found in this way.



Table 3.7: Descriptive statistics of the 19 sample firms of the electronics industry

Variable	n	Mean	Percentile					Standard Deviation
			1%	25%	50%	75%	99%	
Revenue (\$ US Mln)	19	61668	15902	25269	40498	96495	182515	44338.79598
NI (\$ US Mln)	19	3788	-581	414	2412	4091	17681	5314.015766
TA (\$ US Mln)	19	91172	3012	13137	35490	83771	797769	176315.0435
CF (\$ US Mln)	19	7556	1050	2065	3748	10316	48187	10548.54271
EPS (\$ US)	19	4.02	-0.09	0.37	1.78	3.88	29.71	6.869417138
DPS (\$ US)	19	1.14	0	0.12	0.36	2	5.16	1.54090332

(NI – Net income in 2008, TA – Total asset in 2008, CF – Cash flow in 2008, diluted EPS – Earning per share and declared DPS – Dividend per share, data extracted from companies' annual reports, 2008)

Over a period of fifteen days, the each visible information was extracted from the websites of each company using web browser and have been archived. Collecting information items does not include information from the annual reports, quarterly reports or the sustainability reports and the focus is on information on corporate websites. However, if any link from the website takes to the certain section of any annual reports, sustainability reports or other reports stored on the web page, it is treated as the information from the website, which facilitates also the quality of the data.

### 3.5.5 Analysis of disclosure level:

Using the collected data from questionnaire, a set of variables has been considered which are listed in table 3.8. And the total disclosure score can be determine by the following formulation (followed by Bonson & Escobar, 2002; 2006; Ettredge et al., 2001; Larrán and Giner, 2002)

$$(DS)_t = \sum_{i=1}^{i=55} V_i$$

Where,

$(DS)_t$  – Total disclosure score for a company

$V_i$  – Disclosure score of  $i^{\text{th}}$  varibale





Table 3.8: Description of the variables

Variable	Category	Description
V1	Company & strategy information	Business unit's structure
V2		Company's strategy
V3		Company target
V4		Company history
V5		Investment proposition
V6		List of major participants
V7		Management agenda
V8		Overview of latest acquisition
V9	Financial and stock information	Debt information
V10		Dividend information
V11		Financial data of sectors
V12		Historic overview of key financials
V13		Management outlook
V14		Quarterly results
V15		Analysts coverage
V16		Graph with share price development
V17		List of major share holder
V18		Overview of analysts' recommendations
V19		Shareholding per investment style
V20		Stock repurchase information
V21		DPS
V22		EPS
V23		ROE
V24		ROI
V25		ROA
V26		ROE
V27		Price earnings ratio
V28		Price to book value
V29	Interest coverage	
V30	10 years of financial data	
V31	Risk management information	Compliance risks information
V32		Environmental information
V33		Financial risks information
V34		Markets risks information
V35		Operational risks information
V36		Strategic risks information
V37		Social sustainability information
V38	Management and CG information	AGM information
V39		Articles of association
V40		Biography of executive and directors
V41		CG guidelines
V42		Director's independence standards
V43		General business principle
V44		Insider trading (including options)
V45		Lists of executives of directors
V46		Management forecast
V47		Number of shares held by management
V48		Other current job of board of directors
V49	Remuneration of executives and directors	
V50	Other information	Conference call (transcript)
V51		Financial or IR calendar
V52		FAQ
V53		IR subscriptions service
V54		Management presentation
V55		Peer review

Afterwards it is important to decide whether a weighted or an un-weighted index will be used and the value of the different variables. The use of a weighted index demands the determination of the relative importance of items to different users (Bonson and Escobar, 2002; 2006). They also argued that, to determine the correct weighting coefficients, it is necessary to identify the relative importance of each information items which means different weightings is required as a function how the user considered the information item. So, to avoid the arbitrariness of the process, an un-weighted index is going to be used as proposed by Giner (1997) and (Bonson and Escobar, 2002; 2006). To know the level of disclosure each and every information item was checked whether they exist on the corporation's website. Given that objective is to measure the level of information disclosed by companies in the electronics industry.

The used approach for processing data for analysis have been taken in various previous studies (FASB, 2000; Larrán and Giner, 2002; Froidevaux, 2004, Bonson and Escobar, 2002, 2006). This kind of un-weighted indexes has been employed in previous works to evaluate the information disclosed by companies on the internet (Ettredge et al., 2001). For each information item numerical ['1'] was assigned, if the information was found and if the information could not be found a zero ['0'] was assigned. Using the above procedures a company can earn a maximum disclosure score '55' and minimum will be '0'.

The final disclosure score, which captures the disclosure level of different information items by the companies in the electronics industry, allows knowing the information items that the sample companies' emphasis most and also help to compare the disclosure level among the information items. The disclosure level of a company is the sum of the score in the five categories. This methodology allows and facilitates the comparison between companies within different information categories or even information items as well as the examination of the level of disclosure.

## Chapter 4 - Analysis and results

### 4.1 Introduction:

The aim of this thesis was to find out the level of corporate disclosure by the top tier multinational companies in electronics industry. To assess the corporate disclosure level a questionnaire study has been done to denote the variables. Section 4.2 discusses the result from the questionnaire study which reveals the information considered important to the analysts and investors for making feasible investment decision. Afterwards, sections 4.3 and 4.4 assess and discuss the present corporate disclosure level by the sample companies in electronics industry.

### 4.2 Results from the questionnaire study:

This section of this thesis is going to provide and discuss the overall results from the questionnaire study. An exhaustive list of the required information by the analysts and investors are provided in the appendix 5. The most wanted information items by the analysts and investors are also discussed. The main intention to conduct this analysis is to determine a superset of variables for the disclosure study.

As the analysts and investors are the distinct representative of the respondents groups, the link of web-based questionnaire was e-mailed to these two groups of respondents (analysts and investors) requesting to complete the questionnaire. The respondents groups were consist of 125 institutional investors and 40 analysts. The duration of data collection period was 40 days. The first reminder was sent after 10 days of initial e-mail request. The response rates were found 30% (38 out of 125) and 57% (23 out of 40) from the investors and analysts consecutively. Debreceny et al. (2001) received 13% response rate in their web-based surveys and concluded that, 13% response rate is reasonable compared with other e-mail and web-based surveys.

#### 4.2.1 Information category 1: company and strategy information

The responses from the analysts and investors which reveal their expectation in terms of the information items under 'company and strategy information' category are presented in the table



4.1. The most perceived information in this information category are ‘company targets’, ‘business unit’s structure’ and ‘company strategy’. The most insignificant information item for both the analysts and investor groups is information about ‘major participants’. According to the responses from the investors, it can be said that investor don’t search information about ‘major participants’ on the corporate website for making viable investment decisions. On the contrary 12% of the analysts want that information before making an investment decision. Among the responses each information items carry sometimes more or sometime less importance to the investors and analysts except information items ‘management agenda’ and ‘overview of acquisitions’. For the information about ‘management agenda’, 36% analysts want to have that information, where as 54% investors want that information. Beside this, 72% analysts want information about ‘overview of acquisitions’ while only 41% investors want that information.

In the questionnaire there were open options for the respondents, so that they can fill out about their expectation in terms of information items if those information items are not included in the questionnaire. This option also helped to free from the risks of missing information variables which are provided in questionnaire with close ended options. For this information category no responses were recorded by the analysts. But one respondent from the investors group wants to see past presentation of different business sectors on the corporate website.

Table 4.1: Analysts and investor responses for ‘company and strategy information’

<b>Company and strategy information</b>	<b>Analysts' Response</b>	<b>Investors' Response</b>	<b>Weighted Average</b>
Business unit's structure	64%	78%	69%
Company's strategy	64%	70%	69%
Company targets	76%	70%	73%
Company history	32%	27%	31%
Investment proposition	8%	24%	16%
Major participants	12%	0%	4%
Management agenda	36%	54%	46%
Overview of acquisitions	72%	41%	57%



#### 4.2.2 Information category 2: financial and stock information

The expectations of the analysts and investors about the information items in ‘financial and stock information’ category are provided in the table 4.2. From the responses among the analysts and investors it is clear that they identify the most important information item in this category are ‘management outlook’, ‘quarterly results’, ‘debt information’ and ‘financial data per sectors’. More than 50% analysts and investors want ‘historical key financials’, ‘dividend information’ and ‘stock repurchase information’. Both the analysts and investors do not perceive information items such as; ‘analysts’ coverage’, ‘analysts’ recommendation’ and ‘graph with share price development’ are important for making investing decision. There is not much discrepancy between the analysts and investors responses for each information item in this category.

Financial ratios are also included in the ‘financial and stock information’ category. From the responses it seems that ‘EPS’ (information about ‘earning per share’) is the most perceived information among all the financial ratios. Among the others more than 50% (on average) of the analysts and investors showed their interest for ‘DPS’ (dividend per share), ‘ROE’ (Return on equity), ‘ROI’ (return on investment). ‘Price earnings ratio’, ‘price to book value’ and ‘interest coverage’ bear more importance to the investors than the analysts. In terms of ‘ROE’, it seems that ‘ROE’ is more important (74%) for the investors where as only 45% of the analysts want to have that information. There is also incongruity between the responses for price earnings ratio, price to book value, and interest coverage but responses in these information items are below than 50%.

In the case of ‘financial ratios’ there were two open responses from the analysts that they want to see the information about ‘ROCE<sup>13</sup>’. One of the analysts provides his opinion in the open field – “anyone can calculate various financial ratios if he knows the facts, figures and assumptions behind the decisions”. He also mentioned that he wants to see some future assumptions from the company’s management to calculate those ratios. Then again there are also two open responses from the investors in favor of ‘ROCE’. It seems that, ‘ROCE’ plays an important role in making investment decision. One respondent put his support for the information about enterprise value.

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<sup>13</sup> ROCE (Return on capital employed)

Table 4.2: Analysts and investor responses for ‘financial and stock information’

<b>Financial and stock information</b>	<b>Analysts' Response</b>	<b>Investors' Response</b>	<b>Weighted Average</b>
Debt information	68%	72%	69%
Dividend information	60%	50%	54%
Financial data of sectors	76%	69%	72%
Historical key financials	52%	64%	59%
Management outlook	72%	75%	72%
Quarterly results	80%	67%	71%
Analysts coverage	8%	11%	10%
Graph with share price development	4%	3%	3%
List of major shareholders	52%	19%	35%
Analysts recommendations	4%	3%	3%
Share holding per investment style	20%	8%	13%
Stock repurchase information	56%	42%	50%
DPS	60%	55%	46%
EPS	75%	87%	66%
ROE	45%	74%	48%
ROI	65%	55%	51%
ROA	25%	32%	24%
Price Earning Ratio	25%	42%	28%
Price to Book value	35%	36%	28%
Interest Coverage	40%	45%	34%

### 4.2.3 Information category 3: risk management information

The responses from the analysts and investors for the ‘risk management information’ category are shown in table 4.3. Around 80% analysts and investors want to see ‘operational risk information’ on the corporate website. 88% investors showed their interest for the ‘financial risk information’ while 68% analysts perceived financial risk information was important which reveals that investors are more prone to financial risk information than the analysts. Around 50% investors and analysts want to see ‘market risks information’ on the corporate website. ‘Social sustainability information’ item is in the bottom as only 8% analysts and 15% investors want that information on the company’s website.

Table 4.3: Analysts and investor responses for ‘risk management information’

<b>Risks management information</b>	<b>Analysts' Response</b>	<b>Investors' Response</b>	<b>Weighted Average</b>
Compliance risks information	28%	27%	27%
Environmental information	32%	24%	26%
Financial risks information	68%	88%	74%
Market risks information	44%	50%	25%
Operational risks information	76%	79%	77%
Strategic risks information	68%	65%	62%
Social sustainability information	8%	15%	11%

#### 4.2.4 Information category 4: management and corporate governance information

The next information category is ‘management and corporate governance information’ and the responses are portrayed in the table - 4.4. It seems that ‘corporate governance information’ doesn’t play an important role for making the investment decision as the analysts and investor’s responses relative low compared to the other information items and not a single information items obtained more than 75%. The divergence between the two respondents group is quite apparent. It comes into view that, ‘AGM information’ and ‘management forecast information’ are more important to the analysts than the investors. On the other hand information items like; ‘biography of executives and directors’, ‘corporate governance guidelines’, ‘code of conducts’, ‘general business principles’, and ‘share held by management’ are professed more significant to the investors than the analysts. Among all the information items ‘biography of directors and executives’, ‘insider trading’, ‘management forecast’, ‘share held by management’ and ‘management forecast’ are most perceived key information by the two respondent groups in this information category. Alternatively, ‘general business principles’ and ‘code of conducts’ are the least desired information items.

#### 4.2.5 Information category 5: other information

The responses about the last information category from the analysts and investors are exposed in the table - 4.5. Here both respondents give their responses in favor of the same three information items and those information items are ‘conference call or transcript’, ‘financial calendar’ and

‘management presentation’. Beside these information items ‘FAQ’, ‘IR subscription services’ and ‘peer overview’ are the least perceived information items by the both the respondents groups. Analysts did not provide responses to the open field for this category but one investor mention about ‘past conference audio or video streaming’.

Table 4.4: Analysts and investor responses for ‘Management and corporate governance information’

<b>Management and corporate governance information</b>	<b>Analysts' Response</b>	<b>Investors' Response</b>	<b>Weighted Average</b>
AGM information	60%	28%	46%
Articles of association	32%	31%	30%
Biography of executives and directors	52%	75%	64%
Corporate governance guidelines	16%	36%	26%
Code of conduct and ethics	8%	17%	12%
Director's independence standards	16%	31%	23%
General business principle	4%	28%	15%
Insider trading	64%	69%	68%
List of executives and directors	52%	50%	52%
Management forecast	68%	56%	59%
shares held by management	64%	75%	70%
Other current jobs of board of directors	24%	50%	37%
Remuneration of executives and directors	36%	67%	49%

Table 4.5: Analysts and investor responses for ‘other information’

<b>Other information</b>	<b>Analysts Response</b>	<b>Investors' Response'</b>	<b>Weighted Average</b>
Conference calls or transcript	88%	87%	88%
Financial calendar	92%	76%	82%
FAQ	16%	19%	18%
IR subscription services	40%	30%	34%
Management presentation	72%	87%	79%
Peer overview	40%	30%	32%

There was another attempt in the questionnaire to know, how many years of financial statements do the respondents (analysts and investors) want to have on the corporate websites for constructing decision for a lucrative investment. The following table shows their responses.



According to the analysts' responses, more than 43% respondents want to see 10 years of financial statements and there are only 12% respondents from the investors group want to see that information. Among the investors, 53% want to see the financial information of the last 10 years, where as the number is 22% is for the analysts. 35% both the investors and analysts think that, 5 years of financial statement is enough for making investment decision in this category. The following table shows respondents desire in terms of historical financial statement.

Table 4.6: Analysts and investors responses for 'historical financial statement'

Respondents	1 year	3 years	5 Years	10 years	More than 10 years
<b>Analysts</b>	-	-	<b>35%</b>	<b>22%</b>	<b>43%</b>
<b>Investors</b>	-	-	<b>35%</b>	<b>53%</b>	<b>12%</b>

The table 4.7 and 4.8 show the most 10 (ten) important information items from all information categories perceived by the analysts and investors. It is clear from the following tables, that different information bears different importance to the analysts and investors e.g. information item 'financial calendar' positioned first in the analyst's responses but it positioned 6<sup>th</sup> in the responses of investors. Information about 'EPS' secured positioned in the top 10 for the both responses. Analysts stress their importance for 'ROI' where as investor put their favor against 'ROE'. 'Company strategy and company target' also secures positions among the top 10 perceived information in both lists. From these two tables it can be said that analysts pay more attention to the 'financial and stock information' than the investors. Furthermore, various 'risk management information' seems more important to the analysts than the investors. Both of the groups show low interest for the information about 'management and corporate governance'. Information items; financial calendar, conference call and transcripts, company targets, operational risk information, EPS, management outlook and presentation, debt information, business unit's structure, company strategy, number of share held by management, financial risk information appear as the most wanted information as both of the respondents group want to have those information to make investment decisions. It is quite apparent from the most wanted information items that investors and analysts want that information, in which companies' management tries to signal their confidence to its audiences (e.g. company targets, company strategy, management outlook and presentation, conference call or transcript, debt information,



number of share held by management). Among the most wanted information, three information items came from company and strategy information category, financial and stock information category and other information category, two information items came from risk management information and one information item came from management and corporate governance information. From this view point, it can be said that investor and analysts don't consider other information category as an important information category (see table 4.9) but the information under this category are considered important for making investment decisions.

Table 4.7: Top 10 information items perceived by analysts

No	Information items	Responses (%)
1	Financial calendar	92%
2	Conference calls (transcript)	88%
3	Quarterly results	80%
4	Company targets, Financial data per sectors, operational risk information	76%
5	EPS	75%
6	Overview of latest acquisitions, Management outlook, Management presentation	72%
7	Debt information, Financial risk information, Strategic information, Management forecast	68%
8	ROI	65%
9	Business unit's structure, Company's strategy, Insider trading, Number of share held by management	64%
10	Dividend information, DPS, AGM information	60%

Table 4.8: Top 10 information items perceives by the investors

No	Information items	Responses (%)
1	Financial risks information	88.2%
2	EPS	87.1%
3	Conference calls or transcript, Management presentation,	86.5%
4	Operational risks information	79.4%
5	Business unit's structure	78.4%
6	Financial calendar	75.7%
7	Management outlook, biography of executives & directors, No of share held by management	75.0%
8	ROE	74.2%
9	Debt information	72.2%
10	Company's strategy, Company targets	70.3%

An effort was made to know from the analysts and investors which information categories as a whole do they give priority at the time of making investing decision. Participants were asked to



rank on the basis of perceived importance. The following table - 4.9 captures the results for the affair. Both of the groups think that ‘financial and stock information category is in the most important one followed by ‘company and strategy information’. The third place differs by both groups. Analysts chose ‘operation and risk management information’ as their third choice while investors made it fourth and vice versa for the case of ‘management and corporate governance information category’. Both of the respondents groups think that other information category is not very important for making investment decision and positioned last.

Table 4.9: Ranking of information category by the analysts and investors

Ranked by analysts	Information category	Ranked by investors
1	Financial and stock information	1
2	Comapany and stategy information	2
3	Operation and risk management information	4
4	Management and CG information	3
5	Other information	5

It is evident from the responses that, different information items bear different value to the investors and analysts. However, most apparent differences are noticed in the ‘management and corporate and governance information’ and then of the ‘financial and stock information’. ‘Graph with share price development’, ‘general business principles’, ‘analysts coverage’, ‘analysts recommendations’, ‘list of major participants’ do not play very significant role for the analysts and investor in making investment decision. Information items like; ‘conference call or transcript’, ‘financial calendar’, ‘company targets’ are on the top perceived information items.

**4.3 Empirical results of the disclosure level:**

In the following section, the disclosure level of the information items on the corporate websites of the electronics companies will be assessed and discussed. For an exhaustive list of information items including their disclosure level within each category please see appendix 6.

### 4.3.1 Company and strategy information category

The disclosure scores (in descending order) of information items in the ‘company and strategy information category’ by the companies in the electronics industry on the corporate website are shown in the table 4.10. ‘Business unit’s structure’ and ‘company history items’ scored highest at 95%. Then the companies are open to the information item ‘company targets’ by scoring 79%. Third position held by both ‘company strategy information’ and ‘lists of major participants’ information items by scoring 68%. ‘Management agenda’ scored 0.0% as no company in the sample disclosed that information on the corporate website.

Table 4.10: Disclosure scores of ‘company and strategy information’ category

No	Information category 1: company and strategy information	Full Sample Score
1	Business unit's structure	95%
2	Company history	95%
3	Company targets	79%
4	Company's strategy	68%
5	List of major participants	68%
6	Investment proposition / information	32%
7	Overview of latest acquisitions	26%
8	Management agenda	0%
Average of information category 1		<b>58%</b>

### 4.3.2 Financial and stock information category:

The disclosure score for the information items under ‘financial and stock information’ is given in table – 4.11. All the sample companies in the electronics industry disclosed the ‘quarterly results information’ on the corporate websites thus positioned first in this category. Both the ‘dividend information’ and ‘historic overview of key financial’ positioned second with 90% disclosure score. The next two positions are secured by the items ‘graph of share price development’ and ‘financial data per sector’. The three most low scored information items are ‘management outlook’, ‘shareholding per investment style’ and ‘ROCE’ and these scored just 5%.

As it said earlier that any one can calculate the financial ratios if any body knows the relevant facts, figures and formulas. But after excluding different financial ratios from the information



category the disclosure scenario don't change very much. The four most disclosed items are the same. 'List of major shareholders' positioned 5<sup>th</sup> by counting 53%. Beside these, the lowest disclosure score belongs to 'management outlook' and 'shareholding per investment style'. The average information disclosure score of this information category is 45%.

### 4.3.3 Risk management information category:

The disclosure scores for the 'risk management information category' are presented in the table 4.12. Amongst all the information items the first is the 'environmental information' item, which scored 95% which reveals that one company among all the companies in the sample did not disclose that information on their corporate website. Second position is hold by the 'social sustainability information' by scoring around 58%. Rest of the five information items scored below 50%. 'Strategic information' item scored 15.8% and placed last of this information category. The average information disclosure score of this information category is 38%.

Table 4.11: Disclosure scores of 'financial and stock information' category

No	Information category 2: financial and stock information	Full Sample Score
1	Quarterly results	100%
2	Dividend information	89%
3	Historic overview of key financials	89%
4	Graph with share price development	84%
5	Financial data of sectors	79%
6	DPS	74%
7	EPS	74%
8	ROE	63%
9	List of major shareholders	53%
10	Analysts coverage	47%
11	Stock repurchase information	37%
12	ROA	37%
13	Debt information	26%
14	Price Earning Ratio	21%
15	Overview of analysts recommendations	16%
16	ROI	16%
17	Price to Book value	16%
18	Interest Coverage	16%
19	Management outlook	5%
20	Share holding per investment style	5%
21	ROCE	5%
Average of information category 2		<b>45%</b>

Table 4.12: Disclosure scores of ‘risk management information’ category

No	Information category 3: risk management information	Full Sample Score
1	Environmental information	95%
2	Social sustainability information (staff, health, safety)	58%
3	Financial risks information	32%
4	Compliance risks information	26%
5	Market risks information	21%
6	Operational risks information	21%
7	Strategic risks information	16%
Average of information category 3		<b>38%</b>

#### 4.3.4 Management and corporate governance information category:

The average disclosure scores of information items for the ‘management and corporate governance information’ category is around 50%. The scores for each information items under ‘management and corporate governance information’ are shown in the table – 4.13. In this information category all companies disclosed information about ‘corporate governance guidelines’ and ‘list of executives and directors’. Information about ‘AGM’ (annual general meeting) scored 84% and positioned second and ‘corporate governance code of conduct and ethics’ placed third after scoring around 79%. Among the 13 information items, 6 information items scored below 40%. Companies in electronics industry disclose least about the ‘number of share held by management’ and ‘management forecast’ which is only 11%.

Some information items in this category may score higher as there may be an impact of mandatory or compulsory disclosure requirements. But analyzing the mandatory or compulsory information items for this study will be misleading as the sample companies for this studies located various geographic region thus follows various government and accounting rules and regulations (e.g. companies located at the united states are legally entitled to follow the regulations of SEC but the companies located Japan are not legally required to satisfy SEC requirements).

### 4.3.5 Other information category:

The last information category is the ‘other information category’. The average disclosure under this information category is 63% and it can be said that among the five information categories this is the most disclosed information category in the electronics industry. Among the information items almost every company disclose information about financial calendar (e.g. information about financial events or IR (investor relations) events which is around 90%. Second positioned owned by ‘management presentation’ after scoring around 79%. Information item ‘conference call or transcript’ placed just behind ‘management presentation’ item by scoring around 74%. Among the six, the disclosure score for five information items is more than 50%. Information item ‘peer overview’ scored 10% and positioned last among the entire information items in this category (for further information please see table 4.14).

Table 4.13: Disclosure scores of ‘management and corporate governance information’ category

No	Information category 4: management and corporate governance information	Full Sample Score
1	Corporate governance guidelines	100%
2	List of executives and directors	100%
3	AGM information	84%
4	Code of conduct and ethics	79%
5	Articles of association	63%
6	Biography of executives and directors (age, education, Experience)	63%
7	General business principle	53%
8	Director’s independence standards	37%
9	Remuneration of executives and directors	21%
10	Insider trading (including options)	16%
11	Other current jobs of Board of Directors	16%
12	Management forecast or outlook	11%
13	Number of shares held by management	11%
Average of information category 4		<b>50%</b>

In the table’s 4.15 and 4.16, the 20 (twenty) most and least disclosed information items on the corporate website by the electronics industry are presented, which will give the reader an impression which types of information are most found in the corporate website and which are not (financial ratios are excluded from the most and least disclosed information items as one can calculate the financial ratios if he knows the fact and figures). A complete list of information



items from corporate website of the companies in the electronics industry ranked based on its disclosure in the appendix 4.

Table 4.14: Disclosure scores of ‘other information’ category

No	Information category 5: other information	Full Sample Score
1	Financial calendar	95%
2	Management presentation	79%
3	Conference calls (transcript)	74%
4	FAQ	63%
5	Investor relations subscription services	58%
6	Peer overview	11%
Average of information category 5		<b>63%</b>

Table 4.15: Twenty most disclosed information items by the electronics industry (excluding financial ratios)

Rank	Information items of all categories	Disclosure score
1	Corporate governance guidelines	100%
2	List of executives and directors	100%
3	Quarterly results	100%
4	Business unit's structure	95%
5	Company history	95%
6	Environmental information	95%
7	Financial calendar	95%
8	Dividend information	89%
9	Historic overview of key financials	89%
10	Graph with share price development	84%
11	AGM information	84%
12	Company targets	79%
13	Financial data of sectors	79%
14	Code of conduct and ethics	79%
15	Management presentation	79%
16	Conference calls (transcript)	74%
17	Company's strategy	68%
18	List of major participants	68%
19	Articles of association	63%
20	Biography of executives and directors	63%



The table 4.15 shows that, ‘corporate governance guidelines’, ‘lists of executives and directors’, ‘quarterly results’ are among the most disclosed information item by the companies in the electronics industry. After those most frequent disclosed information items are ‘business unit’s structure’, ‘company history’, ‘environmental information’ and ‘financial calendar’, in which all scored around 95%. Beside those information companies often provide information like; ‘dividend information’, ‘historical overview of key financials’, ‘graph with share price development’, ‘AGM information’.

On the other hand, table 4.16 shows that, no company provides information about ‘management agenda’. Only one company provides information about their’ shareholder’s investing styles’. Only two companies among the sample provide information about ‘management forecast’, ‘peer overview’ and ‘share held by management’. Only three companies provide information about ‘overview of analyst’s recommendations’, ‘strategic risk information’ and ‘insider trading information’.

Table 4.16: Twenty least disclosed information items by the electronics industry (excluding financial ratios)

<b>Rank</b>	<b>Information items of all categories</b>	<b>Disclosure score</b>
1	Management agenda	0%
2	Share holding per investment style	5%
3	Management outlook	5%
4	Management forecast	11%
5	Number of shares held by management	11%
6	Peer overview	11%
7	Overview of analysts recommendations	16%
8	Strategic risks information	16%
9	Insider trading (including options)	16%
10	Other current jobs of Board of Directors	16%
11	Market risks information	21%
12	Operational risks information	21%
13	Remuneration of executives and directors	21%
14	Overview of latest acquisitions	26%
15	Debt information	26%
16	Compliance risks information	26%
17	Investment proposition	32%
18	Financial risks information	32%
19	Stock repurchase information	37%
20	Director’s independence standards	37%



#### 4.4. Internet disclosure level across the electronics industry:

The average disclosure score of each information category for the top tier companies in electronics industries provide on their corporate websites is presented in the table 4.17.

Table 4.17: Average disclosure scores for the information categories by the electronics industry:

Information Category	Disclosure Score
1 Company and Strategy Information	58%
2 Financial and Stock Information	45%
3 Risk Management Information	38%
4 Management and Corporate Governance Information	50%
5 Other Information	63%

For the detailed score of all items in each information category see in the appendix 6.

The results for all collected information items from the corporate websites of the sample companies in the electronics industry show that ‘other information’ category scored highest 63% which includes information items like; ‘peer overviews’, ‘management presentation’, ‘investor relations subscription services’, ‘financial calendar’ and ‘conference call or transcripts’. ‘Company and strategy information’ category positioned second and scored around 58%. Then ‘management and corporate governance information’ category scored around 50%. ‘Financial and stock information’ and ‘Risk management information’ positioned respectively fourth and fifth among the five information category by scoring around 45% and 38%.

It is noted that, various important financial ratios are included in the financial and stock information category. Various financial ratios can be calculated by using various formulas. Anybody with finance knowledge of finance and mathematics can calculate financial ratios if they know the facts, figures and formulas. If those financial ratios excluded from this information category, then financial and stock information category score would be around 52% and would be positioned 3<sup>rd</sup>.

Among the 19 sample companies in electronics industry highest disclosure score is obtained 36 and lowest disclosure score obtained is 15 on a range of 55 to 0. Table 4.18 portrays the proposed disclosure score and table 4.19 shows the descriptive statistics of the disclosure score of companies in electronics industry. Among the 19 companies one company obtained highest score (e.g. 36) and one company obtained lowest (e.g. 15). Descriptive statistics states that, the average disclosure score of sample electronics companies is 27 out of 55, which tells that top tier multinational companies in electronics industry are not disclosing investor perceived information. So it can be said that, there is a big room for satisfying the information need of investors and analysts by disclosing more.

Table 4.18: Distribution of the electronics companies’ disclosure score

Score	% of Companies analysed
36	5.3%
35	5.3%
34	10.5%
32	5.3%
31	5.3%
29	5.3%
27	21.1%
26	10.5%
25	5.3%
24	5.3%
21	10.5%
19	5.3%
15	5.3%

Table 4.19: Descriptive statistics of the disclosure score of companies in electronics industry

Descriptive statistics	
No. of the companies	19
Arithmetic mean	27.2
Standard deviation	5.69
Minimum value	15
Maximum value	36



Table 4.20 captures the disclosure scores of corporate internet disclosure level of the required information by the investors and analysts on the corporate website. It is the sum of the scores in the five information item categories.

Table 4.20: Disclosure scores for the entire information categories for the full sample

Full sample	n	Mean	Min	Percentile			Max	Standard
				25%	50%	75%		Deviation
Disclosure score	19	50.20	0.00	19.77	52.60	78.90	100.00	31.64
Company and strategy information category	19	57.87	0.00	27.63	68.40	90.80	94.70	34.67
Financial and stock information category	19	45.12	5.30	15.80	36.80	76.30	94.70	31.90
Risk management information category	19	38.36	15.80	21.10	26.30	57.30	94.70	28.44
Management & CG information category	19	50.20	10.50	15.80	52.60	81.55	100.00	33.95
Other information category	19	63.15	10.50	46.05	68.45	82.85	94.70	28.83

Internet disclosure scores ranges in the full sample from a minimum of 0.00 points to a maximum of (100.00) points and the mean score for the full sample is 50.20 points showing that companies in electronics industry disclose information about half of the desired information by the analysts and investors.

The following table 4.21 provides an overview between the most wanted information and disclosed information (e.g. demand side vs. supply side).

Table 4.21: Disclosure scores against most wanted information items

Informaiton items	Disclosure score
Business unit's structure	95%
Company strategy	68%
Company targets	79%
Debt information	26%
EPS	74%
Management outlook	5%
Financial risks information	32%
Operational risks information	21%
No of shares held by management	11%
Management presentation	79%
Financial calender	95%
Conference call	74%

Among the 12 (twelve) most wanted information items only two has disclosure score over 90% (e.g. business unit's structure and financial calendar) but none of the most wanted information items scored over 80%. There are four information items scored over 60%. For the five information items among the twelve, the disclosure score is below 50% which tells that the information need of investor community is not satisfied by the companies in electronics industry.

From the above discussions, the following conclusions can be reached;

- There are 12 (twelve) information items which are considered most wanted information items by the investor community.
- Top five disclosed information items are; corporate governance guidelines, lists of executives and directors, quarterly results, business unit structure and company history.
- Top five non disclosed information items are; management agenda, ROCE, shareholding per investment style, peer overview and number of shares held by the management.
- Companies in electronics industry only disclose around 50% of required information.
- It seems companies in electronics industry don't disclose the most wanted information (where the disclosure scores of the most wanted information are around 55% on average).



## Chapter 5 - Web tools and technologies for investor relations: an explorative study

This chapter investigates the possibilities of new web tools for investor relations information sharing. In doing this explorative study, the author personally used various web tools and checked their potential for information sharing. To know the present use of various web tools in communications the author verified each and every corporate websites of Fortune 100 firms. Websites of sample electronics companies (19 multinational top tier companies in electronics industry) were also checked to know which web tools and techniques are being used by them for information sharing.

Recent changes in web technologies are shaping corporate reporting in a new way. In the recent past corporations only put information on the internet to communicate with its audience. But this type communication was a one way communication as direct feedback was not possible. An ideal communication is reciprocal and feedback is necessary. Scramm (1954), in his communication model shows the communication process between two parties, where stress is put on feedback in the communication process. Figure 5.1 shows the Scramm's (1954) communication model.

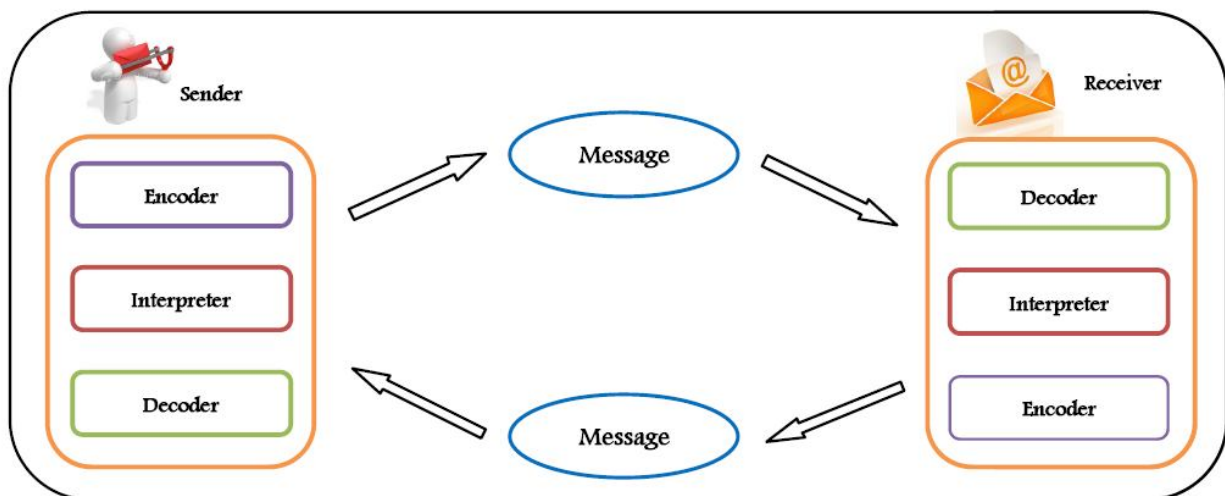


Figure 5.1: Communication model (adapted from Scramm, 1954)

In every communication, there should be at least two parties. A communication is said to be effective when a message is transmitted and feedback takes place. In the era of web 1.0, both way real time interactions between two communicators over the internet were not possible. But now with the emergence of web 2.0 both way real time interaction is possible (e.g. immediate feedback possible) over the internet. The both way interactions between communicators and

audiences are taken place over internet as like as Scramm's (1954) communication model. This type of communication (where both way feedbacks are possible) is the new direction where web developments are moving into. The following section of this thesis is going to give an overview about the concept of web 2.0.

What is web 2.0?

Web 2.0 is a relatively new term, which is perceived as a second generation of World Wide Web (WWW). In the traditional website (general webpage or web 1.0), users can only read or see information which is posted on that particular web page. Users are not able to interact to the web posting in any way. As a result that particular web page cannot receive any feedback including real time from its audience and users. But in the case of web 2.0, it is free from this issue and allows users to interact. Indeed web 2.0 is not a new technology; it is established in the same platform of traditional 'World Wide Web' (web 1.0) in which the technology of web 2.0 allows users to run application through traditional web browser (e.g. Internet explorer, Mozilla Firefox, Google chrome, Opera, Safari etc). This web technology enables users to move from a static web page to a dynamic web page. When the application finishes its loading, the users can gain a control over the data on the web page. Information sharing and collaboration of people are the prominent characteristics of web 2.0. The tools of web 2.0 allow direct interactions between the websites and users of websites. Web 2.0 allows easier, faster and more robust communications.

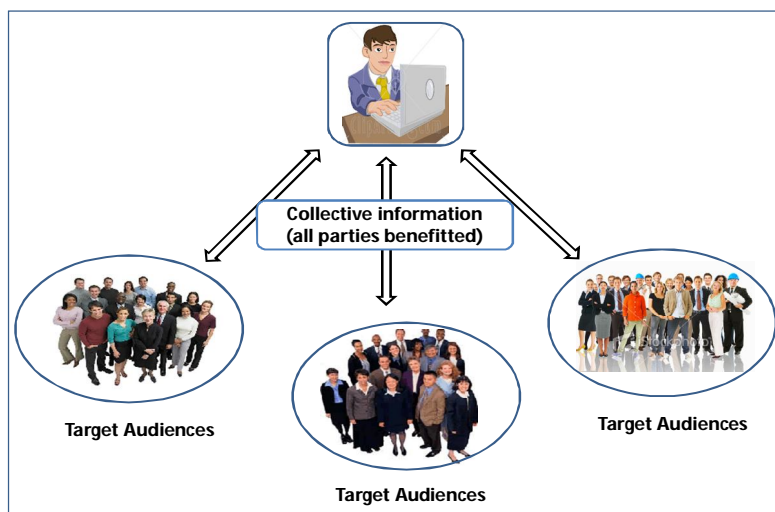


Figure 5.2: Mechanisms of web 2.0

Figure 5.2 depicts the mechanism behind web 2.0 and tells how all the involved parties can be benefitted.

Web 2.0 generally features user-friendly interface based on various web developments techniques like; Ajax, openLaszlo, flex, ZK framework etc. the characteristics of web 2.0 can be denoted as; rich users experience, wide range of users active participants and interaction, users freedom, users control over the web pages, shared web applications, dynamicity and users friendly applications etc. Today's all successful web 2.0 sites (like; YouTube, facebook, MySpace, wikipedia, digg, twitter etc) have active web applications which allow users to participate and customize the web pages as they want.

The simplicity of web application in web 2.0 allows it to become very popular and spread widely. Web 2.0 is changing human behavior of using internet. With the characteristics of web 2.0 today's World Wide Web is much more interactive and participating than it was before. Examples of Some web applications of web 2.0 are;

1. Social networking site (facebook, MySpace, LinkedIn, Bebo, twitter, Nexopia, hi5, Friendster etc)
2. Video sharing site (YouTube, facebook, flickr, metacafe, MySpace, my video, yahoo video, Google video etc)
3. Wikis (Wikipedia, citizendum, note pub, wikihow, knol, wikiversity etc)
4. Blogs

Internet or web technology is being used frequently by the investor relations departments of various corporations for making communication in various ways. Web technologies make communication process faster, more reliable and more efficient. It is expected that corporations may greatly be benefitted by using those web tools for investor relations activities. As using those web tools for investor relations purposes is not a mature practice, the following sections are going to explore the possible web technologies and tools that can be used for investor relations information sharing over the internet.





## Twitter:

Twitter is a web 2.0 based tool that allows its users to write short messages (which is up to 140 characters) about what they were doing. Then it is delivered to their friends instantly by SMS or via e-mail. In the recent years, twitter has appeared one of the most convincing web tools for communication. Today it has more than 40 million users and growing very fast. Twitter has all the characteristics of web 2.0. The users can have total and complete control over this two ways communication. With the help of single click users can send and receive desired information. It is users friendly, same for everyone.

To communicate by using twitter, first the corporations have to have a corporate twitter account. When they want to communicate with investors, they have to write message and send it. The investors who are regarded as “follower” will receive this message. In order to receive any of messages from corporate twitter account, investors also have to have a twitter account and they must “follow” corporate twitter account. It also allows it followers to cancel the process by a single click to “unfollow”. Immediately the communication will end up.

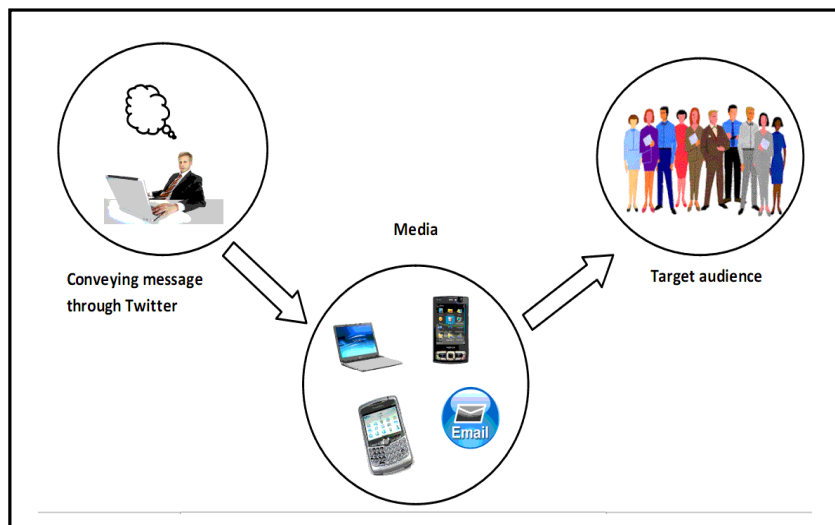


Figure 5.2: Transmitting information through Twitter

Twitter can inform the investor community about important information instantly, on their mail inbox, blackberries or even on their mobiles. Recently corporations are using twitter alongside their websites to inform investor community about important information. Real time transmitting information is an incredible characteristic of twitter. It would be very lucrative for the investor community to use company's tweet's feed, as it is faster, real time and trustworthy (as the tweet's feed directly coming from the company). Corporation can tweet about any information concerning upcoming events, results posting, providing web link, reminders, news, conference calls etc. Twitter also has the facility to tag the updates about certain communication and allows others to follow on that same topic.

Twitter can make difference in the communications with the investor community as this is pro-active rather than re-active. In case of communication via corporate website, corporations have to wait till investors want to know certain information. But in case of twitter corporations can take the initiatives to let the investor community know the important information. By twitting information corporations can also create awareness of the prospective investors. When time is an issue to reach target investor groups, twitter allows corporations to reach them with greater speed and reliability.

Considering other pro-active options (e-mail, phone calls) to reach investor community, twitter is much more efficient. In terms of e-mail services from the corporations to investors would not be efficient due to problems of spamming and junk mails. But twitter is free from this problem. In case of making call to a wide range of investors is very difficult, time consuming and costly. But with twitter, corporations can manage those shortcomings and can transmit information with great ease to a wide range of audiences.

“twitcam” which is another tool from twitter family is getting a growing attention in the communication world. It is a service that combines video and twitter in a simple regime. The process for using “twitcam” is quite easy, as corporation will have to use a twitter account. “twitcam” automatically creates a web page and live video player for broadcasting. Before going broadcast one need to click the “go live” button, and it goes online. Simultaneously twitcam posts a link along with a message to the followers, so that they can know how to join in the live broadcast.



Companies generally go for live web broadcast when they want to publish and discuss various results (quarterly, semi-annual, annual). In web broadcast audiences are allowed to communicate by asking questions and posting comments. 'twitcam' could be a good alternative of the web broadcast whereas it also allows the "followers" to ask questions and post comments without wasting time, energy and money. It also offers a simple way for corporation to answer questions from individual investors, analysts and other stakeholders and vice versa.

By using twitter corporations can cut back the number of e-mails sent out through distribution list and consume less time as it takes to send an e-mail alert. There is no direct and significant cost.

There are several challenges of using twitter as a tool for investor relations. To use efficiently, twitter should be updated timely as postings can be followed by the target audiences anytime. To update that blog dedicated and concentrated effort and time is necessary. Corporations always need to comply with some international and local rules, regulations, and restrictions for transmitting information but till now no certain guidelines found from the regulatory agencies for using twitter. Corporations have to be sure that they are reaching their target audiences, as it is possible that the target audience may not be in their "follower" list. Another challenge of using twitter is that, it allows posting or transmitting only 140 characters long message. It is relatively difficult to transmit or disclose certain information within that characters limit. Beside these there are some claims about the uncertainty of this new tool as it is not proved or recognized for investor relations information sharing. Moreover, one of the biggest challenges for the corporations is to denote themselves with their official corporate name in twitter. If there is a twitter account with the name of a certain company, it doesn't necessarily mean that it is related to that certain company. This is also a big issue for the investor to follow the twitter account of a certain corporation as they have difficulties to understand which companies are actively involved in twitter. Anyone can create a twitter account with any name.

Various corporations are using twitter for their investor relations purposes e.g. to communicate with their target investor groups. Among the corporations Microsoft, Cisco, Dell, Oracle, Google, EMC, Texas Instruments, Amazon, GM, Chevron, Dell, Johnson and Johnson, UPS, Rio Tinto, Canada Gas Corp, Barrick Gold Corp, Gol Airline etc are very few to name. Sun micro system used twitter to post a web link about their quarterly result. Recently eBay Inc. held its analyst day



on twitter. Even the Securities and Exchange Commission (SEC) also have used twitter and issued some guidelines of using it for corporate communications purposes. David Gelles (Financial times, Thursday, September 10, 2009), argued that twitter has become a highly effective tool of business communication. It is found that 22% of the global Fortune 100 companies using twitter for investor relations activities (please see table 5.1). But no corporations was found using twitter as a web tools for investor relations purposes in sample companies in electronics industry (please see table 5.2). It can be claimed that twitter is becoming the safest, easiest and fastest way to get and give more corporate information among the web tools after RSS feed.

### **Facebook:**

Facebook is another web 2.0 tool which is very popular and widely known as a social networking website. Users who have an account can add friends, join a network, send messages, and update their personal profiles to notify their friends about themselves. Facebook currently has more than 300 million active users world-wide and growing each day. In a study conducted in January'09 by compete.com, it was found that facebook is the most used social network by worldwide monthly active users, followed by MySpace. Facebook allows its users to act interactively. Facebook's users can post anything in text, audio, video, photos or any link of them.

Corporations can reach a wider range of audience by using facebook and its applications. Corporations can create corporations fan club or can create a corporate department group. Corporations then can invite others to join its network. Interested parties can also join or apply to join in a network or group. If a corporation has a facebook group for investor relations purposes, present and potential investors can easily join in that network and get information in their mail box as soon as the information posted on the facebook "wall". Those information or message are real time and can be seen when posted. The members of the group can read it and react very fast if they want. They can also make comments and give feedback as well. This feature allows facebook to be an interesting tool for investor relations. Corporations need to be careful about transmitting sensitive information as facebook has several criticisms about its privacy concerns. Moreover corporations have to be careful at the time of transmitting information to a group in facebook as all investors or targeted audiences may not be included in the group.



Facebook enjoys almost every advantage and disadvantage as twitter do. It is not bearing a limited character posting like twitter but it cannot reach its audiences through SMS. It is possible to post and receive information from facebook by using mobile and blackberries.

Various corporations (like; Canada Gas Corp, Barrick Gold Corporation, GM, Cisco System, Dell) are found who are using facebook for their investor relations activities. 12% of the global Fortune 100 corporations are using facebook for investor relations purposes (see table 5.1).

**Table 5.1:** web tools used for investor relations activities by global 100 Companies

Web tools	Percentage
RSS	63%
twitter	22%
facebook	12%
Blog	6%
YouTube	6%
delicious	4%
digg	4%
MySpace	2%
Reddit	2%
LinkendIn	2%
flickr	2%
RSS and twitter	21%
RSS and facebook	11%
twitter and facebook	10%
RSS, twitter & facebook	10%

Source: Websites of Fortune 100 companies

**Table 5.2:** Web tools used by the sample companies in electronics industry for investor relations

Web tools	Percentage
RSS	47%
Blog	5%

**LinkedIn:**

‘LinkedIn’ is widely known as a business oriented professional networking site. Today it has more than 43 million registered users and growing day by day. In general ‘LinkedIn’ helps to connect people, extend their network and enables them to exchange knowledge, ideas, and opportunities with a broader network of professionals. This site allows registered users to maintain a list of connected people who are known as “connections”. The basic premise of ‘LinkedIn’ is to develop a wider group of trusted contacts (known as first degree connections,



second degree connections, and third degree connections). Then those connections can be used to find jobs, people and business opportunities etc. A mobile version of the LinkedIn website is also available which allows users' to access from a mobile phone or blackberries but users can enjoy reduced feature then the original web experience. The 'LinkedIn' Groups feature allows its users to establish new business relationships by joining alumni, industry, professional and other relevant groups.

Corporations can use "LinkedIn" for investor relations purposes by creating group for present and potential investors as well as interested parties. Then corporations can use the group for investor relations information sharing and can target prospective investor by using second degree connections and third degree connections. Only 2% of the global Fortune 100 corporations have been found using 'LinkedIn' for their investor relations activities (please see table 5.1).

### **MySpace:**

'MySpace' is a social networking website like 'facebook' and ranked second in terms of active users. It also has the same advantages like 'facebook'. Various features made 'MySpace' different from other social networking websites. There is a bulletin board in 'MySpace' for everyone where users are allowed to post any information so that audiences can receive that information. "Bulletins" is very useful for transmitting information to all the contacts without resorting individually. 'MySpace' has a Groups feature like 'facebook' which enables users of a group to share information. Anybody can create groups and the moderator (who created the group) of the group can choose for anyone to join or deny requests to join.

For Investor relations purposes corporations can create a group for its present and potential investors and use "bulletins" feature to transmit information to them. Recently 'MySpace' has faced some controversial challenges about its contents, poor web experience and lack of reliability. Beside this the disadvantages of using 'facebook' for investor relations purposes also applicable for 'MySpace'. Only 2% of the global Fortune 100 corporations have been found using 'MySpace' for their investor relations activities (please see table 5.1).



## **YouTube:**

'YouTube' is a widely known video sharing website on which users are allowed to upload and share videos. YouTube displays a wide variety of user-generated videos. It is also a place where video blogging takes place. To watch a video on YouTube audience doesn't need to be registered.

Corporations can use YouTube for investor relations activities. It is frequently found that corporations provide various types of videos on corporate website such as; company's presentation, new product releases, videos of various webcast etc. These videos consume lots of space and can make web page very slow. Corporations can upload any video that they want to show wide range of audiences and can provide those links on the corporate website. They can do it with great flexibility without sacrificing any significant cost. Stored or uploaded videos like webcast will enable various audiences to watch the webcast later if they cannot make it at the real time. Only 6% of the global Fortune 100 corporations have been found using 'YouTube' for their investor relations activities (see table 5.1).

## **RSS feed:**

RSS generally known as 'Really Simple Syndication' or 'Rich Site Summary' is a web protocol that websites use to distribute their contents widely. It is a web feed or channel that contains frequently updated information contents, such as news headlines, blog posts or entries or even podcasts (in audio and video format). An RSS feed provides a summary of a linked website or in the full text. The users can subscribe to a feed by clicking on RSS icon in a web page that initiates the subscription process. RSS feed allows its users to view the most recent information with the publishing dates and authorship. Instead of checking various websites for information users can use RSS feeds which are very easy, efficient and less time consuming way to keep trail on new updates. In one sentence RSS feed brings all the contents under one roof that one wants. Users of information don't need to keep checking back frequently to any site to see it's updates. It allows readers to choose the information category that they want to receive (Lindic, 2006). RSS feeds allow its subscribers to view various contents within a very short time after its updated. As it is a very fast process, subscribers can enjoy real time information. Recently many companies using RSS feeds for information sharing and they provide most recent updated content on RSS feeds. Information can be sent in a personalized manner by using RSS feed.



Among the web tools, RSS feed is being used frequently by the corporations for various types of communications. 63% of the global Fortune 100 corporations have been found, whose are using RSS feed for their investor relations activities or information sharing (please see table 5.1). 47.3% corporations from the sample electronics industry use RSS feed for their investor relations purposes (Go to table 5.2). So it can be said that RSS feed is more popular web tools for investor relations activities than the others.

### **Web blogs:**

Web blog is also known as weblog is a type of website, maintained by individual, group, or corporations which consists of regular entries of commentary, descriptions of events, graphics, audios or videos etc. the blog entries are commonly displayed in reverse-chronological order and updated very frequently with new information. A blog can be combined with text, images, and links to other blogs, web pages etc. The blog readers can leave comments in an interactive format, which make blog as a tool for two way communications. Most blogs are primarily based on text. Beside the text based blogs there are also various blogs available such as; art blogs, photo blogs, sketch blogs, video blogs, music blogs, and audio blogs etc. Accordingly there are various types of blogs, which are not only differing by their name but also by its contents. Such as; personal blogs (a commentary by an individual or a personal diary), corporate blogs (a blog created by corporation for business purposes), political blogs, travel blogs, fashion blogs, education blogs, music blogs etc. Web blogs allow corporations to have more personalized experience in information sharing. But if a corporation wants to use web blogs, they should be very careful to update blog regularly.

Recently various corporations (e.g. General Motors, Boeing, Dell, and Cisco Systems) are using web blogs for investor relations purposes. It is found that 6% of the global Fortune 100 corporations using blogs for investor related communications (please see table no 5.1) and 6% of the corporations from the sample electronics industry are using blog for investor relations purposes (please see table 5.2).





## **Delicious:**

Delicious (del.icio.us) is a free social bookmarking web service for storing, sharing, and discovering web favorite bookmarks. Generally delicious can be seen as a collection of favorite bookmarks of websites. It has more than five million users and most popular social book marking service. Generally to bookmark favorite web pages, people have to use web browsers (Internet Explorer, Mozilla Firefox, Opera, and Safari etc) and to access to those web pages they have to use the same computer in which they bookmarked. But in case of delicious, things are quite different. By using Delicious users can store their bookmarks online and access those bookmarks from any computer and any network. Users of delicious can keep track to their favorite articles, blogs, music, reviews, and news and also share those with their friends, family, co-workers, and the other delicious users with great flexibility. Users who are interested about same topics find delicious more interesting because of its collective nature of arranging those bookmarks in a specific group. Users can make specific bookmarks as private.

Investors and interested parties can bookmarked their favorite web page on delicious. It enables them to see their favorite web page from any computer. Which gives them the flexibility to search information from their favorite web pages, even they are not in front of their desktop computers or laptops.

Besides these web tools Digg and Reddit can also be used for investor relations purposes. Digg and Reddit are social news website where people can discover and share contents from anywhere on the internet, by submitting links and stories. They can also vote and make comments on submitted links and stories to rank them. Degraded contents (enough votes against contents or links) will not be displayed and will show most popular item by default.

## **Mobile website:**

The mobile web refers to browser-based web services like WWW (World Wide Web) or WAP (Wireless Application Protocol) which can be used from a mobile device such as a cell phone, PDA, blackberries or other portable devices that can be connected to a public network. Users can use this service with their portable devices which don't require a traditional internet connection or any computer. By using mobile websites users can access to their desired web page even if they



are not in front of their computer. It is really flexible for various analysts as well as company management, as it allows them to be connected with the real world when they are out of office. Corporations can make a mobile website version of their main web page which will allow various investors to access important company information more frequently and to get this information they don't need to sit beside a computer. They can surf mobile web page when they in car, or at the time of taking food. Johnson & Johnson, Intel, Cisco Systems they already have their mobile websites for their users.

Though mobile websites allow its users a great flexibility, today it is still suffering from various problems, like as small screen size (makes it very hard for the users to see text and graphics clearly); lack of windows (as it is not possible to open more than one window at a time from the mobile devices); navigation (lack of appropriate navigation system and navigation between pages takes time); lack of web pages that can be accessible from mobile devices and lack of Speed.

The uses of new web technologies in corporate communications are growing at high speed and more possibilities from these web technologies are needed to be discovered. As the web tools are media for transmitting information or communication, investor relations professionals or practitioners need to understand how these tools work, how investors can use them and how the usage of those tools can be used for investor relations purposes. Every coin has two sides and those new web tools are not free from challenges. Keeping those problems in mind investor relations practitioners or professionals have to explore their possibility to use for investor relations information sharing and investor relations activities. The advantages and disadvantages of various web tools are depicted in the tables - 5.3.

The new web tools facilitate information sharing over internet to the great extent. It can be argued that corporation's investor relations department should explore the full potential of these facilities and discover their new world of exchanging real time information over internet.



Table 5.3: Advantages and disadvantages of various web tools:

Web tools	Advantages	Disadvantages
twitter	<ul style="list-style-type: none"> <li>• Delivering message instantly by e-mail or SMS.</li> <li>• Two way feedbacks are possible.</li> <li>• Users friendly.</li> <li>• It's free and time efficient.</li> <li>• Able to send information to mobile and blackberries.</li> <li>• Send information in concise form.</li> <li>• It's a pro-active process rather re-active.</li> <li>• Reliable source of information.</li> <li>• Efficient as no threat of junk mail or spam.</li> <li>• Reach wider group of target audience.</li> <li>• Enabling video webcast through 'twitcam'</li> </ul>	<ul style="list-style-type: none"> <li>• Required frequent update of information transmission.</li> <li>• Mandatory to keep track on the target audience and check the follower lists.</li> <li>• Allows only postings of 140 characters, is a big challenge for transmitting a lot of information.</li> <li>• Problem of having recognized as the existence of same profile name is possible.</li> </ul>
facebook	<ul style="list-style-type: none"> <li>• User's friendly.</li> <li>• Posting of videos, audios, photos, links and texts are possible.</li> <li>• Allows a large group or target audience.</li> <li>• Two way interactions are possible.</li> <li>• Unlimited characters of posting.</li> <li>• Can be reach from mobile and blackberries.</li> <li>• It's free, time efficient.</li> </ul>	<ul style="list-style-type: none"> <li>• Need to be careful as there several security criticisms exist.</li> <li>• Necessary to keep track on the target audience.</li> <li>• Doesn't use SMS function like Twitter.</li> </ul>
MySpace	<ul style="list-style-type: none"> <li>• Enables to send information without resorting the target audience.</li> <li>• It's free and time efficient.</li> </ul>	<ul style="list-style-type: none"> <li>• Bulletins are deleted each ten days. If anyone miss the information, isn't possible to have that information in the bulletins</li> <li>• Criticisms of poor web experience.</li> <li>• Lack of reliability.</li> </ul>
LinkedIn	<ul style="list-style-type: none"> <li>• Can be reach from mobile.</li> <li>• Useful for sending information.</li> </ul>	<ul style="list-style-type: none"> <li>• Targeting investor is bit tricky as it is difficult to know who the investors are.</li> </ul>
YouTube	<ul style="list-style-type: none"> <li>• Posting of video and blog is possible at a time.</li> <li>• Reach wide range of audience.</li> <li>• No registration required.</li> <li>• It's free and efficient.</li> <li>• Flexible process.</li> </ul>	<ul style="list-style-type: none"> <li>• Open contents, may have reliability issues.</li> </ul>
RSS feed	<ul style="list-style-type: none"> <li>• Provided frequently updated information.</li> <li>• Flexible and efficient process to track on information of certain web page.</li> <li>• Allows users to choose what to receive.</li> <li>• It's a real time process and saves surfing time.</li> </ul>	<ul style="list-style-type: none"> <li>• Pictures and graphics don't appear in all RSS feed.</li> <li>• RSS don't display the real URL, so denoting of source could be confusing.</li> <li>• Many websites don't support RSS feed.</li> </ul>

	<ul style="list-style-type: none"> <li>• Spam free and un-subscribing is trouble free.</li> </ul>	
Mobile website	<ul style="list-style-type: none"> <li>• Can be used from various portable devices, which enables flexibility, mobility.</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively small screen size decreases flexibility of viewing the web page.</li> <li>• It is not possible to open more than one window.</li> <li>• Lack of proper navigation systems.</li> <li>• Lack of web pages which can be accessible from mobile.</li> <li>• Lack of speed.</li> </ul>
del.icio.us	<ul style="list-style-type: none"> <li>• It's free.</li> <li>• Can be accessed through any computer with internet connection.</li> </ul>	<ul style="list-style-type: none"> <li>• Disposed to spam and corruptions.</li> </ul>
Web blogs	<ul style="list-style-type: none"> <li>• Updated frequently.</li> <li>• Both way interactions are possible</li> <li>• Various types of blogs enable to share myriad contents (texts, audios, videos, arts, music etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Hard to maintain as it requires coherent writing and frequent updating.</li> </ul>

All the web tools discussed in this study are new comer in the internet era. Jones and Xiao, (2004) claimed that the internet can be seen either as a problem solver or problem creator or both. These web tools are not free from this vulnerability. The companies are responsible for transmitting reliable information, but in case of these new web tools (discussed in this study) there is a question of reliability about the information content as there is no regulatory indication from the governments and institutions e.g. SEC regulations or stock exchange regulations. There is also an issue of controlling the flow and content of information at the time of exchanging on these new web tools. Two way interactions are treated one of the most interesting and important characteristic of these new web tools, but the two way interactions can be seen as a problem of controlling of information from the context of a company since all information exchanged by using these new web tools is public content and the company has a limited control over this. Now these new web tools are in their developing stage and their full potential for investor relations purposes is not fully scrutinized. So these new web tools can be seen as additional medium of transmitting or exchanging information alongside with paper based and internet based information sharing.

Though there are shortcomings, the benefits of these web tools for conveying messages outweigh disadvantages. Corporations should be careful at the time of conveying message by using these web tools as still there are criticism and should figure out to whom they are conveying message. For the investors it is also advisable to check the trustworthiness of the information by checking the sources.

To explore the possibility of information sharing over internet by using various web tools, in the questionnaire study a question was asked to the analysts and investors that which web tools they think are good for information sharing over internet. The table 5.4 explains different responses from the analysts and investors.

Table 5.4: Analysts and investors responses regarding their preference of using web tools for information sharing

<b>Respondents</b>	<b>facebook</b>	<b>LinkedIn</b>	<b>Mob Web</b>	<b>RSS feed</b>	<b>YouTube</b>	<b>Blog</b>	<b>twitter</b>	<b>None</b>
<b>Analysts</b>	5%	12%	21%	26%	5%	0%	0%	31%
<b>Investors</b>	0%	3%	18%	3%	9%	6%	3%	58%

Among all the web tools, analysts think that RSS feed is good for information sharing. They also stress on mobile website to be an important web tools for information sharing. Among the investors only 18% think that RSS feed is excellent for exchanging information and 9% of them strain on information sharing on YouTube. But 58% of investors and 31% of analysts chose none web tools for information sharing. After observing these, it can be argued that the investors and analysts (audiences) don't want to use the full potential of the web tools for information sharing over the internet or maybe they are not fully aware of the full potential of web tools and techniques although these web tools are relatively new and should be developed and accepted over time. If they discover the possibilities and usefulness of web tools, then in the near future these web tools will play a significant role in information sharing for investor relations purposes.

## Chapter 6 - Conclusion:

### 6.1 Summary and interpretation of results:

The purpose of this study was to contribute to the understanding of the current corporate disclosure level in the electronics industry. Besides this, thesis aimed at contributed to the literature of investor relations and especially on the point of information demand by the investors and analysts. Alongside, this study gives a glimpse of changing dynamics of investor relations activities on the web and how new capabilities of web tools can contribute in the improvement of investor relations activities. The research started with investigation into the information variables or items that the investor community search on the corporate website of companies for making investment decision and later an assessment was done on the level of disclosure over the internet on their corporate website by electronics industry. 'To know the information items which are important to the analysts and investors for making an investment decision', first of all a literature study was done to determine variables. Using those variables, a questionnaire study has been conducted by targeting the institutional investors and analysts to know which information items they search on the corporate website for making their investment decisions.

The questionnaire study shows that, information items bear different importance to the investors and analysts and no information item is denoted as fully unnecessary for making investment decisions. There were 55 information items found, which seem to play a role in making investment decision. After conducting the questionnaire study, information items like financial calendar, conference call or transcript of the call, quarterly results, company target, financial data per sector, EPS, operation risk information, financial risk information, management presentation, business unit's structure, biography of executives and directors and number of share held by management are very important to the investor and analysts in making decision about an investment. Next to these, investors and analysts do not consider information items like list of major participants, overview of analysts recommendation, analysts coverage, graph with share price development, share holding per investment style, general business principal etc for making investment decision.



The internet has been established as a medium of information disclosure or information sharing. Companies are using websites for various purposes and also providing a wide range of financial and non financial information. In this study, the required information vis-a-vis the supply of corporate information on website were analyzed. The study found that, the internet information disclosure level of 19 multinational companies in the electronics industry is rather disappointing. Only about around 50% of the information items sought by the investors and analysts were actually provided by the companies on their websites in the electronics industry. The highest disclosure score was 36 (scored by one company) and lowest disclosure score was 15 on a range of 0~55 which establishes that, the most open companies in electronics industry discloses only 65% of the information items that the investor community want.

Furthermore after examining the current stage of disclosure level of the required information, it is apparent that investor community doesn't get the information what they are looking for making investment decisions. The 12 (twelve) most wanted information items have disclosure score around 55% which can be seen as a poor dissemination of information by the companies in electronics industry.

Furthermore, it can be concluded that among the information provided on the websites mostly are non categorized information (which information items cannot be categorized e.g. conference call; financial calendar; FAQ; Investor relations subscriptions services; Management presentation; peer overview) followed by company and strategy information and provide least information about 'risk management information' category.

Companies in electronics industry mostly disclose information items like corporate governance guide lines, lists of executives and directors, quarterly results, business unit's structure, company history, environmental information, financial information, dividend information and historic overview of key financials. Financial and stock information such as management outlook of financial data, number of shareholding per investment style and ROCE are quite difficult to find on the company's websites. Around 5% of the companies disclosed those three information items mentioned above. There is also very few information about peer overview, number of shares held



by management, financial ratios (price to book value, interest coverage and overview of analysts recommendation).

The findings of this study somewhat prove the weaknesses of corporate disclosure identified by the Jenkins report (AICPA, 1994) and AIMR (2000), which is also true for electronics industry. The results of this study show that investors do not find all the information they are looking for. In reality they get far too less. This study also confirms the empirical investigation of the Nielson Norman Group (a user-experience research firm) and Froidevaux (2004) which showed that investors were unable to find the information they need on corporate website of the companies for making investment decision. So it can be concluded that, companies in electronics industry do not make use of the full potential of the internet as a fast and cheap medium to disclose useful information to investors. As the goal of website is to help investors finding the information easily on the corporate website, companies should organize information depending on its relevance, demand and by using appropriate tabs. A little effort on providing that important information can enhance the usefulness of the corporate website and attract more investors. The website should also be users friendly. Companies can also put some effort to enhance their internet disclosure by using the available web technologies.

Finally, from the explorative study of web technologies it is evident that, there is huge opportunity for information sharing over internet for investor relations purposes by using web 2.0 applications and tools. Furthermore, it can be argued that, the full potential of the new web tools and technologies are under used. There is still massive room for improvements for information sharing over internet using various web tools and techniques.

## **6.2 Limitations:**

As with any research there are some limitations of this research. At the time of collecting data from the corporate websites, in some cases link of certain information (information tab) took to the annual report on the corporate website. In that case, the content of annual report is also considered as internet disclosure content. In the data collection process, it was found that website of a company was under constructions and thus not comprehensive information. To tackle such shortcomings, the website was rechecked and reviewed again. Same is done when any





discrepancies were noticed in certain website information. In measuring the relative importance of all items, no efforts were made due to high number of variables and complexity. This was left out as the attempt was really identify information items perceived important by analysts and investors.

### **6.3 Suggestions for future research:**

This study has focused on identifying the information that is perceived important by the institutional investors and analysts for making investment decisions. It would be a nice idea to conduct a study by focusing on the individual investors to see whether there is huge difference in information expectations between individual investors and institutional investors.

This study has been conducted on the basis of a small sample. It would be a good idea to see the investors and analysts information expectations in a bigger sample with more information variables. A blend of different investors and analysts (e.g. of all different industries) can be targeted for another study to see whether it differs from the result of the present study.

The disclosure level of the electronics industry was measured by analyzing un-weighted scores. Research can be conducted to know the relative importance of various information items for making investment decision from the investors and analysts. Then the disclosure level can be determined by using weighted factors which could end up with different results. As this study suggests that there are discrepancies between demand side (investors and analysts) and supply side (companies' corporate websites), there is room for improvements. Naturally the questions would be - why the supply sides do not satisfy the information need from the demand side? How the gaps can be reduced? Perhaps companies are not fully aware of the most important information items which bear significance to the analysts and investors or there are something that preventing them to disclose the expected information by the investors and analysts. Besides it would be valuable to see industry specific studies on corporate disclosure to know the influencing factors of disclosing information on the corporate websites in various industries.

This thesis focused on only a few web tools and explored their potentiality for investor relations related information sharing. An exhaustive study can tell better about the possibility of using new



web tools and technologies. A cost and benefit analysis of the using various web tools for information sharing over internet could be done.

————— The End —————



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Appendixes:

Appendix – 1: List of analysts' institutions:

<b>Broker / Analyst firms</b>	<b>Based on</b>	<b>Broker / Analyst firms</b>	<b>Based on</b>
ABN AMRO/RBS	London	Kepler Capital Markets	Amsterdam
AEK	Amsterdam	Keijser Capital	Amsterdam
Bank of America - Merrill Lynch	London	Macquarie Securities Group	London
BBVA	Madrid	MainFirst Bank AG	London
CA Cheuvreux	Amsterdam	Morgan Stanley	London
Cazenove	London	Natixis Securities	Paris
Citi Investment Research	London	Nomura International	London
Credit Suisse	London	Oddo Securities	Paris
Daiwa	London	Oppenheim	Frankfurt
Deutsche Bank	London	Petercam	Amsterdam
Exane BNP Paribas	Paris	Rabo Securities	Amsterdam
Execution Limited	London	Robeco	Amsterdam
Fortis Securities	Amsterdam	Sanford C. Bernstein	London
Goldman Sachs	London	Santander	Madrid
HSBC	London	SNS Securities	Amsterdam
Ibersecurities	Madrid	Société Générale	Paris
Independent Minds	London	Theodoor Gilissen Bankiers NV	Amsterdam
ING	Amsterdam	UBS	Paris
JP Morgan	London	UniCredit (HVB)	Munich
Kempen & Co	Amsterdam		

## Appendix 2: Sample size used in various disclosure studies

Articles	Sample size	Covered area
Chatterjee & Mir. (2006)	19	New Zealand
Deegan & Rankin (1996)	20	Australia
Lau, (1992)	26	Hong Kong
Bradbury, M. (1992)	29	New Zealand
Pirchegger and Wagenhofer, (1999)	32	Listed Austrian companies
Cooke, (1992)	35	Japan
Singhvi, (1968)	45	India
Cooke, (1991)	48	Japan
Cooke, (1993)	48	Japan
Owusu-Ansah, (1998)	49	Zimbabwe
Davies & Kelly, (1979)	50	Australia
Lymer, (1997)	50	Top UK Companies
Martson and Polei, (2004)	50	DAX
Patton & Zelenka, (1997)	50	Czech Republic.
Wallace et al., (1994)	50	Spain
Chow & Wong-Boren, (1987)	52	Mexico
Hossain et al., (1995)	55	New Zealand
Marston & Robson, (1997)	58	India
Ahmed & Nicholls, (1994)	63	Bangladesh
Aitken et al., (1994)	65	ASX
McKinnon & Dalimunthe. (1993)	65	ASX
Hossain et al., (1994)	67	Malaysia
Lymer and Tallberg, (1997)	72	All listed Finnish companies
Tai et al., (1990)	76	Hong Kong
Wallace & Naser, (1995)	80	Hong Kong
Buzby, (1975)	88	USA
Cooke, (1989a)	90	Sweden
Cooke, (1989b)	90	Sweden
FASB, (2000)	100	1 country mixed industries
Flynn and Gowthorpe, (1997)	100	Fortune Global 500 companies
Marston and Leow, (1998)	100	UK FTSE
McNally et al., (1982)	103	New Zealand
Brennan and Hourigan, (2000).	109	Irish companies
Leuz, C., (1999)	109	Germany
Ahmed, (1996)	118	Bangladesh
Malone et al., (1993)	125	USA
Courtis, (1979)	126	New Zealand
Mitchell et al., (1995)	129	ASX
Inchausti, (1997)	138	Spain
Singhvi & Desai, (1971)	155	USA
Raffournier, (1995)	161	Switzerland
Fekrat et al., (1996)	168	Multinational
Firth, (1979)	180	UK
Ettredge et al., (2002)	193	Source AIMR (1997) study
Craven and Martson, (1999)	200	Leading UK Companies
Allam and Lymer, (2003)	250	5 countries, mixed industries
AIMR, (1997)	259	Covered by 16 industries
Ashbaugh et al., (1999)	290	Mixed industries
Cheng et al.,	291	291 firms of S&P/ASX 300
Deller et al., (1999)	300	S&P 100,FTSE & DAX 100
Jacqueline et al., (2006)	500	Top 500 Australian company
ISAC, (1999)	660	Covered by 22 countries
Harris, (1998)	929	NYSE
Berger & Hann (2002)	1207	NYSE
Botosan and Plumlee, (2002)	3618	Across industries



Appendix 3: A copy of questionnaire

**Exit this survey**

What information in HTML do you perceive MOST IMPORTANT on the corporate website in the following categories beside the normal quarterly and annual reporting?

**1. Company and Strategy Information(Multiple answers possible)**

- Business unit's structure
- Company's strategy
- Company targets
- Company history
- Investment proposition
- List of major participants
- Management agenda
- Overview of latest acquisitions

Please suggest any other important information that is missing in the list above

**2. Financial and Stock Information (Multiple answers possible)**

- Debt information
- Dividend information
- Financial data of sectors
- Historic overview of key financials
- Management outlook
- Quarterly results
- Analysts coverage
- Graph with share price development
- List of major shareholders
- Overview of analysts recommendations
- Share holding per investment style
- Stock repurchase information

Please suggest any other important information that is missing in the list above

**3. Financial Ratios (multiple answers possible)**

- DPS
- EPS
- ROE
- ROI
- ROA
- Price Earning Ratio
- Price to Book value
- Interest Coverage

Please suggest any other important information that is missing in the list above

**4. please indicate how many years of historical financial statements do you prefer to see?**

- 1 Year
- 3 Years
- 5 Years
- 10 Years
- More than 10 years



**5. Risk Management Information (Multiple answers possible)**

- |                              |   |
|------------------------------|---|
| Compliance risks information | Operational risks information                             |
| Environmental information    | Strategic risks information                               |
| Financial risks information  | Social sustainability information (staff, health, safety) |
| Market risks information     |   |

Please suggest any other important information that is missing in the list above

**6. Management and Corporate Governance information (multiple answers possible)**

- |  |  |
|--|--|
| AGM information  | Insider trading (including options)      |
| Articles of association  | List of executives and directors         |
| Biography of executives and directors (age, education, Experience) | Management forecast or outlook           |
| Corporate governance guidelines                                    | Number of shares held by management      |
| Code of conduct and ethics   | Other current jobs of Board of Directors |
| Director's independence standards                                  | Remuneration of executives and directors |
| General business principle   |  |

Please suggest any other important information that is missing in the list above

**7. Other Information (Multiple answers possible)**

- |                               |  |
|-------------------------------|--|
| Conference calls (transcript) | Investor relations subscription services |
| Financial calendar            | Management presentation                  |
| FAQ                           | Peer overview                            |

Please suggest any other important information that is missing in the list above

**8. Financial Statements and reports:**

**In which format do you prefer to have financial statements and reports?**

- |  |       |      |     |      |
|--|-------|------|-----|------|
|  | EXCEL | HTML | PDF | XBRL |
| Annual report                              |       |      |     |      |
| Financial statement                        |       |      |     |      |
| Quarterly report                           |       |      |     |      |
| Please suggest preference for other format |       |      |     |      |



**9. Modern Web technologies could be used for information sharing. From the following list which web tools will you opt for?**

- |           |                   |
|-----------|-------------------|
| Blog      | Mobile website    |
| delicious | Podcast           |
| digg      | reddit            |
| flickr    | RSS feed          |
| facebook  | twitter           |
| LinkedIn  | You Tube          |
| myspace   | None of the above |

Please suggest other type of web tools that you think could be useful for information sharing (if not covered above)

**10. Which category of information do you think is most important for investing decisions?**

Category of information (Select from the drop down list)

Rank 1

Rank 2

Rank 3

Which IR website do you find best and which best practices do you see in the market for IR websites? In addition, we welcome any other comments, opinions or advices to improve the IR web site.

Submit

Survey Powered by:  
**SurveyMonkey**  
"Surveys Made Simple."



#### Appendix 4: Disclosure score (in percentage) of all information items (ranked)

Rank	Information items of all categories	Disclosure score
1	Corporate governance guidelines, List of executives and directors, Quarterly results	100%
2	Business unit's structure, Company history, Environmental information, Financial calendar	95%
3	Dividend information, Historic overview of key financials	89%
4	Graph with share price development, AGM information	84%
5	Company targets, Financial data of sectors, Code of conduct and ethics, Management presentation	79%
6	DPS, EPS, Conference calls (transcript)	74%
7	Company's strategy, List of major participants	68%
8	ROE, Articles of association, Biography of executives and directors (age, education, Experience), FAO	63%
9	Social sustainability information (staff, health, safety), Investor relations subscription services	58%
10	List of major shareholders, General business principles	53%
11	Analysts coverage	47%
12	Stock repurchase information, ROA, Director's independence standards	37%
13	Investment proposition, Financial risks information	32%
14	Overview of latest acquisitions, Debt information, Compliance risks information	26%
15	Price Earning Ratio, Market risks information, Operational risks information, Remuneration of executives	21%
16	Analysts recommendations, ROI, Price to Book value, Interest Coverage, Strategic risks info, Insider	16%
17	Management forecast, Number of shares held by management, Peer overview	11%
18	Share holding per investment style, Management outlook, ROCE	5%
19	Management agenda	0%

Appendix 5: Information required by the analysts and investors in each information category

Information items	Responses	
	Analysts'	Investors'
<b>Company and strategy information</b>		
Business unit's structure	64%	78%
Company's strategy	64%	70%
Company targets	76%	70%
Company history	32%	27%
Investment proposition	8%	24%
Major participants	12%	0%
Management agenda	36%	54%
Overview of acquisitions	72%	41%
<b>Financial and stock information</b>		
Debt information	68%	72%
Dividend information	60%	50%
Financial data of sectors	76%	69%
Historical key financials	52%	64%
Management outlook	72%	75%
Quarterly results	80%	67%
Analysts coverage	8%	11%
Graph with share price development	4%	3%
List of major shareholders	52%	19%
Analysts recommendations	4%	3%
Share holding per investment style	20%	8%
Stock repurchase information	56%	42%
<b>Financial ratios</b>		
DPS	60%	55%
EPS	75%	87%
ROE	45%	74%
ROI	65%	55%
ROA	25%	32%
Price Earning Ratio	25%	42%
Price to Book value	35%	36%
Interest Coverage	40%	45%
<b>Risks management information</b>		
Compliance risks information	28%	27%
Environmental information	32%	24%
Financial risks information	68%	88%
Market risks information	44%	50%
Operational risks information	76%	79%
Strategic risks information	68%	65%
Social sustainability information	8%	15%



Information items	Responses	
	Analysts'	Investors'
<b>Management and corporate governance information</b>		
AGM information	60%	28%
Articles of association	32%	31%
Biography of executives and directors	52%	75%
Corporate Governance guidelines	16%	36%
Code of conduct and ethics	8%	17%
Director's independence standards	16%	31%
General business principle	4%	28%
Insider trading	64%	69%
List of executives and directors	52%	50%
Management forecast	68%	56%
shares held by management	64%	75%
Other current jobs of board of directors	24%	50%
Remuneration of executives and directors	36%	67%
<b>Other information</b>		
Conference calls or transcript	88%	87%
Financial calendar	92%	76%
FAQ	16%	19%
IR subscription services	40%	30%
Management presentation	72%	87%
Peer overview	40%	30%

Appendix 6: Disclosure score of the information item for the electronics industry

<b>Information Items</b>		
<b>NO</b>	<b>Information category 1: Company and strategy information</b>	<b>Percentage</b>
1	<b>Business unit's structure</b>	<b>95%</b>
2	<b>Company's strategy</b>	<b>68%</b>
3	<b>Company targets</b>	<b>79%</b>
4	<b>Company history</b>	<b>95%</b>
5	<b>Investment proposition / information</b>	<b>32%</b>
6	<b>List of major participants</b>	<b>68%</b>
7	<b>Management agenda</b>	<b>0%</b>
8	<b>Overview of latest acquisitions</b>	<b>26%</b>
<b>Average of information category 1</b>		<b>58%</b>
<b>Information category 2: Financial and stock information</b>		
9	<b>Debt information</b>	<b>26%</b>
10	<b>Dividend information</b>	<b>89%</b>
11	<b>Financial data of sectors</b>	<b>79%</b>
12	<b>Historic overview of key financials</b>	<b>89%</b>
13	<b>Management outlook</b>	<b>5%</b>
14	<b>Quarterly results</b>	<b>95%</b>
15	<b>Analysts coverage</b>	<b>47%</b>
16	<b>Graph with share price development</b>	<b>84%</b>
17	<b>List of major shareholders</b>	<b>53%</b>
18	<b>Overview of analysts recommendations</b>	<b>16%</b>
19	<b>Share holding per investment style</b>	<b>5%</b>
20	<b>Stock repurchase information</b>	<b>37%</b>
21	<b>DPS</b>	<b>74%</b>
22	<b>EPS</b>	<b>74%</b>
23	<b>ROE</b>	<b>63%</b>
24	<b>ROI</b>	<b>16%</b>
25	<b>ROA</b>	<b>37%</b>
26	<b>Price Earning Ratio</b>	<b>21%</b>
27	<b>Price to Book value</b>	<b>16%</b>
28	<b>Interest Coverage</b>	<b>16%</b>
29	<b>ROCE</b>	<b>5%</b>
<b>Average of information category 2</b>		<b>45%</b>
<b>Information category 3: Risk management information</b>		
30	<b>Compliance risks information</b>	<b>26%</b>
31	<b>Environmental information</b>	<b>95%</b>
32	<b>Financial risks information</b>	<b>32%</b>
33	<b>Market risks information</b>	<b>21%</b>
34	<b>Operational risks information</b>	<b>21%</b>
35	<b>Strategic risks information</b>	<b>16%</b>
36	<b>Social sustainability information (staff, health, safety)</b>	<b>58%</b>
<b>Average of information category 3</b>		<b>38%</b>

<b>NO</b>	<b>Information category 4: Management and corporate governance information</b>	<b>Percentage</b>
37	AGM information	84%
38	Articles of association	63%
39	Biography of executives and directors (age, education, Experience)	63%
40	Corporate governance guidelines	100%
41	Code of conduct and ethics	79%
42	Director's independence standards	37%
43	General business principles	53%
44	Insider trading (including options)	16%
45	List of executives and directors	100%
46	Management forecast	11%
47	Number of shares held by management	11%
48	Other current jobs of Board of Directors	16%
49	Remuneration of executives and directors	21%
<b>Average of information category 4</b>		<b>50%</b>

#### Information category 5: Other Information

50	Conference calls (transcript)	74%
51	Financial calendar	95%
52	FAQ	63%
53	Investor relations subscription services	58%
54	Management presentation	79%
55	Peer overview	11%
<b>Average of information category 5</b>		<b>63%</b>

## Appendix 7: Lists of global Fortune Companies (Top 100).

No	Company name	No	Company name	No.	Company name	No.	Company name
1	Royal Dutch Shell	26	E.ON	51	Honda Motor	76	Repsol YPF
2	Exxon Mobil	27	PDVSA	52	Hitachi	77	France Télécom
3	Wal-Mart Stores	28	ArcelorMittal	53	GDF Suez	78	BMW
4	BP	29	AT&T	54	Deutsche Post	79	Panasonic
5	Chevron	30	Siemens	55	Verizon Communications	80	Petronas
6	Total	31	Pemex	56	Tesco	81	Sony
7	ConocoPhillips	32	Hewlett-Packard	57	Électricité de France	82	Kroger
8	ING Group	33	Valero Energy	58	UniCredit Group	83	Barclays
9	Sinopec	34	Petro bras	59	BASF	84	U.S. Postal Service
10	Toyota Motor	35	Banco Santander	60	Cardinal Health	85	Nokia
11	Japan Post Holdings	36	Statoil Hydro	61	Deutsche Telekom	86	Marathon Oil
12	General Electric	37	Bank of America Corp	62	Enel	87	Hyundai Motor
13	China National Petroleum	38	Royal Bank of Scotland	63	CVS Caremark	88	Costco Wholesale
14	Volkswagen	39	Citigroup	64	Fiat	89	Rwe
15	State Grid	40	Samsung Electronics	65	Lukoil	90	Home Depot
16	Dexia Group	41	Berkshire Hathaway	66	Telefónica	91	AmerisourceBergen
17	ENI	42	McKesson	67	Nissan Motor	92	ICBA
18	General Motors	43	Société Générale	68	Procter & Gamble	93	Archer Daniels
19	Ford Motor	44	Nippon Telegraph & Telephone	69	LG	94	Vodafone
20	Allianz	45	IBM	70	Deutsche Bank	95	Munich Re Group
21	HSBC Holdings	46	Crédit Agricole	71	UnitedHealth Group	96	Nippon Life Insurance
22	Gazprom	47	Assicurazioni Generali	72	SK Holdings	97	Toshiba
23	Daimler	48	Nestlé	73	AXA	98	Robert Bosch
24	BNP Paribas	49	J.P. Morgan Chase & Co.	74	ThyssenKrupp	99	China Mobile Communications
25	Carrefour	50	Metro	75	Peugeot	100	Target

Source: [http://money.cnn.com/magazines/fortune/global500/2009/full\\_list/](http://money.cnn.com/magazines/fortune/global500/2009/full_list/)

