THE EFFECTS OF DISCLOSURE OF NON-FINANCIAL PERFORMANCE INDICATORS AND AUDIT REPORT ON STOCK PRICE ESTIMATE IN IRAN

By

ATAOLLAH MOHAMMADI MLGHARANI

B. Accounting, University of Islamic Azad, Iran

M.A. Accounting, University of Islamic Azad, Iran

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DECLARATION

I hereby declare that the work has been done by myself and no portion of the work contained in this Thesis has been submitted in support of any application for any other degree or qualification of this or any other university or institution of learning.

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Ataollah Mohammadi Malgharani

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DEDICATION

To my beloved wife, Gazal and my wonderful children, Rozhan and Razhan.

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ABSTRACT

This study examines the effect of disclosure of non-financial performance indicators including the generation of an audit report about this information, on institutional investors' stock price estimates in Iran. In this study, the experimental design included two factors each used in two levels (2 x 2 +1). Variables were manipulated including disclosure of non-financial performance indicators in the two levels (positive and negative) and audit report on this type of information in two levels (providing or not providing audit) + control group. Participants were asked based on provided information in order to estimate whether the stock price will increase or will decrease for next year. A self-administrated questionnaire was conducted on 150 people of institutional investors' financial director. The sampling method employed was stratified random sampling. Data were analysed using the independent sample t-test, anova analysis.

It was found that participants reacted to both positive and negative non-financial performance indicators. However, these reactions were more in positive information due to confidence of participants to positive information against negative information that was consistent with Prospect Theory. The results from this study showed that investors react more to positive information on stock price estimates than negative ones. The results of the analysis also indicated that the interaction of non-financial performance indicators and auditing report was very significant effect on stock price estimates when non-financial performance disclosure was positive. Finally, the study found that disclosure of non-financial performance indicators and independent audit report lead to increase investor confidence and certainty as well as reduce risk in their estimation in the stock market.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Development and complexity of economic activities, investor expectations for growth and inefficient accounting information systems have decreased. Conversely, with more than several decades of investment, the importance of non-financial information has increased, particularly in relation to measurement and evaluation of company's stock prices. These trends have reduced the salience of financial information quality in favour of non-financial performance. Therefore, inappropriate capital market performance and non-disclosure of non-financial information by companies have led to many individuals, groups of regulators and researchers to request for this type of information. Similarly, members of management have also requested for non-financial performance to evaluate decision-making and improve company's status (AICPA, 1994; Allini & Rossi, 2007; Eccles, Herz, Keegan, & Phillips, 2002; Lev & Zarowin, 1999). In response to the requests for more disclosure of information and also to protect investors, some authorities such as FASB[1] and the SEC have been motivated to introduce fundamental rules based on increasing information, type of information disclosure and disclosing non-financial performance by companies (Paul *et al*., 2009).

In this regard, FASB has introduced a report called the Non-Financial Report for Development of Voluntary Disclosures, which recommends that companies take into consideration non-financial performances in their annual financial reports. According to the voluntary disclosure report, a committee was convened to investigate academic research performed in this area. Studies by Lev and Zarowin (1999), Eccles *et al*. (2002), and Paul *et al*. (2009) provided evidence based on the

2-Financial Accounting Standards Board

value of increased disclosure and increases in some other non-financial performance indicators. These researchers believe that measurements such as service quality, customer satisfaction and employee satisfactions are the leading indicators for future financial earnings (Cohen, Holder-Webb, Nath, & Wood, 2009; Eccles *et al*., 2002; Villiers & van Staden, 2011).

Moreover, in 2003, the Securities and Exchange Commission (SEC) published instructions related to analysis of information disclosure and provided recommendations for more disclosure of non-financial performance indicators (N-FPI) by firms (SEC, 2003). At the same time, a special committee for improving and increasing business reports (AICPA) was also established. It has played important roles in continuing the previous innovative works regarding development and disclosure of financial reports, which also have an important role in the establishment of EBRC[2]. In line with general consensus and based on an international framework for increasing voluntary reports, EBRC reached its peak in 2005. In 2005, EBRC was introduced for more development of strategies and disclosures of non-financial activities (EBRC, 2009).

FASB (2001) and the business report consortium (FBRC, 2005) asserted that companies should be encouraged to make voluntary disclosures, especially disclosures regarding non-financial performance indicators. Both indicated that these disclosures will be effective for users when they understand that this type of information is as valid as a financial report. Hence, an independent financial report that is confirmed by independent and reliable accountants to show the potential importance of valid voluntarily disclosed information is required (Arvidsson, 2011; Paul *et al*., 2009; Robert & Patrik, 2009). According to AICPA (1997), which are special committee reports related to assurance services, expressed that the importance of providing assurance services increases validity, ensures company's performance measurements by auditors and expands professional audit.

For this purpose, this study aimed to examine to effects of voluntary disclosure of non-financial indicators on institutional investor estimations of stock

3-Enhanced Business Reporting Consortium

price in the Iranian stock market using an experimental investigation, which include the generation of an audit report about this information on institutional investors' stock price estimates in Iran.

Additionally in this study, Attribution Theory was used to determine whether there is an asymmetric reaction for providing the assurance value of information, which is dependent on the nature of non-financial indicator disclosure. Non-financial performance indicators have created fundamental change in the attitude and behaviour of investors (Lev & Zarowin, 1999; Paul *et al*., 2009). Non-financial performances are Customer Satisfaction, Employee Satisfaction, and Firm Internal Process that are extracted by using the Delphi Method. Experts in an international conference in Iran have identified three major variables in the financial field from among 12 non-financial performance variables. These variables are proper and can be used to predict the future of a company's performance in order to perform better (Arvidsson, 2011; Banker, Chang, & Pizzini, 2004; Ittner & Larcker, 1998b; Lev & Zarowin, 1999; Paul *et al*., 2009; Stephen, 2010).

1.2 Background of the Study

Utilization of non-financial performance measures to overpower the shortcomings of traditional financial measures has dramatically increased in the recent years and it is also gaining support (see Kang & Gray, 2011; Kaplan & Norton, 2001; Kelly, 2007). This can be considered because of the recent involvements in the performance evaluation systems. Financial measures have been regarded as too late, overly accumulative, and excessively one-dimensional in nature for them to be regarded as applicable (Coram, Mock, & Monroe, 2011; Ittner & Larcker, 1998b; Lynch & Cross, 1992). In this respect, there is evidence that points out the influence of non-financial performance measurements on the estimations of companies that have not been measured completely from a financial perspective (Amir & Lev, 1996; van der Laan Smith, Adhikari, Tondkar, & Andrews, 2010).

FASB (2001) proposed that companies provide compensation for this deficiency through development and disclosure of non-financial performances.

Traditional financial measurement systems that use accounting measures have been criticized as inadequate and inappropriate for today's business environment (AICPA, 1994; Ittner & Larcker, 1998b; Johnson & Kaplan, 1987; Kaplan & Norton, 1996, 2004, 2006; Lev & Zarowin, 1999; Lynch & Cross, 1992; S. a. E. C. SEC, 2009; Zeghal, Mouelhi, & Louati, 2007). Various individuals and groups have called for more disclosures of information by non-financial companies (Boulton, Libert, & Samek, 2000; Norton, 2000). These individuals and groups believe that the traditional financial measurements have reduced in terms of their relevance due to the changes in business models which are said to reflect the "modern economy". Moreover, critics have more concerns over the backward-looking nature of the financial measurements and therefore suggest that financial measurement creates less financial insight in the future performance of the companies. Demand for external reporting of non-financial performances is also inferred by the acceptance of the domestic performance framework of companies that records the Balanced Scorecard (Kaplan & Norton, 1996).

Marc and Krishna (1999) and Paul *et al*. (2009) found that disclosure of non-financial performance indicators (e.g., employee satisfaction, customer satisfaction) into external reports is relevant and useful to users. Meanwhile, Ambrose and Gregory (2011) showed that among 1,400 large companies in the US, UK, Europe, Sweden, Southeast, Canada, Mexico, Japan, and Germany, 45% issue non-financial performance indicator reports. A number of researchers have expressed that since the financial performance of companies is related to their historical information, non-financial performance of the companies can better predict and estimate the future of the company's performance (e.g., Banker *et al*., 2004; FASB, 2008; FASB, 2010a; S. a. E. C. SEC, 2009).

The Jenkins committee in AICPA (1994) identified the types of data a firm is required to provide to investors and debtors. In 1994, the committee concluded, "a lot is right with today's business reporting in the United States. Yet, many users are strongly critical of certain aspects of (Committee) reporting." One of the committee's recommendations to meet the needs of users is that financial statements should focus more on the factors creating longer-term value, including non-financial measures that

indicate how key business processes are performing (AICPA, 1994). Regarding concerns for more inclusive disclosures, FASB (2001) introduced a report entitled *"Improving Business Reporting: Insights into Enhancing Disclosures,"* which has helped companies enhance their business reporting in relation to voluntary disclosures. They surmised that non-financial performance is relevant for predicting the future of a company's performance and valuing corporate equity (AICPA, 1994; FASB, 2010a).

They concluded their study by remarking that "the FASB should investigate and encourage the development of models and frameworks that enhance the relevance of financial performance measures via the inclusion of non-financial performance measures". In addition, some researchers found that the current financial measurements are not a feasible way to reflect the long-term profits of firms, while extant research supports the claim that non-financial performance measurements are positively dependant on the functions of future accounting (e.g., Ittner & Larcker, 1998b; Allan, 2010). Kaplan also posits that although accounting informational systems can calculate the tangible assets and their related costs, they cannot calculate ones related to non-financial performance appropriately. Thus, to solve the deficiencies in implementing a traditional performance measurement system, Norton and Kaplan (1993), and Wu and Hung (2007) presented the Balance Scorecard donation that integrates financial performance and non-financial performance measures. This study provides additional evidence in relation to the value of disclosure of non-financial performance indicators to institutional investors in an experimental setting.

1.2.1 Background of the Study in Iran

Iran, one of the most important market forces in Asia, is not considered a fully developed nation. According to some researchers, investors believe financial statements issued by Iranian companies do not present comprehensive and conclusive information of Iran's stock market (see Galebaf & Hasan, 2007; Hasanali & Abdolah, 2010; Hashem & Ali, 2009; Mohsen, 2006; Sasan & Aliakbar, 2009; Yahya *et al.*, 2009). Mohsen (2006) asserted that Iran's financial reports do not

disclose non-financial performances for the stock market, while Sasan and Aliakbar (2009) and Hasanali and Abdolah (2010) found it is necessary to consider disclosure of non-financial performance indicators in Iranian companies' financial statements. Similarly, Mehdi, Mohammad, and Zohre (2009) found that trading volume and investment by the investors in stock market decreased because of the uncertainty and risk of investment and the associated suffering from lack of information. Some researchers have shown that there is no assurance service to non-financial performances in stock market (Hashem & Ali, 2009; Mohsen, 2006; Sasan & Aliakbar, 2009).

Nonetheless, very limited research has been performed in relation to the voluntary disclosure of non-financial performances in Iran. These studies have emphasized that investors should search information beyond the financial reports of their analyses before deciding to buy (Hasanali & Abdolah, 2010; Sasan & Aliakbar, 2009). Hence, it is important (to some degree) to recognize how investors will make decisions in developing markets such as Iran. Also, in response to some evidences of increasing incompatibility and a vast gap between the financial reporting and firm value, a number of commentators and regulators have considered it to be necessary to apply standards and to develop disclosures of non-financial performance (Galebaf & Hasan, 2007; Sasan & Aliakbar, 2009). Yahya *et al*. (2009) interviewed 321 investors in Iran about the issues related to their investment behaviours. The researchers found that the investors analyzed the non-financial data before making investment decisions.

1.3 Statement of the Problem

Investors, financial analysts, banks, government and everyone who use financial decisions make decisions and assess future financial performances of companies based on this information. Despite observing the importance of this issue, there are some who claim that financial reports cannot provide complete and comprehensive information for users of information without including non-financial performances (see Padovani, Rossi, & Orelli, 2010; Zéghal & Maaloul, 2011). In addition, although financial factors such as earning, sale, profit, and investment

return provide valuable information for investments, they cannot disclose company's success in term of organizational performance according to determined goals in different dimensions in a comprehensive way and for a long period of time. Moreover, they cannot evaluate strategy development. In the recent years, companies have begun using non-financial performance indicators for evaluation such as customer satisfaction and qualitative factors for products (Arnold, Bedard, Phillips, & Sutton, 2011; Meek & Arvidsson, 2011; Sridharan, Dickes, & Caines, 2002; S. a. E. C. SEC, 2009). FASB (2010a) stated that traditional financial measurement systems using accounting measures have been criticized as inadequate and inappropriate for today's business environment.

According to the latest statistics published by the Stock Exchange in Iran, about 8.6% of companies disclose non-financial information (Hasan, 2010). This rate, compared with Asian countries such as Malaysia (38%, Simnett *et al.*, 2009), China (39%) and European countries (45%), is still very low (Ambrose & Gregory, 2011). Some researchers have suggested that assurance services are required for financial and non-financial performances because users need to trust this information to estimate (FASB 2010a; Admati & Pfleiderer, 2000; Yahya *et al.*, 2009). It is important to note that there is no assurance service on non-financial performance in the stock market in Iran, and thus, investors are not sure about some of the companies that disclose their non-financial performances.

Although previous research had investigated the individual effects of individual assurance and disclosures, they did not consider the interaction of these factors. This study developed the research literature through investigation of interactional effects and preparation or non-preparation effects of voluntary assurance value on sign/power on voluntary disclosure of non-financial information (Holder-Webb, Cohen, Nath, & Wood, 2009; Meek, Roberts, & Gray, 1995).

Briefly, due to the lack of non-financial performance indicators, disclosure and lack of this particular kind of information in financial report systems in the Iranian stock market, investors may not be able to estimate a company's share price accurately. Therefore, they face uncertainty and high risks in their estimation. Thus, there is limited empirical and experimental evidence provided to relate to voluntary

disclosures of non–financial performance in Iran. Prior studies examined the individual effects of assurance and disclosures of non-financial performance indicators, but they did not consider how these factors are related to one another. Thus, due to the lack of disclosure of this kind of information in the stock market, this study provides additional evidence in relation to the value of disclosure of non-financial performance indicators through their effects on stock price estimation in an experimental setting.

1.3.1 Research Gap

1. Prior studies examined the individual effects of assurance and disclosures of non-financial performance indicators, but they did not consider how these factors interact. This study extends this literature by examining the interactive effects of the provision or non-provision audit report on the signs (positive and negative) of disclosure of non-financial performance.

2. Little empirical and experimental evidence is provided to relate to voluntary disclosures of non–financial performance in Iran while establishing the main roles of this kind of disclosures in other country.

3. There is no comprehensive model that can evaluate non-financial performance indicators.

1.4 Research Questions

The aim of this study was to examine the effects of disclosure of non-financial performance indicators, which include the generation of an audit report about this information on institutional investors' stock price estimates in Iran.

Consequently, two research questions were postulated to address the issues discussed above:

1. What are the effects of disclosures of non-financial performance indicators on institutional investors' stock price estimates?

2. How do the interactions between disclosure of non-financial performance indicators and independent audit report impact institutional investors' stock price estimates?

1.5 Objectives of the Study

1.5.1 The Main Objective

The main objective of this study was to examine the effects of disclosure of non-financial performance indicators including the generation of an audit report about this information on institutional investors' stock price estimates in Iran.

1.5.2 Specific Objectives

Below are the specific objectives of this study:

1. To determine the effects of disclosure of non-financial performance indicators on institutional investors' stock price estimates.

2. To analyze the interactive effects of the provision or non-provision of independent audit report and disclosure of non-financial performance indicators (positive or negative) on institutional investors' stock price estimates.

1.6 Delimitations and Scope

The main purpose of this study was to examine the effects of disclosure of non-financial performance indicators and audit report on institutional investors' stock price estimates in Iran. For this reason, inclusion factors were subjects who are familiar with the stock market, and also those who have experiences buying and selling corporation shares from the Iran stock market. Due to the lack of access to individual investors and lack of power and knowledge to analyze non-financial performance of this type of information, they were excluded from this study and only investor institutions were used.

These institutions were chosen because of the extent of their activities and the volume of their financial resources which have a great effect on the investment market. Participants of this study included all active investment institutions working in the stock exchange market of Iran. According to Iranian law and stock exchange guidelines, active investors are those who have carried out transactions with account balances in the period of three years (Marshall *et al*., 2000). Approximately 89% of stock accounts are allocated to investment institutions and this group has expertise, knowledge and specific skills to analyse financial reports and to use different methods to obtain more information about individual investors (Galebaf & Hasan, 2007). It is based on this special knowledge and expertise that this group is expected to be able to properly interpret and use additional non-financial performance disclosure in the process of estimating company share price (Larcker *et al*., 2007) . Robert *et al*. (2009) suggested that institutional investors are appropriate for experimental research because they have required knowledge and experience that are necessary to answer the questions.

1.7 Significance of the Study

One of the factors that has a great effect on the development and growth of the investment market is investor assurance (Simnett *et al*., 2009; Randal *et al*., (2010); Van *et al*., 2010). Alex (2000) and Kevin (2008) expressed market assurance resulting from assurance is related to financial reports and disclosure of all financial and non-financial performance; it is possible to decrease capital risk or investor risk so as to prevent excessive losses and mistakes due to investment outcomes. The research has some implications for management, analysis and financial analysts, regulator standards, business, professional accounting, auditing and important investors because it provides valuable evidence relevant to indices to provide non-financial performances for the financial markets and ensures effects on this type of information. Non-financial performance indicators will become interesting to managers because they consider increasing disclosure policies and providing insights into ways to improve the usefulness of management disclosures; and such insights

will assist the management to find ways to build credit in financial reports of investors and assurance maintenance of company and investors (Eccles *et al*., 2001; Alessandra *et al*., 2007; Chih, 2011).

As there is no standard framework related to non-financial performance indicators in Iran, regulators will consider mandatory disclosure of such information and attempt to codify this information. Financial analysts in this regard decide how to use this kind of information in their decision-making. Also, providing audit report on non-financial performance should be motivating for the accounting and auditing professions. It is also interesting to note that managers of the company must purchase this kind of services (i.e., pay for independent auditors to audit non-financial performance of company). Non-financial performance indicators based on BSC are meaningful in the estimation of stock price of investors that show they are using this information. This should be of interest to business people, analysts, regulators, and users of financial reports.

Valuable information about the assurance of non-financial disclosures should be interesting for auditing professionals and managers who must consider this service. Purchasing voluntarily audit report is costly and directors and audit committee members under such circumstances find value for their companies. This will be of interest to audit professionals because they may be able to work on developing services and improving service for customers with such a direct effect on decision-making. On the other hand, since audit report of non-financial performance may have effects on decision-making, demand for audit report may then increase in capital markets. Audit report, as a potential market for growth of accounting and audit occupation, will therefore be identified.

This study extends previous research work of researchers (Ittner & Larcker, 1998b; Johnson & Kaplan, 1987) who proposed that they are related to non-financial performance values. In addition, it is extended on the research literature review to develop valuable market voluntary disclosures of the company (Eccles *et al*., 2001; Alessandra *et al*., 2007; Bencivenga *et al*., 1991). Moreover, this study complements a growing area of research which inspects non-financial performance indicators based on the BSC that has influence on investors and regulator policies.

The research model provides evidence indicating knowledge and expert information on non-financial disclosures to help investors in order to understand this information better, and to combine this information to evaluate the company and overcome the potential cognitive bias. The main contribution of this model is to help to develop understanding and insight of investors regarding non-financial performance related to decision making and evaluation of future company financial activity. Since there is no standard framework related to non-financial performance indicators in Iran, this study can contribute to the setting of accounting standards in this regard in Iran. This study will help future researchers, regulators and standard setters to develop an appropriate accounting framework for disclosure of non-financial performance indicators. This study developed the research literature through investigation of effects disclosure of non-financial performance indicators (positive and negative) and provision or non-provision of independent audit report on institutional investors' stock price estimates.

This study introduces a novel application of the extended Prospect Theory and Attribution Theory models for disclosure of nonfinancial performance: First, linking PT and AT for interactive effects of the provision or non-provision of assurance reports on the sign (positive and negative) of disclosures of nonfinancial performance. Second, extending theories of psychology (PT and AT) in accounting and finance, and in the stock market environment, and also a test of where PT stands in an investment context, where valuation includes stock price estimate by non-financial performance indicators. Third, research also helps to extend the use of the AT by the use of the assurance nature of nonfinancial performance. In this study, real investment institutional trading in the capital market was used, and their reaction against values related to disclosure of non-financial information by a company was also tested to indicate that the reaction to this type of disclosure is compatible with what was expected in the relevant previous research. Investment institutions are able to analyze financial data in a good manner, and are aware of the importance of non-financial information for evaluation of the company (Bouwman, 1982; Ku Nor & Chandle, 2005). Meanwhile, financial managers of investment institutions have good knowledge and expertise and they act professionally in making predictions and decisions for the company. Financial managers of investment institutions

participating in the experience were appropriate for this study because 71% of them had a direct relationship with buying and selling of shares in the stock market and financial organizations.

Finally, this study strongly advocates that regulators may start focusing their insight on developing accounting and auditing standards related to non-financial performance and assurance on this kind of information. In short, if evidence of this research supports ties between disclosure of non-financial performance report and stock price estimates of companies in the market, the policy implication is based on the results to support given suggestions by AICPA, or encourages SEC, or FASB that defines non-financial performance, and the requirement of each company in each industry to continuous reports of these types of information. In particular, this study was carried out to specifically fill this gap in the literature review.

1.8 Definition of Terms

Independent Audit Report: An audit report is an independent professional service that improves information quality and instils confidence into users of financial reports (AICPA, 1998).

Disclosure of Non-Financial Performance: This is defined as non-monetary information and is therefore observed as new data providing additional information for investors about various aspects of intangible assets and values of the company (Alex, 2004; Amir & Lev, 1996; Elliott *et al*., 2008).

Financial Performance Indicators: Indicators that can be measured by monetary standards and are presented in financial reports such as sales, profit, and stock price (Amir & Lev, 1996; Kaplan & Norton, 2004).

Non-Financial Performance Indicators: These includes important information not measured by monetary values and not presented in financial reports such as employee turnover rate and the number of employees (FASB, 2001; Kaplan & Norton, 2004).

Institutional Investors: Institutional investors are professional investors because they have the ability to extract and analyze financial reports. Therefore, they also have proper experiences to use non-financial information in judgments and decisions toward company's performance and anticipation of future financial profitability (Hunton & McEwen, 1997; Bouwman, 1982; Bouwman *et al*., 1987).

Customer Satisfaction: A positive feeling of satisfaction created in each person after using the goods or services (Kaplan & Norton, 2004).

Employee Satisfaction: A set of consistent feelings about the job. This feeling is achieved when the desires, needs and experience are met when a worker enters an organization (Kaplan & Norton, 2004).

Firm Internal Process: Kaplan and Norton (2004) define internal business processes as the organizational practices and methods used to fulfil customers' and stakeholders' expectations.

Stock Price: The latest price for one's share of the company's common stock is R 58000, which provides a common anchor for all participants.

1.9 Organization of the Thesis

Chapter 2 contains the literature review. The purpose of this chapter is to provide relevant empirical and experimental research and practical perspectives on the theories (Prospect Theory and Attribution Theory) to determine the effects of disclosure of non-financial performance indicators on estimating stock price of investor institutions. The literature review provides a theoretical basis for the development of a research framework and a relationship between variables that is discussed in Chapter Three. On the other hand, linkage between Prospect Theory and Attribution Theory, and the gap that exists in the literature is identified, especially in this area. The primary purpose of Chapter Two is to set up the institutional background for chapter 3, which applies Prospect Theory and Attribution Theory as theoretical foundations for the conceptual framework used in this study.

Chapter 3 builds up theoretical framework and hypotheses development for this study. This chapter justifies why Prospect Theory and Attribution Theory are appropriate for this study. This chapter also describes the methodology used for this study which focuses on the impacts of non-financial performance disclosure and confidence on this information to estimate the stock price in the stock exchange market. This chapter also contains the research design. The research design uses experimental, comparative, causal and quantitative methods. In this study, there were one independent variable, one moderating and one dependent variable.

Chapter 4 presents detailed findings related to the analysis of data and testing of the study's hypotheses and propositions. Meanwhile, statistical techniques for the data analysis included descriptive analysis, Independent T-Tests, ANOVA.

Chapter 5 summarizes the arguments developed in this thesis, provides a discussion of the findings and contribution, discusses limitations of the study and describes future research implications that are emanated from this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Academics, analysts, legislators and professional accounting standard setters are interested in evaluating non-financial performance. Measuring non-financial performance is defined differently from a traditional financial accounting system (e.g., employee satisfaction, customer satisfaction). The appeal of the issue for them in response to the growing recognition was that the traditional financial accounting measures do not provide all of the important information. However, in some cases information is limited to its customers. Thus, traditional accounting can only assess and disclose the historical and past performance and is less related to forward looking judgment information, i.e. the information the users of accounting often try to gain (Holder-Webb, Cohen, Nath, & Wood, 2008; Ittner & Larcker, 1998a, 1998b). Investor requirements for more forward-looking information cause accounting professionals and academics to offer conceptual value-creation of nonfinancial measure models that the company must disclose to investors.

The purpose of this chapter is to provide empirical and experimental research and practical perspective on (Prospect Theory and Attribution Theory) so as to determine the effects of the disclosure of NFPIs on estimating the stock price of investor institutions. In order to understand the problem, a review of research literature related to the research topic and objective was undertaken. The literature review provides a theoretical basis for the development of the research framework and the relationship between the variables that are discussed in Chapter 3. This research begins with a literature review in order to provide guidance and a framework for hypotheses and research questions. This study applies two theories; both theories predict how persons will react to choice option in a risky environment.

Historically, AT and PT have been used by researchers in accounting in an area called behavioural accounting, which that investigates behaviour and reactions

of users including investors. Behavioural finance as a dominator paradigm for financial issues was raised by Kahneman and Tversky (1979). This chapter discusses on non-financial performance indicators, disclosure of non-financial performance, role of auditing report, stock price estimate, AT and PT.

2.2 Causal reasoning Casual Reasoning in the Financial and Non-financial Report

Most decisions made by investors, analysts, corporate executives and other users of financial reports are a complex process that usually involves the use of two different types of reasoning: looking backward to understand the past and looking forward to predict the future (Cornett, Marcus, Saunders, & Tehranian, 2007). Thinking about the past is diagnostic in nature as it includes searching patterns and linking events that may seem unrelated to the experiment and the chains of cause and effects that may explain an event. Thinking about the future is quite different because it includes beginning of a belief about the suspicious cause or an event and prediction of potential outcomes. Although judgments may be judgmental (the focus of most psychologist researchers), some mathematical techniques may also be used (Hutton, Miller, & Skinner, 2003). In other words, decision makers need to identify causal predictive judgments and investigate them in terms of both judgmentally for predictions.

According to these relatively broad descriptions of the diagnosis and prediction, it is possible to conclude that all personal judgments and decisions about financial reporting process is a kind of causal reasoning. Such a conclusion may be incorrect; although there is one kind of causal reasoning, there is a cognitive process that people can use to solve problems. For example, Prospect Theory may explain how people may choose between methods with uncertain results in future (Kahneman & Tversky, 1979). This theory is dependent directly on causal reasoning. Casual reasoning includes determining the cause and effect relationships. Diagnosis and prediction tasks require individuals to have an accurate understanding of these relationships in order to conduct the arbitration. Thus, the theory of causal reasoning is well suited for research on voluntary disclosure and financial reporting.

An experimental study was conducted to investigate the investors as the main stakeholders and taking into account the company's stock accepted in the statistical analysis to examine whether there is a relationship between development of financial markets, local and non-financial information (Allini & Rossi, 2007). Certainly, external disclosure of the company is one of the main tools for evaluation of production and distribution so it has a great effect on the company's ability to attract resources and acquire the agreements (Eccles & Lupone, 2000). In the past, disclosure was dependent on the accounting data based on income and capital investment measures. Today, however, the dramatic changes imposed the growing complexity on economic and social designs of companies. This issue changes behaviour of the company by introducing a stable interaction between investments, investors and non-financial information as a new source of information. Non financial information, accordingly, has become a new information source for users. Voluntarily disclosed information can be completed using either one of the two approaches: the financial approach by looking to the future and non-financial soft approach (Quagli & Teodori, 2005).

Belkaoui and Karpik (1989) performed a study to review the relationship between the adoption of foreign reports, especially non-financial ones, and four types of social variables: performance, cost control, political visibility, and ultimately financial performance. Focusing on companies listed in stock and investors as the primary stakeholders, they found that voluntary disclosures would be added, if required. Therefore, it reduces the information asymmetry between companies and investors. Eccles *et al*. (2002) pointed out that greater voluntary disclosure could attract more potential investors in the long term.

During the past decade, some speculations were given about disclosure of non-financial performance in a great deal of concrete applications. Many international initiatives have been recorded through professional organizations (e.g., AICPA, FASB and CICA) to support additional ways to supplement the traditional financial reporting to allow for reliable assessments for foreign users in both predictable evolutions of foreign trade management and key factors value creation in the process. The need for more comprehensive information about non-financial

performance has been considered recently by the SEC that requested the accepted companies to disclose additional information as a rule because it may be considered as a risk determinant. Since then, it has been considered in the company's strategy to focus on variables that may condition the success/ risk capital, the expectations of various stakeholders such as customers, suppliers, and even the local community that may be of undeniable value (especially in trade), and investment risk that may impact the large companies in sectors that are susceptible to productive activity(Rusconi, 2006; Zadek & Radovich, 2006).

There are various reasons why investors may note that there non-financial performance of companies. Initially, the company may affect the long-term financial performances taken into account by market participants when evaluating a potential long-term value of the company (see Groysberg, Healy, Nohria, & Serafeim, 2011; Ioannou & Serafeim, 2010). In addition, companies with better non-financial performance are more likely to disclose non-financial activities in the market to determine their long-term focus and distinguish themselves (Bénabou & Tirole, 2010). The report of the non-financial performance is as follows:

a) Increases the transparency around the social, environmental and stock market;
b) May change internal management practices via creation of incentives for firms to better manage their relationships with key stakeholders such as employees, investors, customers, suppliers, regulators and civil society (Ioannou & Serafeim, 2010).

Therefore, it reduces the increased availability of information about the company and asymmetric information between companies and investors (see for e.g., Hail & Leuz, 2006; Chen, Chen, & Wei, 2009; El Ghoul, Guedhami, Kwok, & Mishra, 2011).

2.3 The Roles of Nonfinancial Performance in Company Evaluation

When investors want to evaluate a company, they require information such as cash flow that evaluates the company through sales and anticipation of future costs

(Penman, 2001; PricewaterhouseCoopers, 2002). Therefore, investors evaluating a company's stock should consider all information about sales and future anticipated costs. In this case, measurement of the non-financial performance may provide related information. The company will use a proxy or a benchmark in order to anticipate future sales and costs (Arvidsson, 2011). Therefore, it is possible to anticipate a company's future profit when all related information such as costs and sales related to several previous quarters is available. Thus, this research will provide greater details regarding disclosure of the non-financial performance and it will also indicate how these disclosures are related to a company's stock price anticipation as benchmarks are used to access a company's value and to make informed decisions about the company. In this research, 17 non-financial performance indicators were used based on BSC.

2.4 Usefulness of Non-Financial Function Measurement

Like all other financial measures, measurement of non-financial performance can be considered useful, relevant and reliable (Penman, 2001). Non-financial measurement can be related to a company's future. In addition, it can anticipate a company's function in the future (Kevin, 2008; Vera-Muñoz, Shackell, & Buehner, 2007). For example, study can anticipate a company's future and its work environment by measuring its staff's satisfaction, determination and calculation of turnovers and comparing them with results in previous years. This anticipation can be useful for investors' decision making for non-financial performance of the company in the future and anticipation of a company's profitability. Therefore, the above-mentioned relationships help investors to anticipate the future positive and negative outlooks for companies (Kevin, 2008). Academic research has indicated that measuring of non-financial performance could be related to the financial future of a company. For example, measuring customers' satisfaction may have a positive relationship with profitability in parameters such as company's sales in the communication industry (Amir & Lev, 1996; Luft & Shields, 2001; Shwu-Ing & Hsin-Yi, 2011) and in the hotel industry (Banker, Potter, & Srinivasan, 2000). Moreover, measuring staff satisfaction is positively related to profitability and future sales in the retail industry (Banker *et al*., 2000; Penman, 2001), while in Internet

companies, it was found that the average percentage of customers who use the Internet is positively related to a company's future sales (Rajgopal, Kotha, & Venkatachalam, 2000).

2.5 FASB, AICPA, AAA, SEC Reports Regarding Non-Financial Performance

FASB (2010, 2000) reported that a number of professional investors and financial analysts are interested in disclosing both financial information and non-financial fundamental measures. In addition, FASB (2010a) has also expressed that the lack of disclosure of non-financial performance in financial reports is currently the norm for investors and financial analysts. They believe major changes must be performed in the financial reporting system, especially for investors' usage and assistance. As corporate financial statements are the main sources of information analysis and decision making for users, these reports should be of the highest quality, and efforts should be made to prepare and set standards to achieve this goal. They believe that all of the information should be disclosed to users immediately.

The importance of non-financial information for investors has been fully identified. For example, the AICPA committee has emphasized financial reporting and encouraged greater disclosure of non-financial information for financial statement users (AICPA, 1994). Jenkins (1994) explained the American Institute of Certified Public report's value in financial performance measure relationships: evidence shows that a number of non-financial performances exist affect the evaluation of financial statements. The report states that companies should express this kind of information through improving their disclosure, especially disclosure of non-financial measures (FASB, 2001, 2010a) (FASB, 2002, 2010). AAA FASC (2002) concluded that disclose of non-financial performance can be different. They also stated that prospect research towards this release was permitted. AAA declared that past studies had found dependence (link) between specific types of non-financial performance disclosure and stock price. In addition, this was the first research in connection with voluntary disclosure of non-financial measures, which was significant as an important publication by AAA FASC. A comprehensive report from

the AICPA committee on the Committee Jenkins financial report offered several suggestions to improve the commercial reporting model. The best among all of the suggestions was providing more information with a prospective view including opportunities, risk and non-financial performance measures. Focus on more factors that create long-term values, including non-financial measures that show how the main processes of business are performed.

Recently, FASB and IASB proposed significant changes in the form of financial statements [FASB, 2010b]. Although the project is still in its early stages, one of the ideas behind this project is that non-financial performance of companies in financial statements enables users to make a more informed assessment of the companies (FASB, 2010b). Meanwhile, businesses may need to announce changes in their basic financial statements (FASB, 2010b).

2.6 Types of Reporting Types of Reporting Non-financial Performance

Types of Reporting

The non-financial information report method somewhat determines the role of auditors. This particular issue will be discussed in more details in the next section. Non-financial information can be presented as follows (Smit, 2008):

- With the financial statements presented for general purposes (general purpose financial statements) or prepared for a specific purpose (special financial purpose such as report of a grant). Data will form a part of the financial statements. In this case, non-financial information can be supplementary financial information. Meanwhile, information can be in a separate report or attached form (for example, the mean average of employees). In this case, non-financial is not considered as a part of financial reporting, but the board's report is attached. These activities can be reported to the Board with financial statements or reports that will be approved. The difference between these two is important for auditors' investigations. In the review of information, there is a financial statement of all information that will be covered by the audience or his report. The information contained in the report of the management or the board will be determined only as a reasonable agreement with the

financial statements. The more qualitative nature of non-financial information in financial statements exist, the less it is concerned with financial information and will be reviewed in a more difficult manner. This commitment is directed toward to a separate trust or engagement in an audit report investigation without a separate financial report. Some familiar examples are reports on social responsibility and environmental reports in which financial information is included, but the main emphasis is on non-financial data that are usually performed in a data form. It that can be dealt with commitment to a review engagement. It can be dealt with assurance, review engagement based on user goals and the type of information.

Traditional paradigm in the performance evaluation puts more emphasis on financial measures as drivers of firm performance. Recently, the paradigm has been criticized by the academics and the accounting profession due to its failure in capturing important aspects of the company's performance since the creation of wealth is dependent upon intangible properties, non-financial performance and dynamic performance of the markets. Critics of traditional measurements support performance indicators that can show the company's strategies. Performed paradigm in Performance Evaluation focuses on a combination of non-financial and financial measurements. Non-financial measurements like customer satisfaction, operating efficiency, employee satisfaction, innovation, etc. are considered as a remedy for the drawbacks of traditional methods. Non-financial measurements are not without controversy when they are used alone. Critics refer to such a wide array of available measurements and the lack of coordination in their uses as witness of the problem in this area.

Traditional paradigm places emphasis on the financial performance measurements (sales, profitability, return on investment, costs, etc.) as key drivers of the firm performance. Supporters of traditional practice suggest that such measurements are familiar and reliable between users, which assure the possibility of comparisons between companies. Though this paradigm is defeated in the practice reflected in the new economy, it is accepted by various stakeholders.

Saving for financial issues (Cumby, 2001) is framework of traditional practice of performance measurement in response to a failure in the new economy for

wealth creation resources and other intangible non-financial resources that are dependent on dynamic markets (Cumby, 2001). A survey carried out among 500 companies in the United States of America described the classification of selected measurement of non-financial companies as follows: customer satisfaction (93%), efficiency (83%), and internal production process (81%). In their study, Stivers, Covin, Hall, and Smalt (1998) assessed 750 individual investors in terms of their understanding of economic performance and corporate social responsibility issues. Results showed that most common individual investors were concerned with information about the government's economic performance and corporate social responsibility. When the respondents were asked to show specific types of information that they would use more interestingly in the future, they mostly referred to economic performance indicators such as market share, customer satisfaction, employee satisfaction and producing innovative details. Finally, the respondents were evaluated according to intelligence sources and intelligence analysis and it was found that this group of respondents showed a relatively high rate of interest to non-financial information for future decision makings. In general, investors preferred to provide their information via auditors, the audit reports or the third parties which may reflect non-financial performance disclosure accurately and reliably.

Academics and legislators for reviewing of the value of non-financial information have called information that is indirectly related to the company's balance sheet but do not provide any evidence that is important for investment decisions (Chua, 2006; Simnett *et al*., 2009). Chua (2006) emphasized a disparity between the growing importance of intangible assets in the company's values and the lack of access to information on the growing wealth via traditional financial statements. Emphasis on financial information may lead to the removal of important information in the company (Lev & Zarowin, 1999), especially for investors who are interested in the ways in which the firm interacts with society at a large scale. Epstein and Freedman (1994) suggested that many parties support both sides of the increasingly disclosure of non-financial information. PricewaterhouseCoopers (2002) found that most senior executives in large multinational companies believe that non-financial performance is a more important measurement of financial performance based on the creation and measurement of long-term shareholder value. Non-

financial indicators can offer key perspective for future performance and at the same time, they can be considered as a proxy for identifying firms with proper management.

Coram *et al*. (2011) and Narayanan *et al*. (2000) also discussed the issue that aware managers might reduce information asymmetry through voluntary disclosure, especially voluntary disclosures of non-financial information. Despite greater attention given to the analysis of measurement of non-financial performance, less attention had been paid to the issue of how investors investigated and valued such information. Researchers on the theoretical case have focused on the use of non-financial information in investment decisions (Amir & Lev, 1996; Banker *et al*., 2000; Ittner & Larcker, 1998a). Superior understanding and expectations of investors may provide useful information for future improvement.

The contents of voluntary disclosure of information about intangible assets related to 200 companies of the world have been investigated. They showed that a wide range of companies were involved in voluntary disclosure. As expected, most companies disclosed information of intangible assets derived from the discovery and learning phase of the value chain, while considerably fewer companies disclosed the information of tangible assets. Contrary to the popular belief, they found that most companies published their quantitative information about their intangible assets more, both financial and non-financial, than that of qualitative ones.

During global financial crises in the years 2008-2009, on average, companies that disclosed intangible assets in both aspects had better performance during the crisis (Patel & Narain, 2009). Voluntary disclosure of information about intangible assets in the annual report is considered as a tool for improving foreign communication. It means that voluntary disclosure is the only possible way for the available companies in emerging markets to have communication with global shareholders (Kang & Gray, 2011).

In this regard, the term voluntary disclosure shows disclosure of information that is primarily outside the financial lists that are not clearly requested by GAAP (Boesso, 2002). Companies that voluntarily disclose extensive business and financial

information in order to vary their method of providing a wide range of information to investors and creditors may help in attaining a better understanding of the company (FASB 2001). In addition, there is a discussion about this issue, i.e. voluntary disclosures can reduce capital cost and increase the market prices in the securities (Hossain, 1994; Leuz & Verrecchia, 2000).

Therefore, understanding the status of voluntary disclosure practices in the emerging markets is useful for producers of these information and policy makers. The need to understand the extent of voluntary disclosures by the emerging markets has been investigated by some recent studies (for example, Xiao & Yuan, 2007; Xiao, Yang, & Chow, 2004). Meanwhile, Haniffa and Cooke (2005), and Rozaini Mohd Haniffa and Cooke (2002) studied disclosure of non-financial performance of companies in Malaysia. Alsaeed (2006) studied the behaviour of non-financial companies listed in Saudi Arabia. A study was also performed based on the use of BSC indicators to evaluate performance of commercial travel agencies (Shwu-Ing & Hsin-Yi, 2011). The results of this study showed that 31 valid performance indicators could be used to measure their performance effectively. The results also revealed that the whole perspective of the performance of non-financial performance had a positive effect on the ultimate goal of this trade. In 2011, nearly 1,400 companies from 64 countries presented their non-financial performance reports, in which the GRI Guidelines were used. According to the reports, GRI guidelines are completely voluntary and there is no need for confirmation although some reports are independently audited by an auditor and approved for some exporters. Arvidsson (2011) investigated the non-financial performance of non-tangible assets by focusing on proper disclosure of company's information. In general, the results showed that voluntary disclosures compensate for lack of financial statements for accurate disclosures of intangible assets and cause reduction of risk of problems of resource allocation in the stock market.

2.7 Non-financial Performance Indicators

Three main elements that were extracted, according to the Delphi method, are the same with three main elements in BSC, which are the indicators used in this

study. BSC was developed as part of a research study in 1990 by Kaplan and Norton and it has evolved into a performance measurement tool used by an estimated 50% of Fortune 1000 companies (Kaplan & Norton, 2006). Kaplan and Norton (1992, 2004) also stated that BSC is an approach to function measurement to appraise the non-financial and financial performances of companies. They claimed that traditional measurement concerns with past records, and not the present. BSC is commonly divided into four categories: The firm can use or delete each one of the perspectives, depending on the firm's strategy (Kaplan & Norton, 1996). Since BSC is in line with the firm's goals, it carries out necessary balances to orchestrate with the firm's goals. BSC is a function measurement approach with appropriate structure which focuses on the importance of the relationship between non-financial function and company's future anticipation.

This study suggests BSC as an appealing structure and framework for disclosure of non-financial function of companies. BSC is an attitude of management function that is a combination of non-financial functions (e.g., customers, staff, and internal process of company) with the financial function of the company (Kaplan & Norton, 1992). Kaplan and Norton (2006) suggested BSC as a method that helps to develop intangible assets such as skill and knowledge of workers, innovation in services and products, high quality product for customers and improvement of internal processes. Eccleset (2001) explained that some non-financial performances include service quality and customer or employee satisfactions, which are considered to be pioneering indicators in anticipation of functions and financial earnings in the future.

The recent literature in the field of accounting shows that traditional accounting is not an appropriate basis for performance measurement, particularly in today's economic condition and its complex competitive environment. Thus, it is necessary to consider non-financial performance measurements (Robert *et al*., 2009). Kaplan and Norton (2006) expressed that non-financial factors such as customer satisfaction, employees' job satisfaction and firm's internal process depend on the assets of the firm in their entirety. Therefore, identification of these parameters is necessary to predict the profit and future development of a firm. The four main perspectives of a

firm are: 1) customers' perspective, 2) internal process of the firm, 3) firm's employees, and 4) assessment of financial performance. In this study, non-financial performance indicators were selected based on the BSC conceptual framework that was useful for investors. It includes three non-financial perspectives, as follows:

2.7.1 Customer Satisfaction

The goal of customer service is to show that customers are valuable. The focus of customer service depends on the type of customers desired and the value the firms assigns to them (Anderson, 1988). The goal of customer service is to focus on the needs and desires of the customers. It lets the firm create adaptable strategies to target the types of customers they want to attract. The firms must determine the goal of their market, assess customers' satisfaction and loyalty, the desired percentage of new customers and the total sales for each customer (Anderson, 1988). These can help a firm to know if it has met the needs of their customers. Customers are basically interested in time, firm's performance, services and the costs pertinent to their purchase. The fact is that if customers are not satisfied, they will seek products and services somewhere else. This will decrease sales and eventually decrease the profitability of a firm. According to Kaplan and Norton (1996), sales and profits drive the future performance of a firm, so a weak performance will lead to its lower profitability.

On the other hand, customer's loyalty refers to customer satisfaction. Customer satisfaction directly affects on a company's sales and profits and increases its stocks value so there is a direct relevance between customers and the company (Koonce & Miller, 1999). Customer satisfaction has been an important factor for companies and in recent years, many have considered this factor as their success. Heskett *et al*. (1990) claimed that customer satisfaction is the result of customers' understanding from the transaction with the company and the value of the transaction. Ittner and Larcker (1998) noticed on the relevance between market value of stocks and customer satisfaction. They studied about the impacts of both loyalty and customer satisfaction on companies' profits in different industries in the United

States, and deduced that the two factors are important profit factors for evaluating stocks value of the companies.

Meanwhile, Calegari and Fargher (1997) examined the effects of customer satisfaction on a firm's performance. They found that the company's financial performance positively influences customers' satisfaction. With customer satisfaction, your company increases its ability to attract new customers, keep previous customers, and consequently increase customers' profitability. According to companies listed on the Indonesian Stock Exchange, there is a positive relationship between company's performance and customers' satisfaction and investment returns in the stock market. This finding is consistent with a view that customer satisfaction is a leading indicator of financial performance. Banker *et al*. (2001) believe that if job satisfaction performance of a hotel is considered a measure for finding sale capability indicators of the company, it can then be concluded that measuring non-financial performance of customer satisfaction can be used as a factor for anticipation of professional investors as it is capable of controlling customer satisfaction effects on future sales. In order to have such an attitude, there is a need for investors to estimate statistical relations between values for measuring customer satisfaction and future sale.

Kaplan and Norton (2004) believe there is an inverse relation between loyalty and customer satisfaction with company's costs. This means, when customer satisfaction increases, operational costs of the company decrease, which then affects loss or gains and finally influences company's stock price. This information can be important for internal and external users, especially investors related to decisions about purchasing or not purchasing in today's complicated market (Simnett *et al*., 2009); Kevin, 2004). They studied the effects of loyalty and customer satisfaction on company's profits, and found that customers' loyalty has greater effects on company's profitability and growth. According to Ittner and Larcker (1998a), the number of staff changing will lead to a change in the quality of products. Therefore, the number of customers will increase and stock value will also be increased.

On the other hand, BSC includes different indexes of financial function and also non-financial function, which include customer satisfaction in 5 dimensions,

staff satisfaction in 5 dimensions, and internal process of the company in 4 dimensions (Kaplan & Norton, 1992). These indexes have been designed as they can predict long-term strategies of the company and consider non-financial indexes in all important parts of the company. Using BSC, management decision is improved. Although there is not enough empirical evidence for non-financial functions, in the recent years, accountancy experts attend on non-financial functions as an important criterion for making decision among investors. The relevance between future financial function of a company and non-financial indexes is important for evaluating and controlling its future. Many managers consider non-financial indexes for management decisions like customer complaint, on time delivery of services to customers and rate of return (Coram *et al*., 2011). Some industrial and manufacturing companies use non-financial index functions for foreign users. However, there is little evidence that shows the relevance style between non-financial index functions and financial indexes. This study disclosed the 5non-financial performance indicators of customer satisfaction based on Kaplan and Norton's findings (2004, 2006).

2.7.2 Employee Satisfaction

According to Kaplan and Norton (1996), this perspective can strengthen the success of BSC as it deals with employees' skills and the information systems within the firm. If the employees are satisfied, the firm's profitability will increase. Employees' satisfaction also affects customers' perspectives of the company, the company's internal processes and ultimately the firm's financial performance (Fernandes *et al*., 2005; Appelbaum *et al*., 2005). Employees' learning and growth can affect issues such as their satisfaction, harmony between employees' skills and their occupational positions, employees' suggestions and in–service training hours. Some companies view changes in occupational positions as an encouraging policy and some also heed the suggestions of their employees (Simnett *et al*., 2009). The goal is to determine the capacity of the company to constantly improve and provide creativity, which is very important in the current global economy. According to Kaplan and Norton (1996), a company will only improve through creativity resulting in increased value or shareholders. This perspective also includes corporate self-

improvement, as well as technological support and tools. Theoretically, companies can improve their internal processes through proper modifications, which will result in customers' satisfaction, company's growth and consequently increase profitability (Sasan & Aliakbar, 2009).

Employee satisfaction was defined by Babbie (1991) as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). With the same solution of customer satisfaction, we can evaluate the relevance between customer satisfaction and profitability. As discussed, customers will be satisfied when high quality services in short time are delivered to them. On the other hand, company's staff will be satisfied when they receive their salary on time and when they are respected and asked for new opinions. These automatically increase staff's function and customers' satisfaction and finally improve company's sales and profits.

Training staff and improving their abilities increased in the recent years because scientific research had specified that staff are important factor for developing commercial functions of a company. It means that staff are the variable which can be used to predict future financial functions, and one of the most valuable assets of the company is human resources. Satisfied staff remain in the company and make good relationships with customers and finally lead a great development. Companies believe that experienced staff can make positive and desirable relationships with customers. This is because losing experienced staff will cause reduction in the quality and profits and finally lead loss of customers and stock value because costumers do not like to see new staff and they feel undesirable to have new transactions. In short, frequent turnover of staff shows their dissatisfaction and this will have negative impacts on the sales and profits of company (Sasan & Aliakbar, 2009).

Daniel (2001) observed that positive employees' views, behaviour and satisfaction affect the profitability and customer's satisfaction towards a company. In fact, he suggested that customers' satisfaction was the cause of employees' satisfaction, and that employee turnover directly influenced company's costs and generally affected profitability and financial performance. It has been noticed that

employees' behaviour affects a company's productivity compressively, as presented in the "service-profit-chain". Kevin (2008) used "employee-customer-profit" chain in 800 stores and found that employees' attitude towards their occupation and their status led to their positive behaviour towards customers, and this ultimately led to profitability for the company. Employees' behaviour can indirectly affect company's profitability and stock price. This study also disclosed the five non-financial performance indicators of employees' satisfaction based on Kaplan and Norton's findings (2004, 2006).

2.7.3 Firm Internal Process

The internal process of a firm should extend and become dominant in order to succeed in the market. Most organizations focus on elements such as the order, delivery, manufacture and development of a product. The focus should be on the organization's customers because it must try to satisfy the needs of its customers by concentrating on its major sections. If customers are not satisfied; for example, if a delivery is delayed—the firm must focus on its internal processes and improve its delivery system. The firm's managers must analyze these internal processes. They must not only assess the internal processes of their firm, but also examine its innovation and employees since successful companies deliver their products in shorter periods of time (Banker *et al*., 2000; Penman, 2001). The goal of a firm's internal process is to determine and re-order the key processes of that firm so as to provide its customers with products and services, as well as to ensure that the process works properly. These measures help managers to focus on major internal operations that affect the satisfaction of customers and their levels of expectation (Kaplan & Norton, 1992). Companies should focus on the business processes that have the most significant impact on customer satisfaction, as well as those that are required for expansion and competition within their industries (Kaplan & Norton, 1992). Internal business measures are also leading indicators; weak execution on internal processes can lead to a failure to meet the expectations of customers and therefore decrease profits.

On the contrary, Reichheld and Sasser (1990) found that customer loyalty depends upon high profitability and the rapid growth of the company, while service-profit-chain is directly and strongly correlated with profitability, growth, income, employee loyalty and employee satisfaction. Other indicators that can be useful in evaluating and predicting prospect expenses include product wastage and manufacturing cycle time (Ittner & Larcker, 1998). Banker *et al*. (2000), in a survey involving 750 individual investors, assessed the understanding of economic performance and corporate social responsibility issues. Results showed that the most common individual investors are concerned with information about the government's economic performance and corporate social responsibility. When respondents were asked to show specific types of information that they would use more likely in the future, most of them referred to the economic performance indicators such as market share, customer satisfaction, employee satisfaction, and producing innovative details. Finally, the respondents were evaluated according to intelligence sources and intelligence analysis, and it was found that this group of respondents showed a relatively high rate of interest in non-financial information for future decision making. Marcia and Alan (2011), who carried out a survey among 500 companies in the USA, described the classification of selected measurement of non-financial companies as follows: customer satisfaction (93%), efficiency (83%), and internal production process (81%). This study used 17 non-financial indicators based on Kaplan and Norton's findings (2004, 2006). The following table was adapted from Kaplan and Norton's findings on factor analysis that showed 17 indicators from three main factors mentioned above. The Eigenvalue of each index was more than one. Also, all the items listed above had a range of 0.662 to 0.900. On average, Cronbach's alpha was more than .910 for the factors.

Table 2.1: N-FPIs: Factor Analysis Results and Cronbach Alphas Kaplan & Norton (2004; 2006)

Indicators	Employees	Customer	Internal Processes
Rotated factor loadings			
Employees:			
1) Hours of employees training (per year)	0.722		
2) Number of employees trained	0.693		
3) Employee turnover rate	0.839		
4) Number of innovations	0.728		
5) Adoption of new technology	0.788		
6) Employee satisfaction rate	0.789		
Internal processes:			
7) Quality of manufacturing output			0.872
8) Defect rates			0.851
9) Setup times			0.891
10) Manufacturing cycle time			0.901
11) Inventory level			0.692
Customer:			
12) Number of new customers acquired		0.663	
13) Response time to customers		0.828	
14) Number of customer complaints		0.846	
15) Number of overdue deliveries		0.739	
16) Returns by customers(%of sales)		0.856	
17) Repeat sales		0.797	
Eigenvalue	4.13	3.55	3.17
Variance explained	27.5%	23.7%	21.1%
Cronbach alpha	0.927	0.898	0.848

2.8 Disclosure of Nonfinancial Performance Indicators

In 2003, the SEC published instructions related to analysis of information disclosure put forward some recommendations for more disclosure of non-financial performance indicators by companies (SEC, 2003). Meanwhile, the AICPA, special committee of improving and increasing business reports, was established to play an important role in continuing the work with previous innovation to develop and

disclose financial reports that also have an important role in EBRC establishment. In 2005, in line with general consensus and based on international framework for increasing voluntary reports, EBRC reached its peak and in 2005, EBRC was introduced for more development of strategies and disclosure of non-financial activities (2005, EBRC). An additional important type of disclosure suggested by SEC (2008) FASB (2001, 2010a) and EBRC (2009) is related to non-financial performance indicators. Scientific research in the past investigated that this type of value disclosure is related to decision making (Amir & Lev, 1996; Ittner & Larcker (1998a; Narayanan *et al*., 2000; Stephen, 2010), and it can anticipate financial evaluations for the future (Arvidsson, 2011; Rajiv, Banker, Konstans, & Mashruwala, 2000; Coram *et al*., 2011; Ittner & Larcker, 1998a). All of these scientific researchers showed in the same way that non-financial information is valuable.

However, regardless of experimental discussions about decreasing (or not decreasing) relationships in the value of financial reports, an extended number of individuals or group classifications requested for more disclosure of non-financial functions by companies and their managers (Boesso, 2002; Eccles *et al*., 2002; Kang & Gray, 2011). In response to more disclosure requests, FASB (2001) FASB (2010b) introduced a report called Improvement of Financial Reports to create greater insights into voluntary disclosure of non-financial performance. In this report, it is suggested that companies consider this kind of function in their annual financial reports. After this report, a committee convened to investigate academic research related to this function and information. According to the related literature, these are actually a summarization of non-financial function measurements related to future anticipation of a company's function, which affects its efficiency and it can be useful for all of those who use financial lists (AAA, FASC, 2002). Also, investigation of analyst reports showed that they use their information about non-financial functions in the same amount and the same importance (Coram *et al*., 2011). These investigations support the hypothesis that increasing information disclosure leads to increasing value related to judgment and decision making by those who use this information.

One of the important groups who use financial reporting is investors. In the United States, over 120 million investors work in financial and exchange markets. In Iran, which is the place of current research, the importance of investors has been considered (Amran, 2006; Mahde *et al*., 2010; Osman, 1998). The importance of investors' decision about evaluating and estimating stocks value is very important and it has been considered by financial and exchange markets, although there always are some concerns because the value of markets is not always correct (e.g., Sloan, 1996; Lee, 1998; Bushee & Noe, 1999; Calegari & Fargher, 1997; Dehning, 1998); Allini & Rossi, 2007).

As this problem increased, it was investigated and found that those with less information have greater confidence than the confidence level expected and are too certain about their knowledge compared to those who are more informed (Bloomfield, Libby, & Nelson, 1999). A number of important scientific researchers investigated behaviour of investors in an experimental environment. Most of these scientific researchers used MBAs as representatives of investors (Frederickson & Miller, 2004; Hirst, Koonce, & Miller, 1999; Hirst *et al*., 1995; Kennedy, Mitchell, & Sefcik, 1998; Maines & McDaniel, 2000). This research used the real investment institutions, which are normally active in the Iranian stock market. Expectation and anticipation based on the previous research focused on disclosure of non-financial performance by institutional investors, which are in turn related to stock price evaluation.

Moreover, according to the conceptual framework of BSC, at present, most organizations in the United States and European countries and even over the rest of the world are using the conceptual framework of BSC for evaluation and anticipation of non-financial performance of companies (Ambrose & Gregory, 2011). Kaplan and Norton (2004) believe that if researchers put both financial and non-financial measures together, it is possible to make effective and holistic judgments and decisions about the company. Professional investors analyze future expected sales by using additional information related to the future outlook of the sales in a positive or negative manner (Bushee & Noe, 1999; Yen, 2004). This kind of additional information can be in the form of financial information (Kaplan & Norton, 2004;

Palepu, Healy, & Bernard, 2000). For example, if job satisfaction performance of a hotel is considered as a measure for finding sale capability indicators of the company, then it can be concluded that measuring non-financial performance of customer satisfaction is a factor for anticipating professional investors and they will be able to control the customer satisfaction effect on future sale (Banker *et al*., 2000).

In order to have such an attitude, there is a need for investors to estimate statistical relations between values for measuring customer satisfaction and future sale (Banker *et al*., 2000). In this research, the values were changed (e.g., customer satisfaction, job satisfaction of employees, and internal process of company) based on BSC and extracted indicators' (Chen, Cheng, & Hwang, 2005; Sriram, 2008) and also according to FASB (2001) recommendations provided by the benchmarks used to provide this information to investors so as to anticipate and estimate a company's stock price. For example, investors observe the value of non-financial measures and may interpret it as good news (positive) or bad (negative) news and then will decide based on the good or bad news (Basu, 1997; Hayn, 1995; Webby & Connor, 1996; Yen, 2004).

Some manufacturing companies exposed their non-financial voluntary (Lev & Radhakrishnan, 2003; Lock Lee, 2010), while some financial researchers and professional analyzers claimed that non-financial functions can be used as future function evaluation (Previts, Bricker, Robinson, & Young, 1994). However, Maines *et al*. (2002) showed that there is a logical relevance between future financial function of the company and company stocks. Their study uses two kinds of attitude to review the relationship and non-financial documentation related to intended use:

1- They made a direct relevance between non- financial function stock values.

2- They determined that there is relevance between future function of the company and evaluating non-financial function, and also showed that non-financial function could be useful for creditors and investors in their decisions.

Some research conducted on non-financial indexes like customer satisfaction, customer complaints, staffs satisfaction, air pollution, inventions, quality and development in financial and exchange markets has been carried out. For example, Ittner and Larcker (1998a) found that financial markets react to non-financial indexes, especially there is a positive and important relevance between stocks value and customer satisfaction. They also found that investors react to non-financial indexes. Their empirical research revealed that these indexes could affect on the prediction of a company's future.

Yen (2004), in an experimental investigation, showed that disclosure of non-financial information influences the professional investors' function. He used measures for unknown non-financial information, which led professional investors to consider greater difference between company evaluations by high and low average amount of non-financial functions. Results showed that just disclosure of unknown non-financial information did not have adequate effect on judgment regarding the function of professional investors. The results also indicated that having a cause and effect model for non-financial measurements and their relationship with other financial functions in the future helped to neutralize complicated relations between N-FP and financial measures in the future. Yen suggested that research in the future should focus on investigation of increasing of disclosure of the other forms of non-financial information such as job satisfaction of staff and satisfaction of a company's customers or the cause and effect model through the evaluation process of investors. Furthermore, Amir and Lev (1996) indicated that measurement of the financial function cannot provide comprehensive information for future anticipation about disclosure of information. The importance of the issues observed by Amir and Lev created strong concepts for investigation in stock market capital.

Therefore, it is not surprising that Shevlin (1996) mentioned the results of their research as the most interesting topic of their article. Investors require a common measure between companies in order to change non-financial investigation and evaluations to make decisions and to make judgments about related companies. Kevin (2004) found that investors received at least two advantages of changing evaluation measures; first, making use of the common non-financial measures, and

second, changing non-financial information to financial measures for judgment and evaluation, which may facilitate the decision-making process for investors. For example, suppose some investors are evaluating a company's customer satisfaction and employees' satisfaction with a decision making measure. If their satisfaction is evaluated in an appropriate way, it will be expected to have greater sales in the company and vice versa.

Meanwhile, Luft and Shields (2001) andArvidsson (2011) reported that investors could obtain non-financial information and functions independent of reported financial measures. In specific, they indicated that non-financial measurements could probably guide investors better in terms of financial information and the current function of the company, which influence the future function of that particular company. In relation to using financial and nonfinancial information by management, Luft and Shields (2001) further indicated the potential of non-financial information resources in external reports of the company. This means, non-financial information functions may guide and anticipate the future of the company better than financial information. These studies provided evidences of the quality value of increasing disclosure of information and value of increasing disclosure of some (a number of) non-financial indices functions (Arvidsson, 2011; Narayanan *et al*., 2000; Stephen, 2010). However, external disclosure of this kind of information is different, unusual and non-standard.

AAAFASC (2000) raised the issue that companies use a unique uniform framework for disclosure of financial and non-financial function measures. However, users of these financial reports in the stock market can use this information properly and in an effective manner (Banker *et al*., 2000; FASB, 2001; Smit, 2008;_ENREF_140; Meek *et al*., 1995). They stated that "FASB should investigate and encourage model development and provide frameworks about relationship[s] between financial function measurements by using non-financial function measures" (AAAFASC, 2002). Also in this research, Attribution Theory was used in an experimental environment to see whether there is a mutual response for providing the confidence value of information, depending on the nature of non-financial indicators disclosure, non-financial information in this research is based on BSC, which has a

proper structure as a framework which is used for disclosure of non-financial indices. BSC is a function measurement approach with appropriate structure, which focuses on the importance of the relationship between non-financial functions and company's future anticipation (Kaplan & Norton, 2006).

This study suggests BSC as an appealing structure and framework for disclosure of non-financial function of companies. BSC is an attitude of management function that is a combination of the non-financial function (e.g., customers, staff, and internal process of company) and the financial function of the company (Norton & Kaplan, 1993; Wu & Hung, 2007). Kaplan and Norton (2006) suggested BSC as a method that helps to develop intangible assets such as skill and knowledge of workers, innovation in services and products, high quality product for customers and improvement of internal processes. The question is, if non-financial performance is considered a related value and an internal management controller tool, why non-financial performance is not useful for financial decision makers and investors?

Eccles *et al*. (2002) suggested some non-financial performance including service quality and customer or employee satisfactions, which are considered to be pioneering indicators in anticipation of functions and financial earnings in the future. However, recent publications (see Eccles *et al*., 2002; FASB, 2001; Kevin, 2008; Paul *et al*., 2009; Yen, 2004) indicated that at present, there is more interest to these kinds of changes in a report framework. In sum, for huge disclosure of requested non-financial performance, some researchers showed advantages from these disclosures. However, because of the lack of disclosure of such information which was investigated in this research in the stock market, other additional advantages of non-financial indicator disclosure on stocks and the importance of providing confident services for increasing validity of the measure scale have been revealed in experimental research. According to Fama and Laffer (1971) and Wallace (1987), three advantages of providing information for financial market are suggested, as follows:

1- Decision making improvement because of decreasing asymmetry of information in the market.

2- Risk decreases for investors because of decreasing mistrust.

3- Commercial profit increases because of decreasing dealing costs.

If non-financial performance indicators based on BSC are involved, theory information suggests they can improve investors' decision making and decrease uncertainty (Narayanan, Pincus, Kelm, & Lander, 2000; Chateauneuf, Eichberger, & Grant, 2007; Ittner & Larcker, 1998a). Therefore, information of the theory suggests they improve decision-making and decrease uncertainty. According to above theories, the following hypotheses are suggested:

2.8.1 Experimental Research Related with Disclosure of Nonfinancial Performance

An experimental study was carried out to investigate the relationship between disclosures (voluntary and mandatory) and a number of features of the firms (financial and nonfinancial) for Jordanian companies listed on Amman Stock Exchange (ASE) (Omar & Simon, 2011). A significant increase was found in the total number of disclosures compared with the previous study in Jordan. Extended amount of voluntary and compulsory disclosures was 83% and 34% respectively. Univariate analysis indicated that company size, profitability, employees, customers, industry type, size and age of the company's auditing firm as the main variables explaining the variability in surface of mass disclosure in Jordanian companies. Meanwhile, multivariate analysis of company size (sales), profitability, size of audit firms, customers and employees revealed that they were significantly associated with the mass disclosure.

Robert and Patrik (2009) used an experimental design with three levels of disclosure (positive and negative, mixed (positive, negative). Obtained results showed that the average of shares prices significantly raised by providing good news than bad news. Previous research conducted on U.S companies found that providing a list of results of depositary receipt results increased investment institutions. They also suggested that American companies that have problems with the generally accepted accounting principles related to financial reporting seek reform for these

reports. For companies in some industries, however, financial reports are of limited value because the market value to a great extent is dependent on non-financial performance.

Financial performance indicators prepared by the United States for the valuation of the property are critical when intangible assets are major part of the economic value of the company. Espinosa, Gietzmann, and Raonic (2009) limited their studies to BioTech-Pharma sector and performed some tests to determine whether U.S investment companies would accept non-financial key performance indicators as more the replacement of financial reporting standards. In particular, these experiments were performed in order to see whether other United States non-financial institutions would show more sensitivity or less voluntarily to disclosures of investors. The results of supportive economic analysis for the hypothesis indicated that U.S institutions to respond more to non-voluntarily nonfinancial disclosure. They found that U.S investment institutions had more acceptance towards developed disclosure performance indicators in an intangible powerful as a replacement for fully accepted non-financial non-voluntarily disclosure standards. Other researchers (Dedman, Lin, Prakash, & Chang, 2008) performed study at the industry level. They found that receiving an average price of shares against announcements of production in industry of Biotech reacted stronger than the responses to the income or any announcement. Therefore, this supports the value related to nonfinancial information in this industry.

When a company's valuation was considered as forward-looking disclosures and important sources of information, the effects of forward-looking disclosure on analysis of forecasters about accuracy and dispersion were investigated by Bozzolan, Trombetta, and Beretta (2009). Their sample included all non-financial companies from Italy, Germany, France and Switzerland in the local stock trading and stock trading in New York in 2002. Their findings support theoretical predictions but disclosures that could be addressed in reducing dispersion and accuracy of analytical predictions were found to be more useful than non-investigable disclosures. They also examined the effects of the difference between ascertainable forward-looking disclosures among 20 participants in the annual report. Their experimental findings

strongly support the hypothesis that distinctions are meaningful and have an important effect on forecasted possessions.

Vanstraelen, Zarzewski, and Robb (2003) surveyed on the relations between exposing non-financial functions in financial reports and predicting next year's income for the listed European companies in Netherland, Germany and Belgium. They found that exposing non-financial function had effects on predicting income and profits. Meanwhile, Hutton *et al*. (2003) decided to investigate future financial performance as a case that could be considered based on its effect on its financial performance. They considered all information in any kind of disclosures (both financial and nonfinancial) that facilitated its comparison related to expect future financial performance in groups. Accordingly, verifiable disclosures were separated from non-verifiable disclosures. Previous experimental studies considered both activity of financial analysts and stocks value in the market and verifiable exposes with manager profits (for example, Miller, 2002).

Hutton *et al*. (2003) and Baginski, Hassel, and Kimbrough (2004) discovered that the verifiable disclosures in this regard are informative. The first hypothesis was presented based on both theoretical arguments and empirical evidence. Literature review supports this topic. For example, Homgren (2005) determined the relationship between non-financial measurement in managerial decision-making. Horngren continued that "financial measurement focuses on the result of decisions made under uncertain conditions" and emphasized that although profitable measurement may be the major business organization goal, such measurements are not directly measurable at level of performance.

Hoq, Saleh, Zubayer, and Mahmud (2010) investigated whether responsibility disclosure of institutions had any effect on investment corporate social of LLP companies in Malaysia. Result seems to indicate that it is positively associated with investment institutions and evidence is consistent with the assumptions about this point that investment institutions pay too attention to the management of social cases of Malaysian companies. Using longitudinal data analysis, exploration of this study firmly supports the output of most of the developed markets. These results suggest that firms are able to attract and retain

investment institutions when they participate in social activities. Parsa (2001) investigated disclosure of information by non-financial companies in the UK with lack of legal and regulatory requirements .The study focused on answering two key questions:

1. Whether UK Companies disclose non-financial information to make their company tasks legal, or vice versa.
2. Whether UK Companies disclose non-financial information to meet informational needs of the interested parties or not.

Before the start of the experiment, nonfinancial information was divided into governmental and non-governmental information. Governmental information included non-management category of the companies while nongovernmental information included aspects of non-management information that could be related to both internal and external affairs. After making a decision on the non-classified information, the level of nonfinancial information disclosures were measured in top 100 companies of the British during 1985, 1990 and 1995.

These findings indicate that the level of disclosed information in both categories increased formation of groups from 1985 to 1995. Their work was continued based on two key questions; i.e. whether UK Companies disclosed non-financial information to make their company tasks legal or not, or whether UK companies disclosed non-financial information to meet informational needs of the interested parties or not. The relationship observed between any of the characteristics of the companies and non-disclosure of information was used to show how corporate information legitimized the behaviour of those who are closely exposed to the relevant specifications. The question whether UK Companies disclosed non-financial information for making their company tasks legal was investigated based on the survey questionnaires. Responses to these questions were sent to two groups of stakeholders: investors and employees. According to the findings of this study, a number of company characteristics were associated with non-disclosure of information, indicating that British companies disclosed information in order to legitimize their behaviour in the absence of any regulatory requirements. This was particularly true for the non-governmental cases. The results also showed that British

companies paid more attention to their investors than to the employees and provided required information of their investors despite the high level of maintenance of the staff.

2.8.2 Increased Demand for Non-financial Performance

For more useful non-financial information for the benefit of shareholders, especially for supporters of the stock market, management teams began to develop non-financial Key Performance Indicators (KPIS) voluntarily. However, lack of trust in available assessment is considered as the reason to doubt the non-financial KPIS (Johanson, 2003). According to Bismuth and Tojo (2008) investors who question their relevance are really concerned about their investments, and consider the assessment as inefficient based on their impact on financial returns and their relationship with the company's strategies. Also, assurance to non-financial KPIS is an area in which the discussion about high motivation for the precise control of a given set of performance indicators is provided. Furthermore, concerns over viability and compatibility are shown by investors in such circumstances, which help in promoting development. Lack of data in respect of non-financial performance information of the companies that disclose nonfinancial information restricts irregular reports and focuses attention on the development of KPI (Bismuth & Tojo, 2008).

Entwistle (1999) and Jones (2007) examined the role of stock shifts to encourage disclosures related to intangible assets. They found that stock shifts are positively related to disclosures by companies regarding their intangible assets. Based on the government mechanism effects, they found low stock incentives and then stated that companies have no relationship with disclosures. In other words, better government improves the positive effect of stock incentives and suggests that the mechanisms of government and incentives compete with each other.

Causal reasoning involves understanding the reason of events that have already happened (e.g., diagnosis) and prediction of events that will happen in the future. Although this type of reasoning is an important part of financial reports and

voluntary disclosure, little research has focused on it as a basis for developing ideas and interpretation of experimental research (Lisa, Nick, & James, 2011). They had two purposes; first, in terms of psychology, they criticize key theories related to causal reasoning, and second, they identify how these theories can be used successfully by researchers interested in financial reporting and voluntary disclosure.

Koonce & Mercer (2005) provided a summary of various psychological theories, mainly on the theories of causal reasoning than other things (such as PT, AT). Even a limited discussion of their theories was not mainly about theories and not according to the domain of causal reasoning based on diagnosis and prediction ideas. Because of the importance of diagnosis and prediction in financial reporting and voluntary disclosure, they believe that the wealth of descriptive psychology research resource provides a useful resource for researchers. Understanding how investors view the company's explanations about the bad news of managers is likely to be a common view of the economic theory (litigation risk concerns) (Skinner, 1994) and the theory of causal reasoning (Kelley, 1967). None of these theories is better than the other, as both are equally important. Their main purpose is to provide insights into the psychological theory of causal reasoning that may allow them to get familiar with the problems from a new perspective.

2.9 Role of Auditing Report

In 1998, a special committee called AICPA offered a description of auditing services for investors and financial determiners to analyze more accurately so as to reduce decision risks to the minimum. This committee described "assurance (auditing)" as an independent service which is offered by independent auditor to give more assurance to users. The provided definition is identified by providing services to new customers, offering new services and taking advantage of new technologies and the possibility of development in each of the described dimensions. New assurance services are previously identified and the AICPA processes are used to identify and develop other services in the future. New services play three roles in the field of development and the issues identified in the academic accounting departments. New services create training needs. They create new research

opportunities and help to redefine what the accounting profession calls occupation. Therefore, it is also referred to as academic discipline (Elliott, 1997; Smit, 2008). Each mentioned principle indicates an academic branch of the career with a number of different options to show that many of them are engaged in difficult jobs that are very helpful for investors and creditors, and which increase the value of effective auditing.

2.9.1 Audit Report

An audit report is an independent service offered by an independent auditor to give users more assurance. Elliott (1997) stated that the Community Services Committee of AICPA (1997) announced this issue. This centre identified services and recommended processes that are necessary to continuously identify and develop other services in order to respond to this particular matter. The work was based on the traditional system of accounting, which made the auditing requirements clearer. The value of non-professional audit of assets is calculated. Audit tradition is based on market need for high-quality information for decision making. Financial statement audit provides assurance based on the collection of valid information provided to investors and creditors.

However, the market's need for high quality is much more reliable than financial lists based on historical cost (FASB, 2008; 2010a). Thus, audit service is not only responding to the issues of accounting in industry growth but also set an audit tradition in a broader market, which it has served for a long time in the past. Professional Community of Audit Services provides three types of changes: (1) the financial statement audit that shows professionals interest; (2) the financial audit statement developed as an abbreviation along with the type of service, and (3) those responsible for the service and mode of providing service. CPA refers to the customers of the service (those which include investors and creditors, so that it considers customers, employees, directors, agents, and suppliers of goods and services). "What" refers to the provided service (which covers non-financial assurance and information systems), while "How" refers to the provided technology

of the service (including actual audit techniques, evaluation of encrypted strategies, and designing of databases).

Auditing services include non-financial information and all information systems. Auditing is dependent on communication and reliability of information (Smit, 2008). Technology evaluates a wide range of potential defects in the information and information systems because information is provided in different forms. For example, instead of the processes of identifying, detecting, and manual correction of errors, providers of assurance will evaluate the system's design for preventive control. Reports of actual information cannot wait for manual diagnosis and detection; therefore, the effectiveness of preventive controls will determine the reliability of information received by decision makers.

The CPA client base should cover all users of information about decisions. They take advantage of senior executives and other employees, members of the corporate and non-profit corporate, analysts, individual investors and charitable donors, as well as institutional investors and individuals who decide on other issues. All mentioned parties are the main customers; they need information regarding the decisions and assurance of the quality.

Decision makers who use the information can benefit from the audit services that its perspective leads to the creation of an economic need for the services. If the CPA is not able to supply the demand, others will do it. Outside financial audits, tax law does not exist. Competitors' response to the need for other audit services has a great effect on active CPA environment. There are many opportunities created for CPA, but no CPA competition, during benefits of opportunities, will be enumerated as a precondition.

2.9.2 Auditors

Public accounting firms improve credibility of disclosure of information by providing independent assurance, i.e. ensuring users that disclosed information is valid. Researchers have argued that the presence of auditors provides positive effects on a firm's value (Simunic & Stein, 1987; Slovin, Sushka, & Hudson, 1990). In the

absence of independent assurance (or other types of objective review), investors should compensate for uncertainty and mistrust to bias in management (Akerlof, 1970). The proposed argument is supported by the following items:

1. Hovland, Janis, and Kelley (1953) confirmed that perceived social role affects perceptions related to bias.
2. Recent studies in the market have shown that investors considered high value for CPA accounting as a reliable information resource (Boylan, 2000; Dopuch & King, 1991; Hasan, Roebuck, & Simnett, 2003).

In support of the value of auditing, Pany and Smith (1982) concluded that the relationship of auditor and the released financial information by the company would increase validity and reliability of information. Although significant differences were not observed among certain types of audits (e.g., audits or reviews), a significant relationship was observed between audit and non-audit. The former in this section leads to increased perceived reliability. A recent study by Hogg (2001) concluded that there was a strong positive correlation between reliability of information and potential of perceived income by a company.

2.9.3 Expended and Continuous Auditing

The present study investigated extended assurance effects on the estimated stock price of investment institutions. A major part of it included naturally extended to non-financial content. The combination of non-financial reporting information is consistent with information of six large CPA companies. Meanwhile, the information required to improve the financial reporting process (DiPiazza *et al*., 2006), but non-financial information unlike traditional financial information is not reported in detailed intervals. If assurance is frequently not provided based on all the information disclosed by companies (through regular reporting technology), it is therefore necessary to consider extended assurance report. Hence, efficiency and effectiveness of extended assurance are considered as a way to successful implementation of continuous.

Perceived need for regular reporting technologies is increasing. According to the head of AICPA, Elliott (2002), extended assurance is considered as the only important factor because it is the same as continuous reporting. With post-Enron support of the continuous by AICPA, SEC and Congress, finally interest to continuous has reached a critical volume (Vasarhelyi, Alles, & Kogan, 2004). Scandals of Enron and WorldCom, as well as SOX approval (U.S. Congress, 2002), have just increased the need to give assurance that has resolved some doubts about its widespread adaptation (Vasarhelyi *et al*., 2004). In fact, some recent studies provide evidences for extended use of the need to continuous (see Daigle & Lampe, 2008; Daigle & Lampe, 2005; Kogan, Sudit, & Vasarhelyi, 1999; Vasarhelyi *et al*., 2004; Vasarhelyi & Halper, 2002).

Although theoretical work performed on continuous assurance has been moved forward, its application process has been reduced due to the lack of correct set of experimental studies (Vasarhelyi *et al*., 2004). As the LR refers to it (Alles, Kogan, & Vasarhelyi, 2002; Daigle & Lampe, 2008; Daigle & Lampe, 2005), there are many problems in continuous assurance that will appear during the time. Other than studies on the use of internal use, some research was performed on continuous assurance and mode of traditional changing of audit at the end of the year (Alles *et al*., 2002) by real institutionalized systems that discovered different ways of structuring the continuous audit (in the form of continuous assurance) (Alles *et al*., 2002). However, behavioural research discovers how continuous assurance can enhance the quality of decisions (Hunton & Wright, 2004), sspecifically if the audit theory suggests that assured accounting information should be more reliable than non-assured ones. However, researchers know little about the value of perceived continuous assurance in financial reporting (Hunton & Wright, 2004).

Previous research found positive effects of auditing on the credit of disclosure by using various accounting-knowledgeable firm stakeholders such as bankers (Blackwell, Noland, & Winters, 1998; Leftwich, 1983; Libby, 1979). According to Birnbaum and Stegner (1979) and Mercer (2004), however, disclosure resource is considered as the only factor influencing decision making. Despite the large number of articles in Wall Street Journal discussing problems or efforts to strengthen and

improve the credit, the method of information disclosure regarding perceived bias of the source of decision makers has not been studied (Peers, 2002).

2.9.4 Value of Auditing and Information for Investors

Generally, many investors showed that auditing is very important and auditors have valuable insights and information related to the companies. Therefore, more information should be considered in auditor's reports to show that reports are useful. Members of committee showed that increasing transactions complexity, world trade and financial crisis of the recent years increased demands for assurance of financial and non-financial reports and high quality audit (AICPA, 1997; Smit, 2008).

The reviews of the Board's Investor Advisory Group (IAG), investors in March 2011 clearly showed that transparency leads to less uncertainty, and therefore, investor's trust and efficiency of the investment market will be greater. Compatible with committee members, respondents to the review of IAG investors in March 2011 agreed with the issue that more information in the auditor's reporting process would be enhanced and enable investors to carry out a better analysis of the financial information.

2.10 Stock Price Estimate

Coram *et al*. (2011) examined whether assurance on the voluntary provision of non-financial performance indicators affects the stock price estimates of a group of sophisticated financial report users. They conducted an experiment where participants were provided with a case study containing excerpts from a hypothetical company's annual report. Non-financial performance was manipulated in a 2 (positive and negative nonfinancial performance indicators) + 1 (control condition) between-subjects design. After reading the case materials, the participants indicated whether they believed the company's stock price would increase or decrease based on the information provided. It was found that the non-financial performance indicators had significant effects on stock price estimates. However, these reactions

were more in the case of positive information due to the participants' confidence in positive information, as opposed to the negative information that was consistent with the Prospect Theory.

Ittner and Larcker (1998a) found that financial markets react to non-financial indexes, especially if there is positive and important relevance between stocks value and customer satisfaction. They investigated stock market reactions to the survey data and found the importance of the returns of abnormal stock during the 10 days about showing positive relationship of customer satisfaction with the importance of customer satisfaction. These findings provided support for the idea that investors respond directly to non-financial measurements. Their empirical research showed that these indexes could affect stock price estimates. The population of institutional investors is 172. In a field experiment, they selected 30 institutional investors for each group. The earning forecasts and stock price estimates, however, are part of financial analysts' core business.

In this regard, Hutton *et al*. (2003) found that bad news predictions would influence stock prices without the necessity to considering whether companies provide supporting information. Predictions of good news are more likely to lead to movement of stock price when they are associated with valid supporting information. Amir and Lev (1996) indicated that measurement of the financial function cannot provide comprehensive information for future anticipation about disclosure of information. The importance of the issues observed by Amir and Lev created strong concepts for investigation in stock market capital.

In an experimental study, Robert and Patrik (2009) used the factorial design that included three levels of disclosure (positive and negative, mixed of positive and negative). The results showed that the average of shares prices was significantly raised by providing good news than bad news. In order to estimate stock price, the participants were informed about the price at the last day before publication, and they were then asked to estimate stock price according to the financial statement announcements for 2007 financial year. This literature review shows that investors compensate lack of trust to reliability of the information disclosure by the risk management of information through lower stock prices (Hirst *et al*., 1999; Francis &

Soffer, 1997). To the extent that disclosure of information is considered valid by investors, the lack of assurance or risk information will equally reduce and stock price will increase (King *et al*. 1990; Hughes, 1997). Vanstraelen, Zarzewski, and Robb (2003) surveyed on the relationships between exposing non-financial function in financial reports and predicting next year's income for the listed European companies in Netherland, Germany and Belgium. They found that exposing non-financial function had effects on predicting income and stock price. Hutton *et al.* (2003) also expressed that they decided to investigate future financial performance as a case that could be considered based on its effects on its financial performance. They considered all information in any kind of disclosure (both financial and non-financial) that facilitates its comparison related to stock price estimates in the groups. Accordingly, verifiable disclosures were separated from non-verifiable disclosures. Some pPrevious experimental studies considered both activity of financial analysts and stocks value in the market and verifiable exposes with manager profits (see for example, Miller, 2002).

Hunton and Wright (2004) and Hunton, Benford, Arnold, and Sutton (2000) evaluated the effects of assurance of electronic commerce on profit forecast and evaluation of stock price and financial analysis. They found that assurance has a positive effect on profit forecast and price estimation. Meanwhile, Lipe and Salterio (2000) expressed that non-financial measurements should include qualitative properties of financial lists such as trust capability, relevance and usefulness. This means that measurement of this kind of information should be performed with the least amount of error and deviation. Assurance capability and relevance are among two kinds of qualitative properties of accounting information that if they come together, non-financial information will be effective and can be suggested to investors as a new information in their decision making (Lipe & Salterio, 2000). This research considered the nature of voluntary information disclosure (disclosure of non-financial performance indicators based on BSC in this research), that is, investors' understanding and insight of assurance value and its effects on non-financial performance disclosure depend on the attitude and motivation of management in making disclosure. This research used Attribution Theory in an experimental environment to evaluate whether or not there is a symmetry reaction for

determining the value of assurance on information depending on the nature of non-financial voluntary disclosure.

Achievement of long-term economical growth requires efficient allocation and equipment on the national level, which is not possible without the help of financial markets, especially extended and efficient investment markets. Proper performance of the investment market can increase efficiency, investment, and market growth (Birnbaum & Stegner, 1979), and it can increase economic growth through decreasing cash assets of investors and increasing the physical investment growth rate (Bencivenga *et al.*, 1991). That is why the clearer the information regarding the main factor of market efficiency, the better this will function. According to the performance of national financial and economical markets (e.g., preparing saving resources, determination of share prices and investment, information distribution and analysis), it is necessary to consider disclosure of some factors such as non-financial performance indicators which have effects on stock price estimate in the capital market (Eagly, Wood, & Chaiken, 1978; Pornpitakpan, 2004).

One of the most important factions using financial information is the group of institutional investors. Investors are providers of financial resources who have attempted to invest through the stock market to maximize their own wealth. Currently, investors consider a wide range of factors for stock price estimate in investments. Investor decision making is becoming more complicated with more and greater risks. The results of these investments may have important effects on the investor's life (Francis & Soffer, 1997; Hirst *et al.*, 1995; Kennedy *et al.*, 1998). Fama and French (1992, 1995) posited that finance literature provides two competing views on how a firm's stock value is determined. One view assumes that stock markets are effective, and any fresh data will be immediately returned in stock price. Following this view, it is implied that the extent of key performance indicators reporting affects stock price immediately. An alternative view does not consider the financial market to be effective and argues that share value is assigned by non-financial factors such as analysts' and investors' expectations and financial factors like transaction costs and taxes. Under this view, the market forces of supply and

demand for particular stocks determine stock price, while supply and demand are driven through the anticipation and investors' behaviour. Thus, the extent of key performance indicators reporting and enhanced disclosure of nonfinancial performance affects the company's intrinsic value of stocks and through this channel affects stock price.

In this research, the value was changed (e.g., customer satisfaction, job satisfaction of employees, and internal process of company) based on BSC and extracted indicators (Kaplan & Norton, 1992; 1996; 2001) and also according to FASB's (2000) recommendations provided by the benchmarks used to provide this information to investors so as to anticipate and estimate a company's stock price. For example, investors observe the value of non-financial measures and may interpret it as good news (positive) or bad news (negative) and then, they stock price estimate based on good or bad news (Hayn, 1995; Webby & O'Connor, 1996; Basu, 1997; Burgstahler *et al*., 1997). Future sale anticipation can be used for evaluation and calculation of future company's profitability, which is necessary for stock price estimate (Penman, 2001). Therefore, non-financial performance measurements can provide useful information for development of more detailed anticipations about future sales and stock price estimate if these measurements interpret future outlook of the company (positive and negative) (Alex, 2004). In addition, investors can use non-financial information of companies for judgment and decision making related to measuring purchase or non-purchase of stocks when they anticipate profit (sale and cost anticipation) and cash flow (Ittner & Larcker, 1998; Healy & Wahlen, 1999).

2.11 Institutional Investor's Role in Development of Securities Market

Institutional investors are among the major active groups in the market that are able to create the main influence on market move direction (Bushee, 1998; Hadani, Goranova, & Khan, 2011). Moreover, coherent institutional structure and its complex ownership network represent the distinguished nature of this group. On behalf of an extended area of owners and by relying on their high ability, they make decisions that are more rational (in comparison with individual investors) and accelerate improvement trends of market efficiency, which improves resource

allocations by the market. In such an environment, companies' attempts to attract capital and income will lead to more efficiency and income of investments, and therefore, investors will achieve a more satisfactory result (Bartov, Radhakrishnan, & Krinsky, 2000; Bushee, 1998; Gompers, 2001).

Moreover, these institutions can apply their power in the market to control the provision of complete information, as well as the company's ethics and accuracy of information. Finally, according to their own information, these trading investors help to fair formation of demand and product offer in the market with fast and accurate reflections of information, without bias, about market price. Under such circumstances, the opportunity for arbiter profit will vanish quickly and price transparency can be achieved with assurance that prices represent the quality function. Alternatively, despite the strong financial power, institutional investors can be considered a good alternative for government and will present as one of the main accelerating mechanisms in privatization (Bushee & Noe, 1999). Some researchers showed the role of institutional investors in market development which include increasing efficiency and productivity and the level of social welfare is undeniable (Amir & Lev, 1996; FASB, 2008; Kaplan & Norton, 2006).

2.12 Reasons for Using Psychology Theories in Accounting

All of the financial accounting issues are formed from decisions. For example, managers make decisions about voluntary disclosure, accountants control over unlimited accounting, and investors decide about buying and selling stocks and analysts also decide to interpret financial reports (Marcia & Alan, 2011). For more than one hundred years, psychologists have investigated the study of human decision and identified a number of theories about how people behave. Similarly, psychological research can also present many insights into the behaviour of managers, auditors, investors and analysts (Marcia & Alan, 2011). In addition, empirical accounting researchers have tried to identify the relationships between psychological theories or financial accounting issues for many years (Birnbaum & Chavez, 1997; Blondel, 2002; De Giorgi, Hens, & Rieger, 2010). However, the archival researchers rarely used these theories for predicting or interpreting results.

Koonce and Mercer (2005) found that almost 71% of the empirical papers in financial accounting and only 2% of financial accounting papers in the archive relied on psychological theories. Identifying situations in which psychological theory increases our understanding of market behaviours is actually one field of the present investigation.

2.13 Behavioural Finance

A paradigm is a set of rules with specified ranges that indicate how you should behave to succeed in this area. A paradigm provides a model of how to solve a problem. Another important function of a paradigm is to create a participant's structure for the assumptions, beliefs and perceptions (Cohen, 1977). In the recent years, financial thinkers have attempted to find and interpret special cases with the help of other sciences such as the social sciences and physics. Consequently, interdisciplinary areas have appeared (e.g., financial economics, financial econometrics, financial mathematics, and decision-making theory). One of the studies that extended quickly in this area is behavioural finance (Epstude & Roese, 2008; Williams, 1996). The study found value in interpreting financial theories to some extent using common psychological theories. One of the pioneers of this financial knowledge field was the renowned psychologist, Daniel Kahenman, who won the 2001 Nobel Prize for creating models for interpreting financial behaviours called mistrust conditions (Grinblatt & Han, 2005; Birnbaum & Stegner, 1979). The relationship between financial science and another social science called financial psychology investigates investors' decision-making processes and their responses to different conditions of financial markets (De Giorgi *et al*., 2010). Its focus is more on the effects of personality, culture, and judgment of investors on investment decision-making (Taffler, 2002). Financial psychology is a counterpart of the logical behaviour paradigm of investors, which is discussed based on all financial models (Kahneman & Tversky, 1979). The number of performed studies has considerably increased in the field of financial behaviour in the recent decades (Rieger & Wang, 2008; Rieger, 2009).

Daniel and Tversky (1998), in their article entitled, "psychology of investor and too much or too little reaction of stock market in 1998" recognized the self-skewed documents phenomenon. Two articles by Daniel, Hirshleifer, and Subrahmanyam (1998) and Barberis, Shleifer, and Vishny (1998) provided behavioural models for interpretation of overly large or small reactions of the stock market at the macro level. Daniel's model included two classifications of informed and non-informed investors. Non-informed investors are not exposed to skewed judgment, so stock price will be determined by informed investors. They are exposed to two skews; self-documentation and super trust. Super trust leads to exaggeration in belief to correct private signs about stock value, while self-documentation leads to paying less attention to common distributed signs about stock value when common signs are in contrast with private signs. Therefore, too much trust afforded to private information and too little reaction to common information will lead to behavioural skews falling. The above-mentioned findings are the basis of formation of a new theory called behavioural finance (Kahneman & Tversky, 1979). Behavioural finance formed some concepts related to financial economics and cognitive psychology to make a new combined and detailed model of human behaviour in financial markets (Kahneman & Tversky, 1984). This is one of the new topics and a new area in accounting called behavioural (mental) accounting; non-financial performance is a subset of this area.

2.14 Mental Accounting

There are relatively large studies in the field of mental accounting that use mental accounting as a theoretical framework and those who consider it are more involved the field of management accounting. The relationship between mental accounting and managerial accounting is natural because budgeting and resource allocation decisions related to both household and business are common. For example, based on mental accounting framework Lipe (1993) examined management decisions regarding costs variety. The researcher found that when the payments are the same as the related interest are usually considered as costs and when not the same, the losses are considered as benefits. On one hand, mental accounting predicts

the differential behaviour in response to profits and on the other, it predicts losses which are related to the topic of the present study.

In another example, Fennema and Perkins (2008) reviewed decisions on considerable investments involved in sunk cost. In general, people economically make irrational business decisions and continue their work in unsuccessful project because some irreversible costs still remain. Heath (1995) concluded that at times, people are more likely to stop investing in a project even when the benefits in future are greater than the costs. He noted that people use a type of mental accounting called "mental budget" that compares the total cost (sunk cost and potential future costs) and expected benefits. Through this process, people make unreasonable decision and stop investing in a profitable project because they believe that they it has been very costly.

Fennema and Perkins (2008) studied the behaviour of mental budgeting and found that investors, in comparison with others, make more reasonable economic decisions. A number of studies such as those by Jackson (2008) and Rodgers and Tuttle (2010) used mental accounting the rules in financial decisions. In the study by Jackson (2008), managers were suggested to be making non-optimal and non-economic decisions frequently about changing of assets. Meanwhile in the study by Jackson *et al*. (2010), managers are said to make such decisions on sales. Although these studies have not focused on the idea of mental accounting, their focus is on the issue how external financial reporting influences internal business decisions.

2.14.1 Mental Accounting in Non-financial Reporting and Voluntary Disclosure

According to Shafir and Thaler (2006) theory of mental accounting many individual financial behaviours can be explained. Prospect theory is used in the study of non-financial and financial reporting and voluntary disclosure. Limited use of mental accounting theory in explaining the phenomenon of non-financial reporting is interesting because three main aspects of mental accounting (coding, classification and evaluation) are attached in these areas. Providers of financial statements are regularly involved in this issue in their decision-making process about how to

encrypt and classify information found in the reports. For example, they decide whether a financial instrument is included in debt or equity, or if sale is a continued business case. Moreover, they codify and classify available information in disclosures of voluntary non-financial performance. In addition, users of financial reports evaluate these reports and other disclosed financial reports. These users may react differently to such data. Non-financial reporting and voluntary disclosure of mental accounting can be related (Jackson *et al*., 2010).

Mental accounting is defined as a set of cognitive operations defined by some people for encryption of financial acts that are used in the form of loss and gain. By using these accountings, financial acts change into encrypted elements in a framework of cognitive classified accounts. Thaler (1999) suggested that mental accounting is based not only on the equal idea of prospect theory, it also promotes the idea in different ways. In the prospect theory, each output is considered in comparison with a reference point as gains or losses. The profits or losses are evaluated in the light of curves of the prospect theory value in which profits and losses are shown with the convexity and concavity (Kahneman & Tversky, 1979).

Another important feature of mental accounting is its classification, which includes allocation of profit and loss to the mental accounts such as investment accounts. For example, Benartzi and Thaler (1995) offer mental accounting as a suggestion for explanation of the Equity Premium Puzzle. They show that there is greater sensitivity to losses that in combination with the frequently evaluate one's position (an idea accounting subjective) makes people give more demand on stocks compared with bonds. This means that investors when test their financial situations several times, they increasingly stay away from the losses and do not order for any purchase order when they are unsure about the profit. In light of studies in the areas related to mental accounting with high risks, we believe that the theory of mental accounting is likely to play an important role in the preparation of reports by report providers and external users.

Despite the similarities between the ideas of mental accounting and the non-financial reporting and voluntary disclosure, studies assessing the accounting issues are based on the mental theory (Evans, Heiman-Hoffman, & Rau, 1994; Fennema &

Perkins, 2008; Hatfield, 2008; Lipe, 1993; Luft, 1997) with respect to this fact that its potential can increase our understanding of non-financial reporting and voluntary disclosure. For example, many ideas can be considered about how and why companies are managing their benefits based on mental accounting.

This study is important for new insights for researchers interested in studying issues related to non-financial reporting and voluntary disclosure. In particular, many of the theories used to study the producers and users of financial reporting and voluntary disclosure are based on economic principles. These ideas clearly increase understanding of financial reporting and issues related to voluntary disclosures However, this theory may seem incomplete because it does not explain how investors and creditors evaluate reports.

Mental accounting uses the basic ideas of prospect theory developed by Kahneman, Kahneman and Tversky (1979), in response to the problems created at theory of subjective expected utility. Prospect theory explains how people make decisions among options involved in risk. The theory describes these decisions in the form of two-stage editing and evaluation. In the editing, the output is considered as profit and loss, not prosperity and wealth. Here gains or losses are defined to be related to some reference points. Consequently, being considered as reference points, profits or losses will affect outputs. Observation of all transactions in terms of gains and losses related to some reference points is different from the theory of expected utility when the results are evaluated based on total wealth, assets or final asset (Fennema & Perkins, 2008; Hirst *et al*., 1999; Masters, 1989; Miller, 2002).

In the evaluation phase of the prospect theory, people behave as if the value is calculated based on potential outcomes and their probabilities and then choose a replacement with a higher value. In the prospect theory, however, people will not use the traditional curve, which is concave for both gains and losses. Instead, the prospect theory defines a value function for gains and losses against some reference points. The value of this function has two important features. First, the S-shaped value function is concave for gains and convex for losses. For example, in this case, the difference between 20$ and 30$ is considered more than the difference between 1020 and 1030 dollars. This reduced sensitivity is considered for both gains and

losses. Also, the slope of function for losses is more than that of profits. This means that a certain amount of loss can be more harmful than the same amount of profit in a concept form, which is called variant loss. You can understand that losses of $1,000 have more than 2-fold efficiency damages than that of $1,000 benefits to the asset value.

Mental accounting suggests that consumers react to the elements is related to a number of elements and coding mode. For example, if return of company A increases from zero to $5,000, and the combined sales of $ 20,000 to be accumulated quickly while the remaining amount of $5,000 is not cashed yet, any investment may then encode total income of $ 25,000, which is considered as two separate benefits. On the other hand, if returns of company B started with zero dollars balance and ended with a total sales of $25,000 (all of which have been collected in cash immediately after the sale–end), investors may then see it as a benefit. If investors do their investment based on this coding style, the theory of mental accounting shows that they are more likely to react positively to company A that calculated the profit separately, though the two companies in terms of economical conditions are equal. Moreover, with regard to non-payment of the debt, one could argue that B company has more value as well. This suggests that investors may behave irrationally and Company A would be preferred. If users of financial statements react in this fashion, it is then possible to have some unintended consequences in the project. Mental accounting uses the idea of prospect theory and improves them (Jackson, 2008).

2.15 Using the Perspective Theory and Attribution Theory

2.15.1 Prospect Theory

Prospect Theory (PT) in 1979 is determined as a behaviour and psychological theory by Kahneman and Tversky and placed the Expected Utility theory. Prospect Theory provides a conceptual framework for hypotheses in this research. Some researchers mentioned that Prospect Theory is a potential explanation for observed market phenomena such as the behaviour of investors (Burgstahler & Dichev, 1997; Rieger, 2009). Prospect Theory is widely accepted as a model of behaviour in

decision making in uncertain conditions and risks such as investors' financial decisions (Kahneman & Tversky, 1979).

According to Expected Utility Theory (EUT), investors seek to avoid risks at an avoidance that equals the concave desirability function. This means that the final desirability of wealth will decrease. Although this theory was initially attractive; it was not successful in providing a systematic anticipation of human behaviours at least in uncertain conditions (Grinblatt & Han, 2005). Therefore in 1979, Kahenman and Tversky provided an outlook to indicate how investors in some situations do not consider the systematic theory of desirability. According to the Expected Utility Theory, desirability can be concave or convex. However, according to Kahenman and Tversky, the function skews of wealth desirability increases from a reference point and then decreases as wealth increases. The reference point is different for each investor and it is dependent on the amount of wealth. Therefore, contrary to the previous theories in which it was said that investors take risk, Kahenman and Tversky expressed that when investors are experiencing a loss, they change their direction from risk taking to risk avoidance. Kahenman and Tversky's diagram of value function is illustrated below. For instance, a person possesses a stock and pays $5 per share and assesses the condition of whether or not to retain or sell the stock. Then, the price drops to $4.80 per share; this might be regarded by the decision maker as a perceived loss domain and vice versa, if the stock price increases. Thus, the $5 per share is the initial reference point.

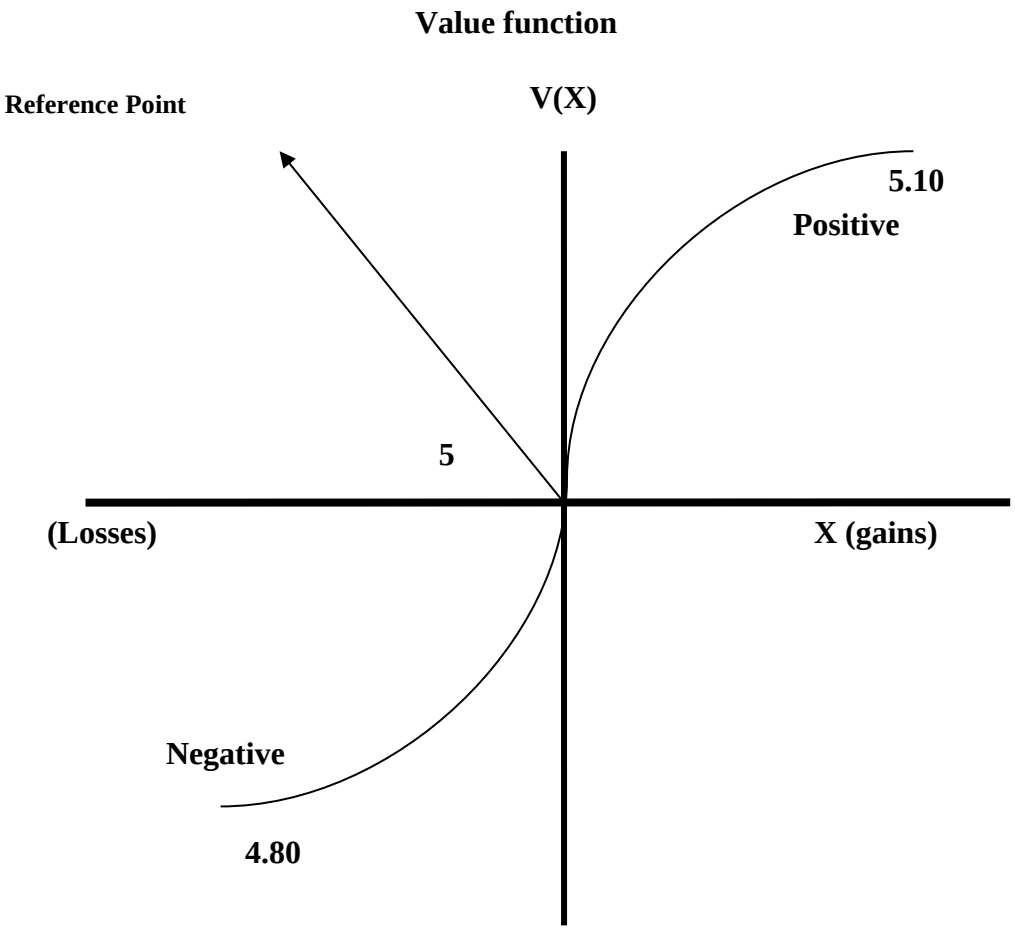


Figure 2.1: Prospect Theory Models (Kahneman & Tversky, 1979)

Some of researchers use Prospect Theory to deal with non-financial performance and investors' decision making (Allini & Rossi, 2007; Amran, 2006; Grinblatt & Han, 2005; Hashem & Ali, 2009; Mahde, Mehde, Reza, & Hojat, 2010).This study asked investors whether they thought the stock price of a company would increase, decrease or remain the same based on the Prospect Theory.

Kahenman and Tversky developed the Prospect Theory in 1979. They found that in contrast to the Expected Utility Theory, according to their loss and gains, people give different values to loss and gains. They found that people are more worried about loss in the future than being happy about their gains. They also found that people react differently to the same situation, depending on their location in the loss or gain framework. Moreover, people tend to take more risks to prevent loss in

comparison with gain. Again, when investors are exposed to a certain profitable situation, they will take more risks. However, when they are exposed to a loss, they take fewer risks (Birnbaum & Chavez, 1997). This theory is a descriptive framework for the method of decision making and in uncertain and risky situations. This method has a stronger behavioural framework than the Expected Utility Theory, which serves the basis for many economical models (Kahenman & Tversky, 1979). The decision making process is not a complete logical process and it is not based on all available information. Rather, in this model, the decider uses mental shortcuts (Grinblatt & Han, 2005; Kahneman & Tversky, 1984).

Studies have shown that there is no need for a balance in the financial market if the prospect theory of cumulative preference is better than the performance of the value of piece power (Kahneman & Tversky, 1984). Even when non-negative pressures are added to the final wealth, the nonexistence may then occur due to the non-convex Cumulative Preference Theory (CPT) that may cause a discontinuity in the function of the factor's demands. However, if PT is be used to CPT, the problems of other discontinuities can then reason an imbalance in the market, even in this case. Profit and loss have been described in CVT; profit and loss refer to determiner reactions (investors) about reference point, when it goes up from the reference point, it means profit and whenever it goes down from the reference point, it means loss. It can be illustrated by a function. CVT also shows the function as probable than it will be able to show priority of determiner. It is assumed that users do not evaluate the results on correct odds even they evaluate with their values. Weight function has an essential role on CVT. Nonetheless, it is not clear whether CVT function prioritization can prepare financial balance or not (Jin & Zhou, 2008)

Recently, Xi (2007) proved that there is a fiscal balance in the market if S-shaped value function conditions are available. However, existence (Xi, 2007) will be available only if stock returns reduces and to be strictly larger than the initial wealth that can be used as a reference point. Based on these assumptions, agents never faced with the loss and thus only concave section determines the value of the function of their demand. This classical point is the priority of the expected profit with the profit of concave function. Thus, examples of non-existence (which is

considered appropriate in cases where both profits and losses likely to occur with strongly positive possibility) showed that there will be no general existence result if the number of agents is limited.

Moreover, based on the Prospect Theory, when investors are risk averse in the domain of gains, they will then show risk behaviour in the domain of losses. Consistent with the priorities of venture investors in variable returns in domain of losses, Dorn and Huberman (2010) found that the negative relationship between intellectual volatility and stock return will focus on the losses of unachieved capital that cannot be realized in stocks that their capital gains are not achieved. Moreover, negative relationship exists between return volatility of stocks and higher share ownership of individual investors.

For example, using a data set of individual trades, Odean (1998) found that there is strong tendency to the loss aversion among many individual investors. Similarly, Grinblattt and Keloharjut (2001) also found that there are Finnish stock market investors who are not interested in understanding their loss. Dorn and Huberman (2010) found that investors who take risks are willing to hold special stocks with high or low stability.

Chandra (2005) suggested that the value of function is concave in gains and convex for losses. The value function for losses is greater than the profits of the slope. Namely, the pain of losing is more than enjoying the profit. This phenomenon is known as loss aversion. Loss aversion suggests important issues. It has an impact on the way the outcome is described and also the effective decision. Therefore, the way the problem is described by the decision maker is very meaningful. Montier (2006) explains that the reference points are determined by subjective feelings of people. This is considered as a reference point such as a standard against which the results will be compared with.

Now, there are several models for description of under risk decisions such as Rank-Dependent Utility by Quiggin (1982) and PT by Daniel Kahneman and Tversky (1979) and Tversky and Kahneman (1992), who developed a form of model by Kahneman who received the Nobel Prize in Economics in 2002. Since most

models of decision making for PT and the various types of behaviour that are in this study focus on the theory of PT, the Expected Utility Theory was then modified based on several different methods, as follows:

1. Unlike the EUT, the final wealth is not measured, but the payoffs are framed as gains and losses with respect to the reference point that they have created called "PT".

2. More losses than profits loom; the marginal utility of profits is greater than the losses.

3. Small probabilities are over-weighted, and in comparison with greater probabilities that are underweighted, can be considered in average values.

2.15.2 Attribution Theory

Heider (2013) and Kelley (1967) presented Attribution Theory as a theory that explores the following elements: (a) how people make informal explanations, and (b) how they answer wh-question, particularly *why*? It is believed that individuals dynamically search for ways to achieve a mastery (an understanding) of the causal structure of their environment because of which their judgments and behaviours are influenced. In particular, individuals observe a behaviour in their environment, infer the causes of the behaviour, and then examine their relevant reactions (Kelley, 1967). Attribution Theory is a way to explore the perceived causation, namely, how individuals implement information indirectly to conclude causality in reporting behaviour (Koonce & Mercer, 2005).

In addition, Attribution Theory is a theory of psychology that examines the descriptions provided by people about various events that have occurred. Such explanations are known as attribution because they pertain to how the events have already happened by other related people (Wilson & Levine, 1997). In general, this theory has not focused on identifying the actual events of the people, rather on how to identify suspicious elements or judge about events that have happened. Attribution Theory is considered as the most applicable theory in financial reporting because of

its wide appeal and explanation in which event, occurred outcome and investor (or others) try to find the reason. According to the next discussion, a number of sub-field theories and common observed behaviours in the evidence are given (Koonce & Mercer, 2005; Mercer, 2004).

People are generally using two attributions: situational and individual. For example, if a company reports about reduction in profits over several years, then investors will use individual evidences and degrade in the performance of the CEO will be attributed to the ineffective and useless management. In addition, they may use the situational evidence and attribute the act to the weak economy. Distinction between two types of attribution is important because it is possible to determine the punishment or reward for the manager. It means that the desired outcome (i.e., profits) attributable to the company manager is likely to be rewarded. In contrast, less reward will be given to the outcome attributable to the environment. Attribution Theory is divided into two parts which correspond to a large degree on whether people are trying to give the sample or multiple instances of the efficiency or only one efficiency. The field of attribution is illustrated in Figure 4. There are two links in the model: the first considers the cognitive processing from antecedents to attributions, and the second, a behavioural link from attributions to consequences.

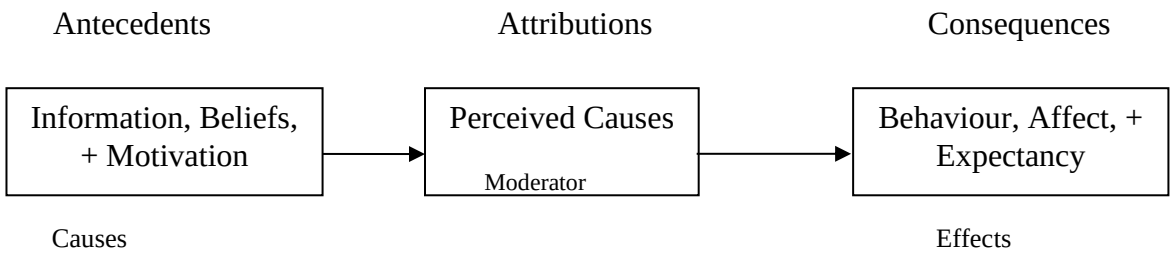


Figure 2.2: Model of the Attribution Theory (Heider, 2013; Kelley, 1967)

There are many studies that used the Attribution Theory to deal with the assurance services of non-financial performance and investors' decision making (Daigle & Lampe, 2008; Elder, Beasley, & Arens, 2010; Giuseppe, 2011; Hunton, Wright, & Wright, 2003; Simnett, Vantraelen, & Chua, 2009; Wilson & Levine, 1997).

2.16 Audit Report and Non-financial Information

Elliot, a member of the AICPA committee, published a report regarding the role of assurance services in future work of accounting in which assurance services are recognized as a potential development area to measure a company's performance (AICPA, 1997; SEC, 2008). The greater part of a company's performance measurement included a non-financial nature compatible with a model provided by the Jenkins Committee (1994). Elliot's report outlines that the role of traditional accounting for increasing validity and value of information should be applied to determine whether this information is financial or non-financial (AICPA, 1997). Investors may consider management decisions as a strategic decision for voluntary disclosure of non-financial information. Subsequently, investors' understanding of information disclosure may be influenced by their understanding of management credit, situational stimuli and information validity (Giuseppe, 2011; Hunton *et al*., 2003). Similarly, investors may consider management decisions related to providing or not providing assurance by independent auditors based on this information as a strategic decision and the value of such assurance may be based on the investor's perception of management situational stimuli and disclosure (Hunton & Wright, 2004; Karen, 2011).

Furthermore, Mercer (2004) suggested a framework for disclosure of credit and indicated that situational stimuli (replacement) at the time of disclosure, by itself, determines a degree of internal and external assurance, and the various features of disclosure. A framework proposed by disclosures is described as follows: Managers may choose voluntarily to disclose in financial reports. However, many users of financial reports consider these disclosures valid based on factors such as understanding of management disclosure and situational stimuli (such as whether disclosure is observed as self-serving) and the characteristics of the disclosure? Managers know or recognize that users of financial reports may not consider such disclosures as valid. Therefore, they may select an independent accountant to provide an assurance report to confirm its reliability and provide impartial voluntary disclosure (Mercer, 2004). Therefore, the influence of an assurance report on the recognition and understanding of users of financial reporting of credibility and

reliability of voluntary disclosure is dependent upon some factors and understanding of perceived quality of an assurance services report that guarantees the service reliability report. This research investigates the interactions of these two factors: assurance and non-financial performance indicators.

Scientific research strongly supports the idea that assurance influences accuracy and validity of financial statements (Elder *et al*., 2010; Hunton *et al*., 2003; McEnroe & Martens, 2001; Robert & Patrik, 2009). Accounting theory suggests that accounting is influential and valuable in decision making because it can improve accuracy of available information (Banker *et al*., 2000; Ittner & Larcker, 1998a; Kaplan & Norton, 2006). It is expected that accounting will have an effect on judgments and decision making of financial report users. In addition, information theory claims that it decreases the amount of accounted information, non-symmetry information and non-assurance (Wallace, 1987; Wilson & Levine, 1997).

Important and sufficient evidence shows the demand for accounting in environments without law (controlled) and lawful support and confirms this claim (Abdel-Khalik, 1993; Chow, 1982; Hunton & Wright, 2004; Shu *et al*., 2011; Simnett *et al*., 2009; Watte & Zimmerman, 1983). For more support of information, research assumptions are available to show which position of a market stock price is effect (additional) on information audited independently (Anandarajan, Kleinman, & Palmon, 2008; Dopuch, Holthausen, & Leftwich, 1986; Elder *et al*., 2010; Willenborg, 1999). Investigations on private companies, based on one of the four levels of audit reports (including nine assurance) provided, showed that investors have tended to buy more shares than companies with no accountability (Blackwell *et al*., 1998). Although all of these studies investigated audit reports, there is a debate that indicates accounting increases information validity irrespective of whether this information is financial or non-financial (Elliott, 1998; Robert & Patrik, 2009).

Paul *et al*. (2009) suggested that assurance could be used as an intermediate factor in users perception. The present study investigated the application of assurance in the promotion and increase of funding and quality of financial and voluntary disclosures by management. There is an effect of the voluntary nature of this disclosure on investor's understanding and insight but it does not mean that

companies should only be encouraged to make voluntarily disclosure (e.g., EBRC, 2009). Meanwhile, Percy (1999) claimed that when financial reports do not provide all information needs of users, then there is a kind of pressure and demand towards management for giving non-financial reports. He believes that demand for these reports is for assessment of a company's needs to assurance and validity of reports.

Elliott (1998) observed that there is a clear link between financial list accounting based on the date and assurance of new information. He declared that "accounting provides assurance for a set of information provided for investors and creditors to show that this kind of information is of assurance capability. However, capital market needs a greater amount of high quality information than just traditional financial reports, which are based on costs in different dates". A number of researchers asserted that investors increase assurance capability based on disclosure of financial information when some kind of assurance is provided about information (Boesso, 2002; Daigle & Lampe, 2008; Elder *et al*., 2010; Hunton & Wright, 2004). Although all the studies investigated the point that there are a large number of financial accounting reports, high demands and valuable discussions in this regard will improve the nature of the traditional financial accounting (Elliott, 1998). Several studies investigated the value of new assurance services for information users.

Hunton and Wright (2004), and Hunton, Benford, Arnold, and Sutton (2000) evaluated the effect of assurance of electronic commerce on profit forecast and evaluations of stock price and financial analysis. They found that assurance has a positive effect on profit forecast and price estimation. Meanwhile, Lipe and Salterio (2000) expressed that non-financial measurements should include qualitative properties of financial lists such as trust capability, relevance and usefulness. This means that measurement of this kind of information should be performed with the least amount of error and deviation. Assurance capability and relevance are among two kinds of qualitative properties of accounting information that if they come together, non-financial information will be effective and can be suggested to investors as new information in their decision making (Lipe & Salterio, 2000). This research considers the nature of voluntary information disclosure (disclosure of non-

financial performance indicators based on BSC in this research), that is, understanding and insights of investors of assurance value and their effects on non-financial performance disclosure that is dependent on the attitude and motivation of management in making disclosure. This research used the Attribution Theory in an experimental environment in order to evaluate whether or not there is a symmetry reaction for determining the value of assurance on information dependent on the nature of non-financial voluntary disclosure.

Attribution theories suggest that investors will decrease the amount of self-serving reports when they are recognized and therefore a different value is created on assurance services (Flynn, 2003; Koonce & Molly Mercer, 2005; Wilson & Levine, 1997). Although previous studies investigated individual effects of assurance and disclosure validity, they did not consider the interaction between these factors. In this research, the literature review is provided through investigation of providing or not providing voluntarily assurance value over sign/ capability of voluntary disclosures of non-financial information based on BSC. Hirst *et al*. (1995) found that when analysts provided appropriate research reports, investors would allocate the results to the stimuli of the analysts. However, when inappropriate reports are provided, investors will focus on and discuss reports. This method of obtaining results is compatible with the Attribution Theory (Blondel, 2002; Koonce & Mercer, 2005; Paul *et al*., 2009). Investors will automatically decrease self-serving disclosure but they look for validity of index or signs when they face non-self-serving disclosures.

However, voluntary disclosure of non-financial information raises some questions about this issue regarding how these disclosures are perceived by investors and how assurance value is used in decision making. Attribution Theory is related to a process in which individuals determine reasons of events due to their perception or understanding of those events (Kent & Martinko, 1995; McEnroe & Martens, 2001). Heider (2013), who is considered as the founder of Attribution Theory, said that the performance of individuals as *psychologists naive* is to develop the descriptive reasons for important events. Eagly and Chaiken (1975), in a study referring to this point, said that voluntary disclosure not only if performance of disclosure volume but also considers the perception of the receiver about this fact that why the created

disclosure is given. Here, the question is if investors understand assurance as self-serving disclosure. Koonce and Mercer (2002) revealed the relationship between Attribution theories of a financial nature (concept). They found that investors would decrease this kind of relation if they recognized it.

Also, this research uses previous reviews of literature in which situational stimuli (non-financial performance) is influential when it is necessary to have disclosure validity and performance validity and managers with a less personal view. Therefore, management motivations have less effect on necessary disclosures than voluntary disclosures. Thus, situational motivations should have a kind of meaningful effect on disclosure validity. Researchers in social psychology have used the Attribution Theory for predictions when messages are convincing. Some researchers found that people investigate message incompatible with original stimuli more so than message compatibility (Birnbaum & Stegner, 1979; Eagly *et al*., 1978; Elder *et al*., 2010; McEnroe & Martens, 2001; Simnett *et al*., 2009). In the article by Koonce and Mercer (2005), it was mentioned how this research is related to investigation of disclosures with financial accounting nature.

There is also evidence provided by the markets, which represent attitudes about the stimuli related to voluntary information disclosure by management. Mercer (2004) stated that disclosure of bad events is less compatible with management stimuli. Therefore, bad events are essentially more valid than disclosure of good events. Based on this theory, Hutton *et al*. (2003) found that predictions of bad news would influence stock price without the necessity of considering whether companies provide supporting information. Predictions of good news are more likely to lead to movement of stock price when they are associated with valid supporting information.

Hirst *et al*. (1995) and McEnroe and Martens (2001) provided empirical evidence suggesting that investors are too dependent on disclosures when they consider situational stimuli for decision-making. They investigated reactions of investors to analyst reports and found these to be so when they provide an appropriate report (e.g., reports compatible with analysts' stimuli). Investors attributed the results of reports to the stimuli in order to publish appropriate reports that would be less dependent on these reports. However, when analysts provide

inappropriate reports, investors react to discussion abilities in the reports, especially when they want to decide about relying or not relying on the report (Coram *et al*., 2011).

Previous studies investigated the effects of assurance on information validity (see Chateauneuf *et al*., 2007; Giuseppe, 2011; Hunton & Wright, 2004; Karen, 2011). This study extends the literature review by examining the interaction method of these factors. When non-financial performance indicators are provided voluntarily and positively, users may perceive or observe them as self-serving. According to this assumption, Attribution Theory suggests that users are more uncertain about disclosure validity and its decreasing. Managers may choose to have an independent assurance report along with voluntary disclosure as a certain sign or hint for financial information users. Generally, providing this assurance increases disclosure validity. It is expected that assurance influences investors' judgment and decision-making. Independent audit information decreases asymmetry as well as uncertainty (Anandarajan *et al*., 2008; Kennedy *et al*., 1998; Hunton & Wright, 2004; Wallace, 1987).

This study uses a theoretical framework for disclosure of non-financial information. It is expected that investors decrease positive disclosures as self-serving but negative disclosures are not decreased in the same way. Since in most cases they are not interpreted as self-serving when the voluntary offer of non-financial information is positive, it is expected that investors perceive information as self-serving. According to this assumption, the Attribution Theory suggests that investors are more uncertain about the validity of information and decrease it (Hunton *et al*., 2003). In this condition and according to the expected advantages of providing assurance for decreasing lack of assurance as an assumption in information (information assumption), assurance is expected to have a positive effect on estimation of users' stock price. In most cases, however, it is not possible to perceive disclosure of non-financial information in a negative way and as a self-serving service. Therefore, it is not expected that assurance will make a difference for estimation of users' stock price.

In this research, it is predicted that to some extent assurance will penetrate into decision making of investors, while investors are dependent on the positive disclosure of non-financial performance indicators. Therefore, estimation of stock price by investors should be higher when audits provide assurance for these disclosures as compared to when they are not there. In contrast, it is not possible for disclosure of non-financial performance indicators to be perceived negatively as a self-serving service. It is expected that those providing non-financial performance indicators will be positive and in this way, investors will perceive more information about themselves, in contrast to negative disclosure. By considering this expectation, as disclosure is perceived as self-serving (e.g., positive disclosure), users will then decrease the amount of application of these types of information unless an assurance report is provided to increase validity, which includes effective disclosure information. On the other hand, the disclosures that are not perceived as self-serving (e.g., negative and voluntarily ones) will be reviewed in terms of validity without considering the assurance. These expectations represent that assurance is valuable but it has a special concept. This theory suggests the influential interaction between non-financial disclosure and assurance service. Therefore, hypothesis **H2** is put forward in Chapter Three to test this particular proposition of the moderating effect of auditing structures on stock price estimate.

2.17 Summary

In this research, it is expected that results confirm findings of previous studies in the field of effective decision making about non-financial performances (Hunton & Wright, 2004; Chateauneuf *et al*., 2007; Karen, 2011). These findings are clearly indicated in scientific research and therefore, this assumption is not considered in this research, although they are reviewed in the results section.

The Attribution Theory provides a very strong theoretical framework for our predictions (Paul *et al*., 2009; Yen, 2004). In previous studies, it was clearly shown that accounting and assurance are related values, which influence users' decision making (King, Pownall, & Waymire, 1990; Olsen, 1997; McEnroe & Martens, 2001; Simnett *et al*., 2009). Thus, the present research helps to answer the research

questions. It also adds this point; in the review of literature, assurance value is added to non-financial information based on BSC.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 Introduction

The literature review discussed in the previous chapter addressed the variables of this study; disclosure of non-financial performance indicators, audit report on non-financial performance and stock price. Building on that, the current chapter focuses on the research framework and hypotheses governing this study. This chapter discusses the conceptual framework, followed by a discussion on the relationship between the independent, dependent and moderating variables. Next, the research framework is presented and explicated. Finally, the research hypotheses, which are drawn from the research framework, will be presented, and this is preceded by the rationale for each hypothesis.

3.2 Theoretical Framework

The research model used to operationalize the theoretical constructs of chapters two is outlined in Figure 3.1 below. The theoretical framework shows the condition the current variables in the framework are in. All dependent and independent variables, as well as regulator variables, should be completely discussed and their impacts on the study results need to be explained. The theoretical framework and the selection of variables should be considered by theories (Uma *et al*., 2010). It provides a visual conceptual model that offers a picture that shows how to distinguish between the concepts. Relevant concepts were identified based on the literature review. The model is recognized as a representation of a system which it provided to study some outlook of that particular system in general. Theoretical framework has an important role in this study, which is consistent with the theories and research problem. Prospect theory has been accepted as a model of decision making when risk is uncertain, as in investors' financial decisions (Kaneman & Tversk, 1979).

Based on the research objectives, non-financial information is required in the field of disclosure and assurance of the performance to combine the two theories together. The present study examined the effects of disclosing non-financial performance indicators (customer satisfaction, employee satisfaction and internal process) and audit report of this type of information on stock prices. Based on the literature review and a combination of the two theories with the non-financial performance indicators, a new model for disclosure of non-financial performance and stock prices in the stock market has been estimated that the theory is consistent with both of them. Research model provides a picture that indicates the relationships between the different variables. Meanwhile, related concepts were identified based on literature review (in the previous research).

The model gives a general view of the theory and the relationship between a group of variables or theoretical variables. The model uses a practical and theoretical variable in the model and the test is synchronized. In this model, the practical variable, the relationship between variables and the variables affecting the relationship and their type can be identified. Conceptual model is based on the theories that are closely related to the present study. This study examined the disclosure of non-financial performance indicators related to "Disclosed N-FPI," or "good news," and "not disclosed N-FPI," or 'bad news" (Allini & Rossi, 2007; Amran, 2006; Grinblatt & Han, 2005; Hashem & Ali, 2009; Kaplan & Norton, 2004; Mahde, Mehde, Reza, & Hojat, 2010; Paul, Gary, & David, 2009), and manipulated them.

Based on the relationships between the variables in past studies and also the recommendations and findings of previous researchers, the study's interactive effects between variables, as well as audit report are essential for non-financial performance (Burgstahler & Dichev, 1997; Rieger, 2009) that makes a relationship between two theories and finally creates a conceptual model. In this study, estimation of the stock price refers to evaluation of non-financial performance in the stock market. Therefore, it is necessary that this type of information, based on the Prospect Theory, is disclosed at two disclosed and not disclosed levels in an experimental environment. On the other hand, investors will not use this information unless the

information is being handled and reviewed by an independent auditor. Thus, the Attribution Theory considers non-financial performance evaluation process and protects this issue.

Generally, it is believed that this model plays the main role in estimation of stock price by investment institutions, whether the stock price is increased or decreased. The mentioned model of non-financial performance disclosure is introduced based on two defined theoretical models. In this model, the BSC indicators play an important role in the results obtained. In this regard, there is no comprehensive model that can evaluate the performance of non-financial information. The present model tries to fill the gap in the literature review. The conceptual model and the dependent variable of the model and finally the assumptions made about the survey are provided. Based on the objectives of the study and the interactive effects between the variables, non-financial performance and assurance linked these two theories together to create the theoretical framework.

3.2.1 Definition of Research Construct

There are a total of three variables used in this study; one dependent variable, one modelling variable and one independent variable. The definition for each variable is as follows:

3.2.1.1 Independent Variables

In this experiment, the operationalisation of the actual problem domain was determined by whether the participants had the ability to stock price estimate or in other words, the participants were be asked if they believed that the company's stock price would increase, decrease or remain constant. If the investors thought that the stock price would change, they were asked the percentage of the change. The first independent variable is related to the voluntary disclosure of non-financial performance indicators in disclosed and not disclosed form. For example, non-financial performance reporting is presented as disclosed, while the content of non-financial performance information is not disclosed. Disclosure is based on BSC

indicators outlined with non-financial performance related to the strategy used by the company. This is a disclosure because legal and professional obligations do not exist in this regard. Appendices A and B show the number of aspects of BSC data based on non-financial performance indicators, which are in disclosed and not disclosed forms. As can be seen, disclosure of non-financial performance is reported on a variety of related measures of customer satisfaction, employee satisfaction and internal process.

The non-financial measures items are based on the performance measures of a Balanced Scorecard. The Balanced Scorecard non-financial perspectives are customers, learning and growth, and internal business. This research employed 15 non-financial performance items based on the generic measures suggested by Kaplan and Atkinson (1998). The five learning and growth measures are employee suggestion per employee, hours of employee training per employee (per year), number of employees trained, average tenure of sales personnel (year), and number of innovations. The five internal business perspective measures are returns to suppliers, setup times, defect rates, manufacturing cycle time, and inventory level. The five customer perspective measures are repeat sales, returns by customers (% of sales), number of overdue deliveries, response time to customers (minutes per day), and number of new customers acquired.

In this research, the factorial design includes (2 x 2 +1) between - subjects design. Two factors included disclosure of non-financial performance indicators in the 2 levels (disclosed and not-disclosed) and audit report on this type of information in 2 levels (providing or not providing assurance) +1 (control group) between-subjects design. Control group received only the basic financial reports, but the experiment group received both of them (financial reports and non-financial performance indicators based on BSC) in 4 different conditions.

3.2.1.2 Moderating Variable

The moderating variable in this model research is the audit report. As previously defined, variable would create a link between independent variable and

dependent, that is consistent with the previous studies (Hirst *et al*., 1995; Wilson & Levine, 1997). The moderating variable is related to the presence or absence of reports on audit report of non-financial performance indicators. In this experiment, the audit report was prepared with a high level of assurance suggested based on an instruction of the International Auditing Standards No. 100 and IFAC (2002). A sample of audit report is presented in Appendix C.

The moderating variables are one of the variables that impact of strong possible on the dependent variable and independent variables relation. Formulation assumptions help to answer and solve the research question (Uma & Roger, 1998). This variable shows the relationship between dependent and independent variables. In specific, it is expected that the presence of the third variable essentially "between the independent variable (non-financial performance indicators disclosure), while dependent variable (stock price estimated) has a considerable affect. As reported in this study, an audit report structure is considered a moderating variable because it is only expected to affect disclosure under the perceived disclosed domain. Therefore, it is expected to moderate the influence the relationship between the independent and dependent variables in the disclosed domain. In the not disclosed domain, there is little or no effect variable (Hirst *et al*., 1995; Wilson & Levine, 1997).

3.2.1.3 Dependent Variable

The dependent variable in this study is the stock price estimate by institutional investors. In contrast to several prior studies of investors' decision making, this study required the participants to make an actual decision if they believe that the company stock price would increase, decrease or remain constant. If the investors thought that the stock price would change, they were asked about the percentage of change. The participants read the questionnaire and instruction. The price of share that provided for the company is R58000. This showed the share price one day before the publication of the financial report. This approach is similar to the approach used by Basu (1997), Hayn (1995), Webby and Connor (1996) and Yen (2004). Then, some questions were asked about similar attitudes and views used by Hirst *et al*. (1995), Robert and Patrik (2009), and Wilson and Levine (1997). This

work has some advantages that can provide better control over external factors involved in estimating stock price. In this study, the stock price is the dependent variable, which is affected by disclosure of non-financial performance indicators. The proposed theoretical framework is shown in Figure 3.1.

Research Model of Stock Price Estimate is Fitted Based on Prospect Theory and Attribution Theory

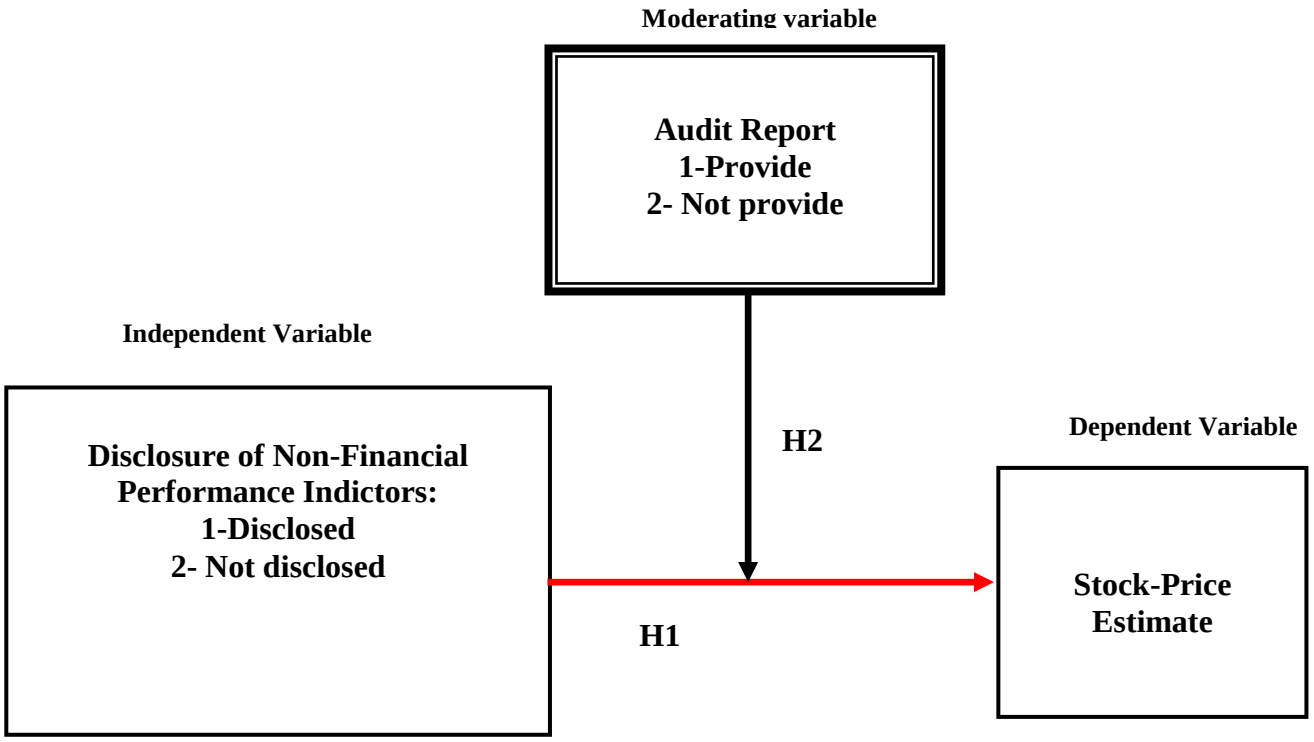


Figure 3.1: Research Model

Prospect Theory, which provides a framework for hypotheses, explains how "disclosed or good news" and "not disclosed or bad news" about non-financial performance indicators affects the attitude of users through increased "disclosed and not disclosed" responses. The theory suggests that the cause and effect relationship increases the level of users' attitude. The Prospect Theory helps to explain the

impacts of confidence on the attitude of investors. In more specific, it predicts the attitudes and approach of users when non-financial performance is disclosed either disclosedly or not disclosedly (Dehning, 1998; Hayn, 1995; Webby & Connor, 1996; Yen, 2004). Kelley and Michela (1980) showed that the Attribution Theory is not a single theory, and that in fact, it is a wide class of theories describing cause and effect reasoning. Both theories (PT and AT) predict how people react in risky environments such as financial decisions. Based on the literature reviewed in Chapter Two, the following hypothesis was proposed and tested.

Hypothesis 1:

H1- Disclosure of non-financial performance indicators (customer satisfaction, employee satisfaction and firm internal process) affects institutional investors' stock price estimates more when the disclosures are disclosed than when they are not disclosed.

H0- Disclosure of non-financial performance indicators (customer satisfaction, employee satisfaction and firm internal process) affects institutional investors' stock price estimates less when the disclosures are disclosed than when they are not disclosed.

Disclosed (profit area) and not disclosed (loss area) non-financial performance indicators are based on Prospect Theory. This theory suggests that investors are more sensitive to losses than gains (Kahneman & Danielersky, 1979). It is claimed that compatibility with not disclosed aspects of a topic, event or choice is more influential than its disclosed aspects in judgment. Research literature shows that investors react more to losses or not disclosed information than other disclosed information and it shows more emphasis on not disclosed information than information considered as disclosed ones. This issue is supported by Anderson (1988) who found that professional tests are more investigated than properties considered as not disclosed ones in contrast to disclosed ones. Anderson further expressed that this indicates more emphasis on not disclosed properties, and less focus on understanding and more mistrust to disclosed properties.

3.3 Moderating Effects of Audit Report Structure

One question proposed and tested in this research is the role of audit report structures (if any) in the effects disclosure of non-financial performance indicators. The role of the audit report structure has been tested in the accounting and financial context (see Battalio *et al*., 1990; Schneiher *et al*., 1993; Emby, 1994; O'Clock, 1995; Blondel, 2002; Conchar *et al*., 2004). The findings of this research have generally shown that the audit report structure helps to increase trust and/or the upward tendency of the stock price estimate by investors. Since audit report structures is supposed to address concerns over risks associated with the stock price, an estimate is extremely significant. The prospect theory and the attribution theory are two behavioural theories that have been tested in the accounting and financial environments (Chang *et al*., 2002; Blondel, 2002; Abdolallah, 2009). Chang *et al*. (2002) tested two theories of risk in uncertain situations. Rose *et al*. (2002) tested the prospect theory in an investment environment. Several studies tested the two theories in the environment of auditing, and they showed a reaction audit report with evaluation information (Battalio *et al*., 1990; Schneiher *et al*., 1993; Emby, 1994; O'Clock, 1995; Blondel, 2002; Conchar *et al*., 2004).

Both theories are used in uncertain situations, cause and effect, financial and accounting researches, and financial environments. In addition, both are based on psychology theories (Battalio *et al*., 1990; Quiggin, 1993; Conchar *et al*., 2004). Previous researchers have stated that the prospect theory (PT) and the attribution theory (AT) theories are related to each other (Elliot, 1998; Blondel, 2002; Abdolallah, 2009). If they were not related, at least one of these results would have been difficult to interpret (Tammy, 2006). Audit reports can serve as a moderating variable in establishing a linkage between company information and its trusted users (Hirst *et al*., 1995; Wilson & Levine, 1997).

Koonce and Mercer (2005) noted how their research had relevance in examining disclosures of non-financial data. They suggested that it is necessary provide a framework to disclosure of non-financial performance and trust on this kind of information to more confidence of users. Scientific research strongly supports this idea that audit report influences accuracy and validity of disclosure.

Important and sufficient evidences showed that demand for auditing in environments without law (controlled) and lawful support and confirm this claim (Chow, 1982). There is evidence showing that the market makes attributions about incentives associated with managements' voluntary information disclosures. Hirst *et al*. (1995) provide experimental evidence that investors consider situational incentives when deciding how much to rely on a disclosure.

This study considers assurance as a moderator variable, which helps in understanding the behavioural effects that are often perceived as less or gain domain. It is expected that the relationship between disclosing non-financial performance (either disclosedly or not disclosedly) and audit report as a moderator variable to provide or non-provide serve as interactive effect to estimate stock prices by investors. Based on relationships between the variables in the previous studies and also the recommendations and researchers' previous finding,, audit report is necessary for financial and non-financial performances and can be effective in users' decision making (specially for investors) (Tammy, 2006; Paul *et al*., 2009). The following hypothesis attempted to test this proposition of the moderating effect of auditing structures drawn from the literature.

Hypothesis 2:

H1- Provision of assurance for disclosure of non-financial performance indicators affects institutional investors' stock price estimate more when the disclosures are disclosed than when they are not disclosed.

H0- Provision of assurance for disclosure of non-financial performance indicators affects institutional investors' stock price estimate less when the disclosures are disclosed than when they are not disclosed.

In weighing information provided by the management, investors typically recognize that the management has too much information about the company especially when it faces disclosed bias in the lack of assurance reviewing. The amount of recognition of the bias risk of management by investment institutional should reduce the value of investor tendency to value assigned to the company.

Based on the literature review (the above-mentioned statements), the disclosed information appears in a more reliable and definite manner dedicated to independent audit report of the information. This leads to increase the value of stock prices for shareholders of the audit report.

3.4 Summary of the Factors that have been before Tested

Table 3.1: Summary of the Factors

Context	Authors & year	Study	Independent Variable	Theory of using	Methodology
stock exchange (investors)	Alex (2004)	Texas	Non-financial performance (Number of employees, employee turnover rate)	Prospect Theory	T-test and ANOVAs
stock exchange (160 investors)	Hashem *et al.* (2009)	Egypt	Non-financial performance (R &D)	Prospect Theory	One simple-test & ANOVAs
stock exchange (212 investors)	Mahde *et al.* (2010)	Iran	Non-financial performance	Prospect Theory	One simple T-Test & ANOVAs
stock exchange (174 investors)	Kevin *et al.* (2004)	Mexico	Non-financial performance(R&D)	Prospect Theory	Independent sample T-test & AVONAs
stock exchange (investors 182)	Luft & Shieds (2001)	Italy	Environmental disclosures	Prospect Theory	T-test & one-way ANOVAs
Context	Authors & year	Study	Non-financial performance	Theory of using	Methodology
stock exchange (investors)	Alex (2004)	Texas	Non-financial performance (Number of employees, employee turnover rate)	Prospect Theory	T-test and ANOVAs
Authors	**Material**	**Dependent Variables**	**Independent Variables**	**Results**	**Methodology**
Paul (2009)	A hypothetical company's annual report	Individual investors' Judgment	Disclosure: customer satisfaction R & D	Disclosure non-financial performance	Test & ANOVAs
Susanne, 2011	A hypothetical company's annual report	Firm's net income by non-professional investors	Disclosure: 1-employees satisfaction	Disclosure non-financial performance	Test & ANOVAs
Lippy *et al.* (2002)	A hypothetical company's annual report	Analysts' judgments	Disclosure: 1-employees turnover 2-firms internal process	Disclosure non-financial performance	Test & ANOVAs
Richard *et al.* (1997)	20 security markets in the	Investors' Capital	Disclosure of 14 non-financial indicators, e.g.	Disclosure of non-financial	Test & ANOVAs

	world	allocation decisions	Number of employees, employee turnover rate…)	performance	
Authors	**Participants**	**Dependent Variable(s)**	**Moderator Variable or independent**	**Theory of using**	**Result**
Shu *et al.* (2011)	211 Investor in stock market	Future financial performance	Assurance services	Attribution Theory	Assurance services
Robert *et al*. (2009)	174 individual investors	Net income estimates	Assurance services	Attribution Theory	Assurance services
Giuseppe (2011)	Investors (financial directors)	Investors' confidence in decision making	auditing report	Attribution Theory	Auditing report positivity
Hunton *et al*. (2004)	325 financial analysts in stock market	Profit forecast	Assurance services	Attribution Theory	Assurance service
Hasan *et al*. (2003)	210 financial analysts in stock market	Decision making of financial analysts	Assurance services	Attribution Theory	Assurance services were
Authors	**Factorial Design**	**sample**	**Material**	**Dependent Variables**	**Independent Variables**
Kevin (2008)	2x2+1 =5 between-subjects	225/5=45 For every group	hypothetical company's annual report	investors' decision making on firm value	Disclosure of non-financial performance: R &D
Paul *et al*. (2009)	1x3+1=4 between-subjects	176/4=44 For every group	hypothetical company's annual report	investors' judgments of the reliability	Disclosure : Employee satisfaction
Susaane (2011)	2x3x2+1=13 between-subjects	325/13=25 For every group	hypothetical company's annual report	investors' judgments on EPS	Disclosure: 1-earnings 2-customre satisfaction
Merahmad *et al*. (2010)	2x2x2+1=9 between-subjects	225/9=25 For every group	hypothetical company's annual report	investors' decision making whether to increase or decrease their investment	Disclosure: 1-number of employees 2-Revenue growth

3.5 Summary

This chapter has presented the theoretical framework which forms the basis for the development of the research framework for this study. Based on the research framework, the variables (independent, dependent and moderating) were identified and explicated. Further, the two hypotheses of this study were also explained. The explanation on each of the hypothesis included previous similar research and the

rationale for warranting its investigation. This chapter has paved way for the following methodology chapter.

CHAPTER 4

METHODOLOGY

4.1 Introduction

The aim of this study is to examine the effect of disclosure of non-financial performance indicators which include the generation of an audit report about this information on institutional investors' stock price estimates in Iran. Chapters 2 and 3 have provided discussions on the literature related to non-financial performance, disclosure of non-financial performance indicators, role of audit report, as well as Prospect Theory and Attribution Theory. In this chapter, research design, subject selection, research tools and experimental analysis are discussed. These include research tools and development of script used in test hypotheses and pilot study. The experimental method was used for analysis to determine the sample size، data analysis and the variables for testing data, as well as the model used for analysing the data. This chapter also describes the design of the questionnaire, the measurement of the variables, and the assessment of reliability and validity.

4.2 Justifications for Experimental Research

The selection of the method in each research project depends on the objectives and the nature of the subject (Uma *et al*., 2010). Therefore, to achieve the objectives of this research, the experimental method was used. In specific, the experimental method was used to study the possible causal relationship between the variables as the *quantitative research*. In this kind of method, the researcher manipulates stimuli, methods or certain environmental conditions to investigate how changes happen in circumstances or behaviour of groups. The experimental research is a formal classical scientific research. It faces complexity and difficulty in performing one of the most accurate and strong methods in knowledge discovery and hypotheses testing (Uma *et al*., 2010).

Experimental research is the most appropriate when examining particular variables within the market that may affect bias mitigation, or when examining dependent variables that are simply undefined at the individual level (such as stock price estimate or trading volume) (Mahde *et al*., 2010). Even in these cases, one can sometimes address experimental goals in individual decision-making tasks (Robert & Patrik, 2009). Some of the experimental studies by researchers have dealt with disclosure of non-financial performance and investors' decision making (Elliott, Krische, & Peecher, 2009; Hopkins, 1996; Kevin, 2008; Baker & Risley, 1994; Robert & Patrik, 2009).

Experimental research allows researchers to control the research situation in order to completely evaluate the cause and effect relations among variables (Uma *et al*., 2010). Meanwhile, an experimental study provides specific benefits over archival studies because there is a possibility of measuring and controlling in experimental method that are not done in other methods (Elliott *et al*., 2009; Hopkins, 1996; Kevin, 2008; Mahde *et al*., 2010). Therefore, the experimental research is different from other methods in terms of control status. An experimental variable to be manipulated in terms of independent variables and its effect on other variables, which affect or influence all other variables in such a relationship that can be eliminated or controlled, are measured

Thus, the experimental method is suitable for this study. Conducting the study in this way allows the researcher to control any intruder variables in a study that disclose non-financial performance, which would not be possible in archival studies (Hopkins, 1996; Lipe & Salterio, 2000). The experimental design method is used to study the possible causal relationship between the variables (non-financial performance indicators and stock price estimate). This study tested the moderating effect of assurance structures on stock price estimate. Based on the research questions, this study used causality. The type of investigation determines the scope of interference of researcher with research study. Research questions are used to establish or define the causality relationships after causal investigation is required. In this experimental study, in order to discover cause and effect relationships, the researcher used four groups as the experimental groups with special groups and

compared the results with the findings of a group called the control group not under the same condition and therefore provided certain results in the experiment and results of the obtained changes.

4.3 Research Design

4.3.1 Experimental Design

The design for this research study was based on factorial design. Factorial design enables us to test two or more effects of some manipulation on the dependent variable simultaneously and evaluate their individual or common influences (Uma *et al*., 2010). This study attempted to determine the two types of non-financial performance disclosure (positive and negative) to be applied and audit report to be manipulated simultaneously, as well as the stock price estimate. In this study, the design included two factors each in two levels (2 x 2 +1). This means there were two independent variables, which included disclosure of non-financial performance in the two levels (positive non-financial performance indicators and negative non-financial performance indicators) and audit report on this type of information in two levels (providing or not providing auditing report) and a control group. Much information is achieved through this plan. The study provided an estimation of the company's stock price in both levels and also provided or not provided auditing report was determined for each kind of non-financial performance disclosure (positive and negative). These factors were tested on two theories: Prospect Theory (Kahneman & Tversky, 1979) and Attribution Theory Heider (2013; Kelley, 1967). The tested factors and theories were completely crossed and resulted in a total of 5 experimental conditions. Hence, the effect of the interaction between the two independent variables was measured. Table 4.1 shows the factorial element of the 2x2 design used in such cases.

Table 4.1: Experimental Design 2x2

Auditing / Disclosure of N-FPI	Audit Report Provided	Auditing Report Not Provided
Positive	**Condition 1**	**Condition 2**
Negative	**Condition 3**	**Condition 4**

Table 4.2: Independent Variable Manipulations

Number of Group	**Non-Financial Performance Indicators**	**Auditing Report**
Experiment Group 1	Positive [1]	Provide
Experiment Group 2	Positive [2]	Not- Provide
Experiment Group 3	Negative	Provide
Experiment Group 4	Negative	Not provide
Control Group 5	----------	----------

[1]**Positive Non-financial Performance Indicators:** According to the Prospect Theory, when non-financial performance indicators are increased yearly, it means the company revenue will also increase (positive). For example, when non-financial

performance indicators in 2010 increased compared to 2009, it was expected to affect company's profits positively. The Prospect Theory predicts that investors will evaluate financial reports of the company, which are related to the milestone. If results are shared, or more so if the results are turning, then they would be in the profit area (positive) (Basu, 1997; Burgstahler & Dichev, 1997; Dehning, 1998; Hayn, 1995; Kahneman & Tversky, 1984) (see Appendix A).

[2]**Negative Non-financial Performance Indicators:** When non-financial performance indicators are decreased yearly, it means the company revenue will decrease and according to Prospect Theory, it will be in the loss area (negative). For example, when non-financial indicators in 2010 decreased compared to 2009, it meant an expected decrease to company's profits. The Prospect Theory predicts that investors will evaluate the financial reports of the company related to the milestone. If results are shared, or more so if the results are turning, they would be in the loss area (negative) (Basu, 1997; Burgstahler & Dichev, 1997; Dehning, 1998; Hayn, 1995; Kahneman & Tversky, 1984) (see Appendix B).

4.3.1.1 Non-financial Performance Indicators

The three main elements that were extracted, according to the Delphi method, are the same with three main elements in BSC, which are the indicators used in this study. The BSC was developed by Kaplan and Norton as part of a research study in 1990; it has evolved into a performance measurement tool used by an estimated 50% of Fortune 1000 companies (Kaplan & Norton, 2006). Kaplan and Norton (1992, 2004) stated that BSC is an approach that functions as a measurement to appraise the non-financial and financial performances of companies. They stated that traditional measurement concerns with past records, not present. BSC is commonly divided into four categories. First, the firm can use or delete each one of the perspectives, depending on the firm's strategy (Kaplan & Norton, 1996). Since BSC is in line with the firm's goals, it carries out necessary balances to orchestrate with the firm's goals. BSC is a function measurement approach with appropriate structure which focuses on the importance of the relationship between non-financial function and company's future anticipation.

This study suggests that BSC is an appealing structure and framework for disclosure of non-financial function of companies. BSC is an attitude of management function that combines the non-financial function (e.g., customers, staff, and internal process of company) and the financial function of a company (Kaplan & Norton, 1992). Kaplan and Norton (2006) suggested BSC as a method that helps to develop intangible assets such as skill and knowledge of workers, innovation in services and products, high quality product for customers and improvement of internal processes. Eccleset (2001) suggests some non-financial performance that includes service quality and customer or employee satisfactions, which are considered to be pioneering indicators in anticipation of functions and financial earnings in the future.

The recent literature in the field of accounting shows that traditional accounting is not an appropriate basis of performance measurement, in particular in today's economic conditions, and its complex competitive environment. Thus, it is necessary to consider nonfinancial performance measurements (Robert *et al*.2009). Kaplan and Norton (2006) expressed the nonfinancial factors such as customer satisfaction and employees' job satisfaction and the firm's internal process depend on the assets of the firm in their entirety. Therefore, identification of these parameters is necessary to predict the profit and future development of a firm. The four main perspectives of a firm are: 1) the customers' perspective, 2) the internal process of the firm, 3) the firm's employees, and 4) assessment of financial performance.

4.3.2 Experimental and Control Groups in Experimental Research

As mentioned in this experimental survey study, four groups are the experimental group and the other is the control group. The researcher exposed the experimental group to the influence factor (in this study, it is disclosure of non-financial performance indicators). The control group is kept far from the influence of such factors while the differences and changes are observable, then they are investigated. In this study, the researcher intended to discover the cause and effect relationships offered by four disability groups as the experimental groups under certain conditions (independent variable) and to provide the results as the control group result under different circumstances. Institutional investors in Iran investigated

the effects of five different types of information on stock price in the Iranian stock exchange using the experimental and control groups.

4.3.2.1 Control Group

Controlling group contains some managers of financiers' institutional investor which were selected randomly. They received only the basic financial reports and the independent audit report and were requested to estimate the company's stock price for the next year based on that information, without taking into account other adverse factors. This approach is similar to the approach used by Hopkins (1996).

4.3.2.2 Experimental Groups

Experimental groups include those groups of investors who both receive basic financial report together with the independent audit report and their non-financial performance reporting to assurance this type of information in five different conditions (Table 3.2). Investors were asked to estimate the stock price of the company for next year based on the information that had been disclosed.

4.3.2.3 Manipulation of the Independent Variable

In order to investigate the effect of the independent variables (disclosure of non-financial performance) on the dependent variable (stock price), some manipulations were performed. In other words, manipulation was simply to create different levels of independent variables for the assessment of its effect on the dependent variable (Elliott *et al*., 2009; Robert & Patrik, 2009). Disclosure of non-financial performance indicators into negative and positive levels and two levels of providing or not providing audit report that were manipulated for the objective of this research.

4.3.3 The Common Method for Controlling Unwanted or Irrelevant Variables

One of the most important and safest methods to remove or minimize the effects of troublesome variables is random sampling (Uma *et al*., 2010). In this method, the selection method of testable variables is completely random and in this manner, the chances of selection for each one are equal and it is possible to remove or minimize irrelevant or unwanted prejudices or variables and delete unwanted or minimized variables. The mentioned method is now the most effective to make equal groups and control troublesome variables in empirical research.

4.4 Experimental Materials

In most previous experimental studies where behaviours of investors were involved, a real or hypothetical company) in a natural environment was used to achieve the objectives of the study (Elliott, Krische, & Peecher, 2009; Hopkins, 1996; Kevin, 2008; Mahde *et al*., 2010; Robert & Patrik, 2009). In this study, participants used an annual real financial report (Follad Mobarakeh company is one of the companies which is involved in stock market and based on performed evaluations, it uses non-financial information like BSC, which is disclosed in its financial reports that include: company's information, non-financial performance indicators (customer satisfaction, employee satisfaction and firm internal process), independent financial reports, and independent audit reports for non-financial performance. Participants were asked based on the information provided to estimate whether the stock price would increase or decrease the following year. This approach is similar to the approach used by Elliott *et al*. (2009), Hopkins (1996), Kevin (2008), Mahde *et al*. (2010), and Robert and Patrik (2009). Non-financial performance indicators used of BSC in this study are based on the studies of Hopkins (1996), and Lipe and Salterio (2000), who developed these indicators. Kaplan and Norton introduced these indicators for the first time in 1996.

In this study, financial reports and information background for all five groups are fixed and not manipulated as they only provide general information about the industry and the company. Therefore, this information equally influences all five

groups (four experimental and one control group). In addition, three major cases of financial reports include real company's balance sheets, income statements and cash flows for three fiscal years from 2009 to 2011, which provide a comparative basis.

Manipulation of the independent variable in this study is associated with providing non-financial performance indicators. Disclosure of information is based on the general outlines of the non-financial BSC performance indicators related to the company's strategy and vision. Kaplan and Norton introduced BSC in 1996 and based on the studies by Hopkins (1996) and Lipe and Salterio (2000), the BSC indicators were developed. In addition, these materials were developed as negative and positive in this study (see Appendix A for the positive and negative non-financial performance indicators used in this study). Manipulation of the independent variables is disclosed in this experience as positive or negative non-financial performance for institutional investors. In the questionnaire, the participants were asked to make a stock price estimate for the following year. Their answers were evaluated based on the 11-point Likert-type scale (where 0=very weak and 10=very well).

4.5 Institutional Investors as Participants

One of the most important groups of financial report users is the investors (Mahde *et al*., 2010). According to Rick (2008) and Lisa *et al*. (2011), those investors in the securities markets are divided into two main groups: institutions and individual investors. In this study, investor institutions were used because of the lack of access to individual investors and the lack of enough power and knowledge to analyze non-financial performance of this type of information. These institutions are usually used because of the extent of their activities and the volume of the financial resources has great effect on the investment market. The participants of this study included all active investment institutions working in the stock exchange market of Iran. According to the Iranian law and stock exchange guidelines, active investors are those who during the period of three years have carried out transactions with account balances (Hasan, 2010). Approximately 89% of stock accounts are allocated to investment institutions and this group has expertise, knowledge and specific skills to analyse financial reports and use different methods to obtain more information

about individual investors (Galebaf & Hasan, 2007; Hashem & Ali, 2009; Mahde *et al*., 2010; Yahya *et al*., 2009). Based on this specific knowledge, it is expected that this group is able to properly interpret financial performance in the process of estimating company's stock price (Libby *et al*., 2002; Robert & Patrik, 2009).

Until now, institutional investors have been the biggest investors in securities trading and the market size has always grown over the years. For example, on a typical day, approximately 81% of the trades in the Iran stock exchange are related to institutional investors (Mahde *et al*., 2010). Since they are considered knowledgeable and strong institutions to protect their interests, therefore, there is less possibility of being informed and less likely to invest on analysis of SEC. It is based on this special knowledge and expertise that this group is expected to be able to properly interpret and use additional non-financial performance disclosure in the process of estimating company's share price (De Giorgi *et al*., 2010; Paul *et al*., 2009; Robert & Patrik, 2009). Libby *et al*. (2002), and Robert and Patrik (2009) suggested that institutional investors are appropriate for experimental research because they have required knowledge and experience necessary to answer questions. Investor institutions review the assessment of share price in equal terms and conditions. Therefore, active investor institutions were a group which has the appropriate experience.

However, according to a pilot study course, it will also be determined. The total number of investor institutions is 220 among the main investor institutions in the financial markets of Iran (Hasan, 2010). These institutions include publicly listed companies in the management board of Tehran Stock Exchange, commercial banks, finance companies, merchant banks, asset management companies, large enterprises with significant cash reserves that need to invest in that market introduced as institutions that participate in investments (Sasan & Aliakbar, 2009; Hasanali & Abdolah, 2010; Mohsen, 2006). In addition, source samples can be obtained from the National Bank of Iran or from this website (http://www.Iranbourse.com/Default, 2011) and for the publicly listed company websites (Hasan, 2010).

On the other hand, institutional investors are increasingly working in an important role due to risks and information distribution of costs that influence capital markets. It seems capital control and institutional measures have succeeded in

improving Iran's market stock. However, Iran's market stock has not developed completely while investors still believe that the market could not provide comprehensive information to them and there are still rumours and political issues on the market. Investment risks and lack of assurance resulting from data deficiency are still observed (Mahde *et al*., 2010; Simnett *et al*., 2009). Investors, especially investment institutions, perform logically to some extent according to appropriate experience and knowledge in investment decision making. They use a great deal of information inside and outside the company before deciding about choosing any share (Hasanali & Abdolah, 2010; Mahde *et al*., 2010). Similar to a previous research performed by Hasan (2010), institutional investors' financial managers involved in trading and investing directly participated in this experimental research as the investment institutions representatives.

4.6 Population

From the beginning, Iran's stock market has developed more than 10%, and with the stock performance as one of the largest markets in Asia (Sasan & Aliakbar, 2009). This market needs to create a competitive market for international investors to increase credit. Therefore, in this study, Iran's stock and increasing strength, growth, and trade expansion created value for investors. In this study, the statistical population includes all institutional investors in Iran working in the stock market.

4.6.1 Sampling Frame

In this study, the list of institutions in stock exchanges is the statistical framework. According to the list introduced by Tehran's stock market, the number of investor institutions is 220 (Hasan, 2010).

4.6.2 Sampling Units

Institutions selected in the population were introduced as sample units. Each of the participants was introduced as a sample.

4.6.3 Sampling Design

Sampling design is the method used to select sample unit estimates in order to observe the estimation of characteristics of the investigated population, and it is for showing the desired population. Also, a sample should have the following conditions: (1) represents the total population; and (2) obtained results can be generalized to the total population. Based on these facts, investor institutions are generally insufficient groups and numbers, and therefore, the following method is used in order to provide a Stratified Random Sampling.

4.6.4 Population and Sample Size Determination

The population of institutional investors is 220. According to Kerjcie and Morgan (1970), Cohen (1977), Dillman, Smyth, and Christian (2009), when the population is 220, the sample size is 150. Therefore, in a field experiment, this study selected 30 institutional investors for each group, and the code for each group was defined as (150/5 = 30).

For estimate:

$$n = \frac{N.t^2.p.q}{N.d^2 + t^2.p.q} = 150$$

N = 220 T = 1/96 P- = 0/5 Q = 0/5 D =0/045

Where:

N= population is 220

n = sample size

Z = standard error associated with chosen level of confidence (95%)

P = estimated variability in the population 0/5

Q = (100 – p)

T: confidence level at 95%

D: allowable error (0/045)

The estimated number of the above formula is 150 individuals. Two cases of the questionnaire were not completed, and 148 final questionnaires were completed with data used in the next analysis.

4.6.5 Sampling Method

In this study, population was selected using the stratified random sampling. To use this method, the population (sampling framework) was first determined based on one or more features, like institutions, were classified into subgroups, or meaningful classes; so in this way, sampling was done independently in each group (Uma & Roger, 1998) according to the nature and volume of the research. First, the total population was calculated, and then the share of the total population was calculated for each group. Next, each group's share was multiplied with the total related sample in order to select the number of samples per group .A sample was selected randomly from each group. According to the legal definition of investment, and previous studies of this nature conducted in Iran, institutional investors include:

Table 4.3: The Estimated Sample Size in Separated Groups

Sample for Each Group by Randomly	Number Groups	Sample	Population	Institutional Investors
2	5	10	16	1-Investment Banks
4	5	20	29	2-Insurance Companies
4	5	21	30	3- Financial Companies
4	5	20	29	4-Institutional Unit Trust
7	5	31	44	5-Assets Management Companies
4	5	21	31	6-Unit Trust Management Company
5	5	27	41	7-Investment Fund
30	-------	**150**	**220**	**Total**

(Mahde *et al*., 2010; Yahya, Mohammad, & Hoda, 2009)

4.7 Variables Measures and Operational Definitions

An independent variable at two levels (positive, negative), a variable in the moderator's two levels (prepared and not prepared), and a dependent variable (stock price) were used. These examine factors affect the estimation of stock price by investor institutions. The variables are a combination of ratio and interval scale. Independent and dependent variables are summarized in the table given below.

Table 4.4: Variables Measures

Scale of measurement	Measurement	Variable Type	Name of variables
dichotomous	What percentage does it decrease or increase?	Independent	Disclosure of nonfinancial performance indicators
Interval	11 Likert points	Moderator	Audit Report
Ratio	58000 R	Dependent	Stock price estimate

To measure independent and moderator variables, both interval and dichotomous measurements were used. For example, to estimate stock price, the participants were informed about the price on the last day before the publication, followed by asking them to estimate the stock price based on the financial statement announcements for the 2011 financial year. This means that whether the stock price is lower than R58,000 or higher than R58,000, the question put is whether one thinks or predicts that the company stock price will increase or decrease. What percentage does it decrease or increase? In respect of the moderator, however, the variable questions are set by Likert scale; for example, one was asked to analyse in 11 Likert points the confidence capability of non-financial performance scales, which are revealed in the financial reports.

Measurement of the variables in a theoretical framework is part of each research project, and an important aspect of each research design. Without measuring

variables, it is not possible to test assumptions. Two kinds of variables are available in this research: (1) objective variables (these variables were measured accurately, directly, and objectively). In this research, the objective variable is the set of nonfinancial performance indicators. (2) Subjective variables; because of their abstract nature, these variables did not deserve to be measured accurately, and should be measured in an operational and indirect manner.

4.8 Research Procedure

An researcher puts forward some research questions to be answered in this study. Then, an appropriate questionnaire is prepared to measure all variables. Content validity of the questionnaire is based on relevant literature, as well as ideas from of committee members. The purpose of this experimental survey was to help the researcher to identify important factors that might describe the influence of nonfinancial performance disclosure indicators on assessing stock prices in the Tehran Stock Exchange by the investors. In this study, the following processes should be investigated:

1. In this study, depending on the Likert scale ranging from 1 to 11, the response designed for each question in the questionnaire would be used (self-reported financial knowledge rating should be interpreted with some degree of caution given the "overconfidence" in self assessed ability observed in relation to investors. Survey instructions for participants are as follows: In order to answer all the questions, the respondents were requested to choose between 1 and 11 (1 means "not confident" and 11 means very confident"). Fill in the blank with a number that represents the best response.

2. Since all the respondents' language is Persian, the questionnaire was translated from English to Persian using the reverse translation method, and a certificate letter of the translation experts in both languages was received. The certificate letter for the translation of the questionnaire was also provided.

3. This survey selected investors of the Tehran Stock Exchange market. Some qualitative information of skilled investors in estimating the stock price in the stock exchange market was gathered using the questionnaire.

4. The overall accountability process in the survey was made anonymous and this took approximately 30 minutes.

5. After receiving the responses of all the participants, the researcher developed a database structure based on the gathered information which integrates the data in this study. All the information provided by the participants is kept confidential.

6. Statistical techniques for data analysis included descriptive analysis, independent sample *t*-test, one-way ANOVA analysis, and two-way ANOVA analysis.

7. In this study, statistical analysis determined the degree of *P* as 0.05. Related processes: (1) the data were analyzed according to SPSS standard statistical program, and a simple descriptive analysis was run; (2) this study used the ANOVA analysis techniques to examine and compare the relationship between the variables.

8. Finally, the researcher interpreted and discussed the results of the data analysis, conclusions and recommendations.

4.8.1 Ethics

Ethical behaviour in academic research is largely a part of personal matter, and the researcher is responsible for moral issues to protect the anonymity and the identity of participants (Creswell, 2002). Babbie (1991) argues that "the fundamental moral issue of the social research is a kind of principle that does not harm research topic" (p. 38).

In this study, the experimental survey was developed by the researcher from among those who were active in the Tehran Stock Exchange market, on behalf of the institutional investors. In order to observe moral principles, a brief introduction about the company's history and information during the last three years is provided at the

beginning of the questionnaire. The purpose of this study was to involve the participants in the survey and to provide feedbacks, questions, or suggestions.

Some brief explanations were given to the participants. Then, the questionnaire was distributed if they were interested to participate in the survey. When the participants had completed the forms, the researcher gathered the questionnaires. The participants should not write anything that reveals their identity in the questionnaire. The participation in this study was completely voluntary. Whenever they chose to, they could refrain themselves from answering the questionnaire. The participants were also not required to include their name in the questionnaire. Therefore, there was no way for the researcher to identify the respondents. In this study, the researcher guaranteed human rights and the preservation of information. In other words, the information remains confidential and is stored in one personal database of the researcher. The information is not kept more than one year after the study. No one, except for the researcher, will have the access to the database.

4.8.2 Instrumentation

Questionnaire is used as an instrument to gather information. It includes a demographic profile that is created by the researcher (see Appendix E). A total of 19 questions were raised. First, a summary of the company status and research purpose was described by the researcher. The author, in this experimental study, used those involved in the analysis and dealing of stocks in the investment institutions. According to the stock market's suggestions, the best time was assigned for all these institutions to access one of the training courses held every three months by the Tehran Stock Exchange because it is necessary that all these institutions attend the training courses.

The demographic profile portion of the questionnaire was developed by the researcher, and was intended to provide the background information of each participant in this study. The questionnaire asks for information such as age, gender, and highest educational degree. A graph of descriptive statistics enables the

researcher to examine the impacts of demographic characteristics of an investor in investment behaviour.

4.8.3 Rationale for Selecting the Instrument

Anderson and Kanuka (2003) have explained survey research as follows, "A research methodology that analyses samples with a series of questions (that measure behaviour)" (p. 505). Meanwhile, Babbie (1991) recognises that a survey research is performed in order to provide a statistical description, quantity or attitudes, behaviours, ideas and desires of a population by examining a sample of the population. This type of research indicates one of the most common types of quantitative research of social science. The purpose of the survey research is to use questionnaires or interviews to collect data from a sample to demonstrate the generality of a given series of selected data (Anderson & Kanuka, 2003).

The main advantage of a survey research is that it shows all subjects with a standard benchmark. Moreover, it can remove a large degree of unreliability in the observations of the researcher (Anderson & Kanuka, 2003). On the other hand, one disadvantage of a survey research is that research questions should be raised so that it is common to all respondents. However, it is not impossible to address the context or text according to respondent's selection (Babbie, 1991).

4.8.4 Development of the Questionnaire

The questionnaire can be provided extensively in educational research to gather information about phenomena that are not easily visible. Dillman (2000) explains that when designing a research survey, the researcher must determine which methods are preferred by the respondents (verbal, written, open questions or closed questions). The methodology of questionnaire asks the same questions of all participants in the sample. Participants write an answer for each section of the questionnaire (Babbie, 1991). In this study, the researcher used a questionnaire and selected an experimental closed question method to gather the required data.

The purpose of writing a survey is to develop a series of written questions to the respondents and also make participants to interpret the questions in the same way (Babbie, 1991). Researchers should be careful enough about the type, content, and wording of questions included in the questionnaire (Dillman, 2000).

This study utilised four processes (determination of questions that is asked, selection of format, designing of wording, and determination of question type). Fong (2004) suggested the processes for making a valid questionnaire as follows:

1. Determination of questions that is asked: The purpose of this study was to reveal the effect of non-financial performance indicators and confidence in this kind of information to estimate stock prices by investment institutions in the Iran Stock Exchange. The research questions led us to achieve responses successfully. Questions should be precise and without ambiguity in order to receive answers from the participants. Therefore, it is expected that such a questionnaire completes the aim of this study.

2. Selection of the question format: A questionnaire can have either an open or closed format. This issue is dependent on the purpose of the question. The researcher decided to use a questionnaire with closed questions, and a 1–11 Likert scale. In this study, a two-part question was also used to estimate the cost of capital. Two techniques were used in designing the questionnaire. There is a closed questionnaire with a Likert scale of 1–11, and a two-part questionnaire. The purpose of selecting the format of the questionnaire in this way was to obtain a wide range of the participants' responses.

3. Designing of wording the questions: The general order is that questions should be simple and straightforward as much as possible (Fong, 2004) In addition, the following rules are considered by the researcher in wording the questions: (1) avoiding one-way and biased questions; (2) avoiding ambiguous questions; (3) avoiding confusing, vague, and negative questions; (4) avoiding personal questions; (5) avoiding asking out-of-framework questions.

4. Determining question type: The questionnaire must be logical and rational (Burgess, 2001). In this study, the researcher provided easy, logical and rational questions for the respondents. The purpose of the assessment methods was to design an improved response with an easy and friendly format. Moreover, the researcher provided similar questions in the questionnaire to be answered by the respondents. In order to avoid feelings of frustration involved in providing personal information to others a series of questions related to demographic questions was given almost at the end of the questionnaire.

For the present study, a questionnaire was developed in several stages in a systematic manner for data collection. For the variables that are not directly measurable (such as assurance), such a variable is measured according to a 11-point Likert scale (Libby *et al*., 2002; Robert & Patrik, 2009; Vasarhelyi *et al*., 2004).

4.8.5 Construction of the Questionnaire

The experimental design used for this study is based on the Prospect Theory. The questionnaire contains information about the non-financial performance and provides assurance for this kind of information in the four different behaviours based on the Prospect Theory and Attribution Theory expanded by the researcher (see Appendix A). The questionnaire is divided into six parts including: (1) the training instructions; (2) general information about the company; (3) disclosed non-financial performance indicators; (4) financial reporting; (5) independent audit reports; and (6) audit reports for non-financial performance and, ultimately, the questions. The questionnaire is composed of 19 questions. Questions 1 to 4 are directly related to the effects of disclosure of non-financial performance on the estimation of market price of shares in the Tehran Stock Exchange. Questions 5 to 9 are related to providing audit report for non-financial information for the behaviour of investors in the survey sample. Questions 10 to 19 are directly related to demographic information of the participants relating to information such as gender, age, educational level, and experience related to capital markets.

4.8.6 Reliability and Validity

Baker and Risley (1994) stated that reliability built transparency and quality of measurement. Therefore, the validity topic addresses these questions: Does this tool at any time provide the same results of the survey with participants in the same position? However, Borg and Gall (1983) stated that validity in testing is the appropriateness, meaningfulness and usefulness of specific inferences made from test scores (p. 733). Therefore, credit depends on the findings of the study in assessing what is supposed to do by the researcher and reliability is dependent upon the actual measurement or perceived procedure instrument.

4.8.6.1 Reliability

Cronbach's alpha coefficient is one of the methods used to calculate reliability. For the purpose of calculating reliability in this study, a preliminary study was conducted with the distribution of a total of 19 questionnaires to managers of investment institutions in the stock exchange. The Alpha value for each question and for the entire questionnaire was obtained using the SPSS software, as follows: α (=0.78). This study used the following strategies to enhance validity.

1. *Quantitative research method*: The study was conducted using the quantitative research method to establish reliability and validity. Results in quantitative research methods are based on large sample size (Uma & Roger, 1998). Therefore, this study used a large sample of participants to provide meaningful information that is dependent on statistical processes.

2. *Type of questionnaire survey*: This study used the structural survey tool that is a kind of questionnaire survey to increase validity. A questionnaire survey can ask a number of questions about specific issues. This type of survey provides the researcher high flexibility in the survey data analysis.

3. *Working with the thesis committee member (content validity)*: The researcher worked with assistant and consultant professors who are experts in this area so as to increase the validity of the study. In addition, the researcher also

edited the questionnaire in consultation with committee members. Consultation with several experts has allowed the researcher to formulate better questions. Another method to ensure the validity of the study was creating a rating format on a survey questionnaire design. The researcher provided the survey questionnaire with a Likert scale of 1–11, so that the participants could answer the questions relating to the extent of the level to which they were not confident or very confident.

4.8.7 Eligibility Criteria

The main objective of this study was to analyse the impact of disclosure of non-financial performance indicators in assessing stocks prices in the Tehran Stock Exchange market by the investors. Therefore, eligibility criteria for this review were:

1. Geographical and environmental area is limited to investment organisations in the Iran stock market.

2. Investors agreed to participate in this study and complete the questionnaires.

3. Investors could read, write and speak Farsi, and they are over 24 years of age.

4. The participants have appropriate experience in investment analysis of the stock market.

5. The questionnaire is translated from English to Persian using the reverse translation method that is confirmed by experts who are fluent in both languages (to ensure stability of the questionnaire).

4.9 Data Collection Method

One of the main aspects of any research work consists of gathering information. If this is done regularly and correctly, data analysis and data conclusions are done with great speed and accuracy. In order to collect the information for this study, a questionnaire with Likert scale was used in relation to the research goals and hypotheses. The questionnaire is an efficient tool to gather

information, and the most appropriate method for data collection in the experiment studies (Lisa, Linda, & Terry, 2005) .The questionnaire is for data collection from individuals with experience of investing in the stock market in Iran (managers of investment institutions). Quantitative data were collected using the 19 questions, depending on the Likert scale of 1–11 that ranged from "not confident" to "very confident". This study used a survey method which involved a total of 150 respondents. The researcher selected investment institutions from among Iranian investors. After collecting the questionnaire from the respondents, the researcher created a folder that contained summarized information about the variables in the study. Then, the collected SPSS statistical data were entered.

4.10 Number of the Participants in Each Group

Table 4.5: Number of the participants

Groups	Number of participants in each separate group
Control	30
Positive with Assurance	30
Positive without Assurance	29
Negative with Assurance	29
Negative without Assurance	30
Total	148

4.11 Summary

This chapter describes the methodology for this study which focused on the impacts of non-financial performance disclosure and confidence in this information to estimate the stock prices in the stock exchange market. Two research questions were used to develop the survey in this study. The research design used an

experimental, comparative, causal and quantitative method. One independent variable, one moderating and one dependent variable were used in this study. In this survey, 19 questions were used, depending on the tools. The statistical techniques for the data analysis included a descriptive analysis, independent *t*-tests, and ANOVA. The next chapter will outline in detail how the data collected were used to make the planned comparisons that tested each of the hypotheses set forth in the model. Meanwhile, the explanation of how the actual testing of these hypotheses will be given in Chapter Five. The testing of the hypotheses in the chapter will further add significance to accounting research.

CHAPTER 5

ANALYSIS OF DATA AND RESULT

5.1 Introduction

In this chapter, results derived from the experimental analysis, as described in the previous chapter are discussed. In addition, each of the hypotheses is evaluated in light of the data. Within this study, both descriptive and inferential statistical methods were used for the analysis. The subjects employed within the study were described in detail, together with their frequency distribution and cumulative frequency.

5.1.1 Data Analysis

In this study, statistical methods were used for analysing the effects of non-financial performance disclosure and confidence in this kind of information on stock price estimation. Fong (2004) suggested five main steps in conducting a study:

1. Data structuring for analysis and measurement of validity.
2. Verification of data.
3. Descriptive statistics.
4. Determination of the relationships between variables.
5. Examination of the relationships between dependent and independent variables.

By following the above steps ,the collected data would then be put into SPSS for statistical analysis. Validity rating is defined by Cronbach's Alpha.

5.1.2 Methods of Data Analysis

Four different statistical analyses were used in this study (descriptive statistics, independent samples *t*-test analysis, one-way ANOVA analysis, two-way ANOVA analysis).

1. Descriptive Statistics: It is designed to achieve data related to distribution of variables (Creswell, 2002). After collecting data, the researcher ran descriptive statistics of the sample in the standard SPSS programme to interpret the degree of validity on the data status in this study. It investigates frequency distribution of demographic variables (gender, education level, history of stock, etc.). In addition, the frequency distribution of the dependent and independent continuous variables is analysed.

2. T-test: The *t*-test is used routinely to find the meaningful differences between the two averages.

3. One Sample T-test: It compares the average value of a variable with a known or assumed value. In this study, a fixed benchmark, R58,000 was considered (stock price in the nearest trade a day before publishing of annual report) as the constant value in the first stage which was compared and analysed with an average obtained from the control group. Descriptive statistics is displayed along with the *t*-test. A 95% assurance distance was assumed for the difference between the mean value of the test variable and the assumed value.

   H0=U=R58000
   H1=U≠R58000

4. Independent samples t-test analysis: *t*-test is used for comparing the averages of two different samples. *t*-test determines different distribution samples (Creswell, 2002). In this study, analysis of a *t*-test was used to study independent and dependent variables so as to determine the different tendency between the participants according to gender variables.

5. One-way ANOVA analysis: It is used to analyse the relationship between variables. This analysis is different from a *t*-test analysis just with comparison of two distributions. One-way ANOVA analysis can compare two or more independent variables (Creswell, 2002). In this study, one-way and two-way ANOVA analyses were used to test the statistical differences between the different experimental groups in the stock market. In this analysis, the researcher found significant differences compared with four different treatment groups. The analysis with the analysis of the *t*-test, the only two tests to compare the distribution, is different.

5.2 Pilot Study

Before delivering and implementing the questionnaire, and for the main participants, a pilot study is used to eliminate the possibility of defects such as lack of the same understanding of subjects about questions on the questionnaire. This causes potentially vague problems and questions to be removed and replaced by more appropriate questions. Then the questions are applied for the main group. Furthermore, based on the previous research, five different levels for positive indicators are considered for non-financial performance indicators, and two levels for negative indicators (Libby *et al.*, 2002; Robert & Patrik, 2009). Meanwhile, 10 investors were selected for the pilot study (Yen, 2004). The following strategies were provided to raise the response rate in the study based on the pilot study:

1. Consultations with several experts (8 people) were done to increase the validity of the questionnaire. Based on the received feedback, slight adjustments were made by rewording vague phrases in the stock price estimates and audit report.

2. It was assured that the questions had no wording problems.

3. Simple and clear questions were designed.

4. The random sampling method was used for selection of the sample.

5. Ten of the investment institutions were invited to participate in the survey through stock exchange. Based on the received feedback, slight adjustments were made by rewording and deleting a question.

5.3 Reliability

Cronbach's alpha coefficient is one of the methods used to calculate reliability. For the purpose of calculating reliability in this study, a preliminary study was conducted with the distribution of 19 questionnaires among managers of selected investment institutions in stock exchange. The Alpha value for each question and for the entire questionnaire was obtained using the SPSS software, as follows: α (=0.78). The reliability of the questionnaire can be evaluated as optimal. In addition, the Cronbach's alpha for each question is given in Table 5.1.1 (see the Appendix).

Table 5.1: Cronbach's Coefficient Alpha

Reliability		
Number of questions	Cronbach's alpha based on the questions	**Cronbach's alpha**
9	0.78	**0.78**

5.4 Statistical Methods

5.4.1 Demographic Profile

This section describes the general characteristics of the respondents such as gender, age, organizational post, work experience in the stock market, and more expert fields. In each case, the situational tables and diagrams are presented.

Table 5.2: Demographic Profile

Gender	**Number**	**Percentage**
Males	121	81.8
Females	27	18.2
Total	**148**	**100**
Age	**Number**	**Percentage**
26-35 year	19	12.8
36-45year	66	44.6
46-55 year	48	32.4
56-65 year	14	9.5
66-75 year	1	.7
Total	**148**	**100.0**
Activity in stock market	**Number**	**Percentage**
Less than 5 years	**12**	8.1
5-10 years	**45**	30.4
11-15 years	**48**	32.4
16-20 years	**39**	26.4
More than 20 years	**4**	2.7
Total	**148**	**100.0**
Experience	**Number**	**Percentage**
1-2 years	**3**	2
2-3 years	**5**	3.4
3-4 years	17	11.5
4-5 years	**47**	31.8
6-7 years	**34**	23
7-8 years	**25**	16.9
More than 8 years	**17**	11.5
Total	**148**	**100**
Specialized Field	**Number**	**Percentage**
Auditing	**9**	6.1
Accounting	**51**	34.5
Corporate financial	**54**	36.5
Tax	**4**	2.7
Management	**24**	16.2
Other	**6**	4.1
Total	**148**	**100.0**
Organizational Post	**Number**	**Percentage**
Financial Manager	148	100

Gender: The results indicated that among a total of 148 individuals in the sample of this study; 121 were men (81.8) and 27 women (2.18%) (see Figure 5.1).

Age: Based on the information presented in Table 5.2 and Figure 5.1 (see the appendix), 19 individuals (or 12.8% of the respondents) were within the 26–35 age group, while 66 individuals (44.6%) were in the age group of 36–45 years. Some 43.8% of the respondents derived from the older age group of 46–75. The questionnaire was constructed for a careful collection of data pertaining to job influence, organizational post held, primary field of activity, and duration of activity within the stock market in order to determine the company's estimated distribution of shares over the coming year. The survey data are presented in the frequency table to obtain a clearer pattern of the data, with geometric Figure 4.2 provided in the appendix.

Activity in Stock Market Securities: Based on the information given in Table 5.2, the activity of the respondents in terms of stock market securities to investments per year was defined under 5 categories. It was observed that the highest frequency (32.4%) is in the category of 11–15 years of experience, while the lowest percentage is the group with experience of more than 20 years, which is approximately 2.7%. The category of less than 5 years' experience shows a low figure of 1.8%, involving 13 individuals (see Figure 5.3 in the appendix).

Working Experience: In Table 5.2, it can be observed that the minimum working experience of the respondents is categorised in 1 and 2 years group, with the lowest percentage of frequency in the total sample of about 2%. The highest figure of 31.8% included 47 individuals who have had working experience of between 4 to 5 years in the financial field, and the highest working experience is more than 8 years, with approximately 5.11% of the total sample. It should, however, be noted that it is difficult to estimate the share value of a company, and thus the participants must have enough expertise and knowledge about financial reports for their accurate evaluation. The financial managers sourced from the investment institutions who participated in these studies were evaluated and deemed as suitable as they have the necessary expertise for the job (for summary, see Figure 5.4 in the appendices).

Field of Work: Table 5.2 represents the main professional activity of the participants, comprising 36% of the total sample size in the field of financial

management, 34.5% in accounting, 16.2% in the field of management, 2.7%in tax, 6.1% in audit, and about 4.1% for other options (see Figure 5.5 in the Appendices).

5.5 Number of Participants in Each Group

Table 5.3: Number of Samples

Groups	**Number of samples in each separate group**
Control	30
Positive with Assurance	30
Positive without Assurance	29
Negative with Assurance	29
Negative without Assurance	30
Total	**148**

In Table 5.3, the number of completed questionnaires in each group is specified. All the samples for each group with 30 members have been defined. However, in each negative with assurance group and positive without assurance group, only 29 participants attempted to fill in the questionnaires.

5.6 Testing of the Hypotheses

For each question posited, the researcher must first determine the underlying components of each factor (i.e., devising four questions for non-financial performance and five questions for audit report). These were determined for each of the five participant groups and were analysed separately. By collating the responses and ascertaining a uniform interrelating factor, the necessary statistical tests were performed to test the prevailing hypotheses.

5.6.1 Main Question

What is the main influence of positive and negative non-financial performance and assurance on this type of information for stock price estimation?

In order to test this main hypothesis, two questions (1 and 2) were designed with two different methods for the respondents to understand the questions and for accurate explanation of the questionnaires by the researcher. Accordingly, two questions for a longer period of company's stock price (three years) had been designed in the form of one question like questions 1 and 2.

5.6.1.1 Question 1

It is important to note that the stock price on the last day before publication of financial reports was R58,000. The participants were asked to choose the desired option based on: (1) rating scale above R58,000; (2) fixed price of R58,000; and (3) less than R58,000 (see Figure 5.7 in the Appendices).

Table 5.4: Estimations of Share Price

	Number	Percentage
More than 58000	**52**	35.1
Constant with 58000	**38**	25.7
Less than 58000	**58**	39.2
Total	**148**	100.0

Based on to the details in Table 4.4, the first question was chosen by 5 groups, without any difference among 148 participants, i.e. 52 individuals (35.1%) chose the option 'more than R58,000' and 38 individuals (25.7%) chose the option 'fixed R58,000', and 58 individuals (39.2%) chose the option 'less than R58,000.

Table 5.5 in the following section presents how estimation of the stock price was done based on the type of information in each separate group. It was found that among 52 individuals in the group of more than R58,000, 25 individuals (43.1%) were in the positive with assurance group, 17 individuals (32.7%) were in the positive group, and the rest were in the other groups. Also, among 38 individuals in the group of fixed R58,000, 15 individuals (39.5%) were in the control groups, 5 individuals (13.2%) in the positive with assurance group, 6 individuals (15.8%) in

the negative with assurance group, and 3 individuals (7.9%) in the negative group without audit. Finally, out of 58 individuals, 20 individuals were in the group of 'less than R58,000, the negative with assurance, 26 individuals (44.8%) in the negative group with no audit, 9 individuals (15.5%) in the control group, while 3 individuals (5.2%) and the rest in the other groups.

Table 5.5: Groups *Estimations of the Share Price Cross Tabulation

Group	Estimations of the Share Price			Total
	More than R58000	Constant with R58000	Less than R58000	
Control	6 11.5%	15 39.5%	9 15.5%	30 20.3%
Positive with Auditing	25 43.1%	5 13.2%	0 0%	30 20.3%
Positive without Auditing	17 32.7.3%	9 23.7%	3 5.2%	29 19.6%
Negative with Auditing	3 5.8%	6 15.8%	20 34.5%	29 19.6%
Negative without Auditing	1 1.9%	3 7.9%	26 44.8%	30 20.3%
Total	**52 100%**	**38 100%**	**58 100%**	**148 100%**

5.6.1.2 Question 2

Do you think, or predict, that the stock prices for next year, based on the basic price of R58,000 for shares will have a modest percentage increase, decrease, or will be constant? Show in percentages what it will be.

$\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$:H0

H_1: At least one of the means is not equal with the rest

Table 5.6: Share Price will Increase or Decrease in Future Years

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Control	30	**58058.00**	4532.121	827.448	49300	67280
Positive with Auditing	30	**67280.00**	4982.369	909.652	58000	75400
Positive without Auditing	29	**62900.00**	3725.395	691.789	58000	67860
Negative with Auditing	29	**55834.41**	742.268	137.836	54000	56740
Negative without Auditing	30	**54257.33**	959.234	175.131	52740	56000
Total	148	59669.99	5930.259	487.464	49300	75400

Table 5.7: The Results of ANOVA and Post-Hoc Comparisons of Significant Difference in Stock Price According to Groups

(I) Group	(J) Group	Mean Difference (I-J)	Post HOC **p-value**
Control	Positive with Auditing	-9222.000*	**.000**
	Positive without Auditing	-4842.000*	**.000**
	Negative with Auditing	2223.586*	**.012**
	Negative without Auditing	3800.667*	**.000**
Positive with Auditing	Control	9222.000*	**.000**
	Positive without Auditing	4380.000*	**.000**
	Negative with Auditing	11445.586*	**.000**
	Negative without Auditing	13022.667*	**.000**
Positive without Auditing	Control	4842.000*	**.000**
	Positive with Auditing	-4380.000*	**.000**
	Negative with Auditing	7065.586*	**.000**
	Negative without Auditing	8642.667*	**.000**
Negative with Auditing	Control	-2223.586*	**.012**
	Positive with Auditing	-11445.586*	**.000**
	Positive without Auditing	-7065.586*	**.000**
	Negative without Auditing	1577.080	**.015**
Negative without Auditing	Control	-3800.667*	**.000**
	Positive with Auditing	-13022.667*	**.000**
	Positive without Auditing	-8642.667*	**.000**
	Negative with Auditing	-1577.080	**.015**

ANOVA= df =4 F=70.085 **P=.000**

Given the equality of variance (Levene's test), the one-way ANOVA method was used among inferential statistics tests. According to P-value = .000 < 0.05, it is indicated that this test is significant as it shows the difference between the average of groups (see Table 5.7). The control group average was R58,058, the negative with assurance group's average as R55,834 and the average of without assurance group as R54,257. When non-financial performance indicators are positive, and assurance has been provided, the average of the estimated value for shares equals to R67.280, while if there is no assurance, it is equal to R62,900. This difference is very important. The ANOVA (Table 4.7) with Post-hoc shows a significant main effect for non-financial information variable indicates that NFPI affects stock price estimate (see Table 5.1 and Figure 5.8 in the Appendices).

5.6.1.3 Further Analysis of Separate Groups

In the first stage, the estimation of the control group, according to the stock changes of R58,000 for the next year, were:

H_0 := 58,000 μ_1

H_1 : $\mu_1 \neq$ 58,000

Table 5.8:One-Sample Statistics for the Control Group

	N	Mean	Std. Deviation
Estimations of the Share Price	30	**58058.00**	4532.121

Table 5.9: One-Sample Test for the Control Group

	Test Value = 58000			
	t	Df	**Sig. (2-tailed)**	Mean Difference
Estimations of the Share Price	.070	29	**.945**	58.000

Based on the tests performed, it was observed that the control group predicted a fixed amount of stock value of R58,000 with no change. This value, with a significant level of 0.945, confirmed the researcher's claim. Therefore, $H_0 H_0$ assumption is acceptable, and the test is not significant. In the second stage, the control group and the positive without assurance group examined this using the independent samples test to test H1 to see if the positive non-financial performance indicators affected the stock price estimation.

Table 5.10: Group Statistics for Positive NFPI

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Control	30	**58058.00**	4532.121
	Positive without Auditing	30	**62900.00**	3725.395

Table 5.11: Independent Samples Test for Positive NFPI

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimation of the Share Price	Equal variances assumed	.051	**.823**	-4.474	57	**.000**	-4842.000
	Equal variances not assumed			-4.489	55.583	**.000**	-4842.000

Hypothesis 1 is related to the perceived value of N-FPI compared to the control group. According to the independent samples test, it can be observed that the control group's estimate and the positive nonfinancial performance indicators without assurance group's estimate contradict each other based on the significance level of .000 that is less than 0.05. This indicates that the test is significant. In addition, as shown in Table 5.10, it was found that disclosure of positive non-financial performance indicators without assurance group predicted that the value of

stocks would increase to above R58,058, as estimated by the control group for the next year, to an average of R629000. It was also observed that that influence of the non-financial performance indicators alone could have a kind of incremental impact of over R4842 on the stock price. H1 proposed that disclosure of positive NFPI would increase institutional investors' stock price estimate. These results support H1 in the study. Also, in the third stage, the control group and the negative without audit group examined this using the independent samples test to test H1 so as to see if the negative non-financial performance indicators would affect the stock price estimation.

Table 5.12: Group Statistics for the Negative without Audit Group

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Control	30	**58058.00**	4532.121
	Negative without Auditing	30	**54257.33**	959.234

Table 5.13: Independent Samples Test for the Negative without Audit Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimation of the Share Price	Equal variances assumed	12.306	**.001**	4.494	58	**.000**	3800.667
	Equal variances not assumed			4.494	31.593	**.000**	3800.667

Hypothesis 1 is related to the perceived value of N-FPI compared to the control group. Based on the independent samples test in Table 5.13, it could be observed that the control group's estimate and the negative non-financial performance group's estimate contradict each other based on the significance level

of .000 that is less than 0.05. This indicated that the test is significant. In addition, as depicted in Table 5.12, the negative non-financial performance group was found to predict that the value of stocks would decrease from R58,058, as estimated by the control group for the next year to an average of R54,257. It was also observed that that the influence of the non-financial performance indicators could have a kind of incremental negative impact of over R3,800 on the stock price. H1 proposed that disclosure of negative NFPI would decrease institutional investors' stock price estimate. These results supported H1 in the study. It was also observed that disclosure of negative non-financial performance indicators decreased the stock price to be less than for the four previous groups. It could be presumed that the participants reacted negatively to the non-financial performance indicators. In the fourth stage, the control group and the positive with audit group examined this using the independent samples test.

Table 5.14: Group Statistics for the Positive with Audit Group

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Control	30	**58058.00**	4532.121
	Positive with Auditing	30	**67280.00**	4982.369

Table 5.15: Independent Samples Test for the Positive with Audit Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimation of the Share Price	Equal variances assumed	.800	**.375**	-7.49	58	**.000**	-9222.0
	Equal variances not assumed			-7.49	57.48	**.000**	-9222.0

Based on the independent samples test, it could be observed that the estimates of the control group and the positive with assurance group contradict each other based on the significance level of .000 that is less than 0.05. This indicated that the test is significant. In addition, as shown in Table 5.15, the positive with assurance group was found to have predicted that the value of stock would increase to above R58,058, as estimated by the control group for the next year to an average of R67, 280. It was also observed that the influence of the two factors of the non-financial performance and assurance on this kind of information had an incremental impact over R9,222. In other words, when there is a disclosure of positive NFPI, provision of assurance will increase institutional investors' stock price estimate.

This study also examined whether the positive and negative disclosure had important and significant impacts on the estimated stock price. Meaningful and significant impacts of non-financial performance indicators in the previous studies have been confirmed by Amir and Lev (1996), Ittner and Larcker (1998), Banker *et al*. (2000), Banker *et al*. (2004), and Paul *et al*. (2009). In the fifth stage, the control group and the negative with audit group were examined this using the independent samples test.

Table 5.16: Group Statistics for the Negative with Audit Group

Groups		N	Mean	Std. Deviation
Estimation of the Share Price	Control	30	**58058.00**	4532.121
	Negative with Audit	30	**55834.41**	742.268

Table 5.17: Independent Samples Test for the Negative with Audit Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimations of the Share Price	Equal variances assumed	14.641	**.000**	2.608	57	**.012**	2223.586
	Equal variances not assumed			2.651	30.607	**.013**	2223.586

Based on the independent samples test in Table 5.17, it can be observed that the control group's estimate and the negative non-financial performance with assurance contradict each other based on the significance level of .012 that is less than 0.05. This indicates that the test is significant. In addition, as illustrated in Table 5.16, it was found that the negative non-financial performance group predicted that the value of stocks would decrease from R58,058, as estimated by the control group for the next year to an average of R55,834. It was also observed that the influence of the two factors of non-financial performance and assurance on this kind of information had incremental impact over R2,223. In other words, when there is a disclosure of negative NFPI, provision of assurance will decrease institutional investors' stock price estimate. In the sixth stage, the negative with audit and the negative without audit groups examined this independent samples test.

Table 5.18: Statistics for the Negative with Assurance and the Negative without Audit

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Negative with Audit	29	**55834.41**	742.268
	Negative without Audit	30	**54257.33**	959.234

Table 5.19: Independent Samples for Test Negative with Assurance and the Negative without Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig	Mean Difference
Estimations of the Share Price	Equal variances assumed	3.887	**.054**	7.46	57	**.015**	1577.080
	Equal variances not assumed			7.76	54.426	**.016**	1577.080

Based on the independent samples test in Table 5.19, it can be observed that the negative with assurance group's estimate and the negative without audit group's estimate are different to each other, according to the significance level of .015 that is less than 0.05. This indicates that the test is significant. In addition, as shown in Table 5.18, it was found that the estimated value of the stock price for the negative with assurance group was R55,834, and for the negative group without audit, it was R54,257, with a difference of R1,577. In other words, when disclosure of negative non-financial performance indicators was done and audit was provided, the mean stock price was R55,834 and R54,257 when the audit was not provided, it was found to be significant. In the seventh stage, the positive with audit group and the positive without audit group were examined this using the independent samples test.

Table 5.20: Statistics for the Positive with Audit and the Positive without Audit

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Positive with Audit	30	**67280.00**	4982.369
	Positive without Audit	29	**62900.00**	959.234

Table 5.21: Independent Samples Test for the Positive with Assurance and the Positive without Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimations of the Share Price	Equal variances assumed	24.534	**.000**	14.058	58	**.000**	13022.667
	Equal variances not assumed			14.058	31.147	**.000**	13022.667

Based on the independent samples test presented in Table 5.21, it can be observed that the positive with assurance group's estimate and the positive without assurance group's estimate are different from each other, according to the significance level of .000 that is less than 0.05. This indicates that the test is significant. In addition, as shown in Table 5.20, the positive with assurance group was found to have predicted that the value of stocks would increase to R67,280 and to R62, 900 by the positive without assurance group, indicating a major difference. This difference was due to the reaction of the participants to the audit reports. In other words, when disclosure of positive non-financial performance indicators and audit were given, the mean stock price was R67,280, and this was R62,900 when the audit was not provided; the finding was found to be significant. In the eighth stage, the positive with audit group and the negative with audit group were examined this using the independent samples test.

Table 5.22: Group Statistics for the Positive with Audit and the Negative with Audit

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Positive with Audit	30	**67280.00**	4982.369
	Negative with Audit	29	**55834.41**	742.268

Table 5.23: Independent Samples Test for the Positive with Assurance and the Negative with Audit group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimations of the Share Price	Equal variances assumed	27.743	**.000**	12.237	57	**.000**	11445.586
	Equal variances not assumed			12.440	30.330	**.000**	11445.586

Based on the independent samples test in Table 5.23, it can be observed that the positive with assurance group's estimate and the negative with assurance group's estimate are different from each other according to the significance level of 0.000 that is less than 0.05. This indicates that the test is significant. In addition, as depicted in Table 5.22, the estimated value of the stock price for the positive with assurance group was found to be R67,280, and for the negative group with audit, it was predicted to be R55,834. Generally, it could be said that in the next year, the positive with assurance group tended to increase the value of stocks from R58,000 while it is expected that the negative with audit group seemed to decrease the value of stocks from R58,000. In the ninth stage, the positive without audit group, and the negative without audit group were examined this using the independent samples test.

Table 5.24: Group Statistics for the Positive without audit, and the Negative without Audit Group

Groups		N	Mean	Std. Deviation
Estimations of the Share Price	Positive without Audit	29	**62900.00**	3725.395
	Negative without Audit	30	**54257.33**	959.234

Table 5.25: Independent Samples Test for the Positive without Assurance and the Negative without Audit Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Estimation of the Share Price	Equal variances assumed	42.823	**.000**	12.296	57	**.000**	8642.667
	Equal variances not assumed			12.111	31.579	**.000**	8642.667

Based on the independent samples test in Table 5.25, it can be observed that the positive without assurance group's estimate and the negative without audit group's estimate are different to each other, according to the significance level of 0.000 that is less than 0.05. This indicates that the test is significant. In addition, based on the average estimated value of stock prices by both groups, it was observed that the price would be R62900 for the positive without assurance group, and this would be R54,257 for the negative group. Generally, it could be said that the positive without assurance group in the next year tended to increase the value of stocks from R58,000. Meanwhile, it was expected that the negative with assurance group tended to decrease the value of stocks from R58,000.

5.7 The Overall Results of Questions 1 and 2

Based on the results discussed above, the value of stocks in the following year, in comparison with a value of R58,000 designed for the respondents in the form of two questions, can be summarized as follows: In response to the first question, three groups of control, positive with assurance, and positive without assurance were of the opinion that the stock value would increase from R58,000. The other two groups argued that the rate of R58, 000 for the shares would decrease. Meanwhile, the control group was in favour of a fixed value of stock in the positive with

assurance group. This group has had the greatest increase for the average value of R67,280.

The second question related to the increased or decreased stock prices was more accurate as it estimated that this would confirm the results of the first question. In other words, the control group considered the same value of R58,000 for the following year. According to the average value of prices in the group (R58,000), however, it is clear that the tendency was towards stability of R58,000. Based on the above results (Question 2), the positive with assurance and the positive without assurance groups noted the increase in the average shares to the extent of R67,280 and R62,900, respectively. The next two groups of negative with assurance and the negative without assurance pointed out a tendency towards the reduction of stock levels from R58,000 to the average estimated level of R55,834 and R54,257, respectively. These results, according to their answers to question one, are quite evident.

5.8 Question 3

If you think or predict that the stock prices in the next three years based on the basic price of shares, they will undergo some percentage increases, decreases, or whether the prices would be constant, and shown in percentages what it will be?

$$\mu_1 = \mu_2 = \mu_3 = \cdots = \mu_n : H_0$$

H_1: At least one of the means is not equal with the rest

Table 5.26: The Result of ANOVA and Post-Hoc Comparisons of Significant Difference in the Stock Price

(I) Group	(J) Group	Mean Difference (I-J)	Post HOC **p-value**
Control	Positive with Auditing	-8603.333*	**.000**
	Positive without Auditing	2100. 000*	**.006**
	Negative with Auditing	4284.000*	**.000**
	Negative without Auditing	10440.000*	**.000**
Positive with Auditing	Control	8603.333*	**.000**
	Positive without Auditing	8867.333*	**.000**
	Negative with Auditing	12887.333*	**.000**
	Negative without Auditing	19043.333*	**.000**
Positive without Auditing	Control	-2100. 000*	**.006**
	Positive with Auditing	-8867.333*	**.000**
	Negative with Auditing	4020.000*	**.000**
	Negative without Auditing	10176.000*	**.000**
Negative with Auditing	Control	-4284.000*	**.000**
	Positive with Auditing	-12887.333*	**.000**
	Positive without Auditing	-4020.000*	**.000**
	Negative without Auditing	6156.000*	**.000**
Negative without Auditing	Control	-10440.000*	**.000**
	Positive with Auditing	-19043.333*	**.000**
	Positive without Auditing	-10176.000*	**.000**
	Negative with Auditing	-6156.000*	**.000**

*. The mean difference is significant at the 0.05 level

ANOVA= df =4 F=190.436 **P-value =.000**

The related question, as shown in Table 5.26, was normal and based on the equality of variances; a one-way ANOVA test was used for the inferential statistics test. Based on the significant level of sig = .000, less than 0.05 shows that the test is significant, which is also the average difference between the groups. As depicted in Table 5.26 of Post hoc, significant differences were observed among all of the five groups (see Table 5.101, Figures 5.9 and 5.10 in the Appendices).

5.8.1 Estimation of the Control Group in Comparison with Stock Exchanges Ranging from R58000 for the Subsequent Three Years

H_0 : = 58,000 μ_1

H1= $\mu_1 \neq$ 58,000

Table 5.27: One-Sample Statistics for the Control Group with R58000

	N	Mean	Std. Deviation
Control group	30	**64844.00**	2140.019

Table 5.28: One-Sample Test for the Control Group with R58000

	Test Value = 58000			
	t	df	**Sig. (2-tailed)**	Mean Difference
Control group	17.517	29	**.000**	6844.000

For the analysis of the increase in the value of stocks for the following three years for the five groups, the estimated average value of the control group, in comparison with the baseline level of R58,000 was first obtained, and this was then compared with the prediction of the other groups with that of the control group. Based on the significance level in Table 5.28, the level of 0.000 which is less than 0.05, this test was found to be significant. Generally, the control group predicted that stock values in the subsequent three years would reach R64,844. Therefore, it could be predicted that stocks would rise to about 17.9%. In the second stage, the positive with audit group and the control group were examined this using the independent sample test.

Table 5.29: Group Statistics for the Positive without Audit, the Positive with Audit and the Control Group

Groups		N	Mean	Std. Deviation
Share price will Increase or decrease in the next three years	Control	30	**64844.00**	2140.019
	Positive with Auditing	30	**73447.33**	2752.165

Table 5.30: Independent Samples Test for the positive with Audit and the Control Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Share Price Will Increase or Decrease in the Next Three Years	Equal variances assumed	.354	**.554**	-13.517	58	**.000**	-8603.333
	Equal variances not assumed			-13.517	54.680	**.000**	-8603.333

Based on the independent sample test in Table 5.30, it was observed that the control group's estimate and the positive with assurance group's estimate contradict with each other, according to the significance level of .000 that is less than 0.05. This indicates that the test is significant. In addition, as shown in Table 5.29, it was found that the positive with assurance group predicted the value of stocks would increase to above R64844, while the estimate by the control group for the next year was at the average of R73447. It was also observed that the influence of the two factors of non-financial performance and assurance on this kind of information had an incremental impact of over R8603 (i.e. about 26%). In the third stage, the control group and the positive without assurance group examined this using the independent sample test.

Table 5.31: Group Statistics for the Control and the Positive without Audit Group

Groups		N	Mean	Std. Deviation
Share Price Will Increase or Decrease in the Next Three years	Control	30	**64844.00**	2140.019
	Positive without Auditing	29	**66944.00**	2641.006

Table 5.32: Independent Samples Test for Control and Positive without Audit Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Share Price will increase or decrease in the next three years	Equal variances assumed	.382	**.019**	.423	57	**.006**	2100.000
	Equal variances not assumed			.421	53.870	**.006**	2100.000

Based on the independent samples test in Table 5.32, the significance level is about 0.006, indicating that the test is significant. This also means that there is a significant difference between the two groups, as presented in Table 5.31. On average, the value of stock was predicted at about R66944, which is significant. In the fourth stage, the control group and the negative with assurance group examined this using the independent samples test.

Table 5.33: Group Statistics for the Control and the Negative with Audit Croup

Groups		N	Mean	Std. Deviation
Share Price Will Increase or Decrease in the Next Three years	Control	30	**64844.00**	2140.019
	Negative with Assurance	29	**60560.00**	2358.607

Table 5.34: Independent Samples Test for the Control and the Negative with Audit Groups

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Share Price Will Increase or Decrease in the Next Three Years	Equal variances assumed	.017	**.898**	7.311	57	**.000**	4284.000
	Equal variances not assumed			7.299	56.034	**.000**	4284.000

Based on the independent samples test in Table 5.34, it can be observed that the significance level is about 0.000, indicating that the test is significant. This also means that there is a significant difference between the average of the two groups. As shown in Table 5.33, on average, it predicted the value of stock at about R60,560. Actually, this fact indicates that the negative with assurance group, as compared to the control group, predicted a lower amount of increased stock price for the next three years. This difference was about 0.43. In the fifth stage, the control group and the negative without audit group examined this using the independent samples test.

Table 5.35: Group Statistics for the Control and the Negative without Audit Group

Groups		N	Mean	Std. Deviation
Share Price Will Increase or Decrease in the Next Three years	Control	30	**64844.00**	2140.019
	Negative without Auditing	30	**54404.00**	3634.567

Table 5.36: Independent Samples Test for the Control and the Negative without Audit Group

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference
Share Price Will Increase or Decrease in the Next Three Years	Equal variances assumed	4.858	**.032**	13.557	58	**.000**	10440.000
	Equal variances not assumed			13.557	46.950	**.000**	10440.000

Based on the independent samples test in Table 5.36, it can be observed that P= 0.000 < 0.05, indicating that the test is significant. This also means that there is a significant difference between the average of two groups. As presented in Table 5.35, on average, the predicted value of stocks by the negative without audit group was about R54,404. This fact actually indicates that the negative without audit group, compared with the control group predicted a lower value for the increase in the stock price for the next three years. However, it is important to point out that in this test, the negative without audit group again expected a kind of decreasing trend in the company's shares compared to R58,000.

5.9 Overall Results for Questions 3

Based on the information given in Table 5.101 and Figure 5.9 (see Appendices), and the results mentioned in Question 3, the value of stocks in the next three years, compared with a value of R58,000, two questions were formulated as summarized in the following: In response to Question 3, four groups of control, positive with assurance, positive without assurance, and negative with assurance, are of the opinion that the stock value would increase from R58,000. The negative group without audit believed that the value of stock prices would decrease from R58,000. The positive with assurance group had the highest increased price value at the

average of R73,447. This result, according to their answers to questions one and two, is quite evident.

5.10 Question 4

To what extent do non-financial performance indicators impact the estimated stock price? The participants were asked to determine this based on the 11-point Likert scale ranging from zero (not at all) to 10 (very much so). Based on Tests of Normality, Question 4 was normal, and the q-q plot test revealed that it would see the variance equivalent. Therefore, the one-way ANOVA test and the Tukey HSD test were used.

Table 5.37: The Result of ANOVA and Post-Hoc Comparisons of Significant Difference between the Groups

(I) Group	(J) Group	Mean Difference (I-J)	Post HOC **p-value**
Positive with Auditing	Positive without Auditing	1.036	**.068**
	Negative with Auditing	1.863*	**.000**
	Negative without Auditing	1.100*	**.044**
Positive without Auditing	Positive with Auditing	-1.036	**.068**
	Negative with Auditing	.828	**.207**
	Negative without Auditing	.064	**.999**
Negative with Auditing	Positive with Auditing	-1.863*	**.000**
	Positive without Auditing	-.828	**.207**
	Negative without Auditing	-.763	**.266**
Negative without Auditing	Positive with Assurance	-1.100*	**.044**
	Positive without Auditing	-.064	**.999**
	Negative with Auditing	.763	**.266**

* The mean difference is significant at 0.05 level

(ANOVA: df =3; F=6.736; **P-value = .000)**

ANOVA in Table 5.37 sig = 0.000 indicated that this test is significant, showing the difference between the average of the groups. Based on the information given in Table 5.37 and Post HOC, it was also observed that between the positive

with assurance, the negative without audit and the negative with assurance groups, there is a significant difference that justifies the impacts of non-financial information on the estimation of stock prices (see Table 5.102 in the Appendices). In Question 4, the average level of the highest level belongs to the positive with assurance (7.97) and the lowest level belongs to the negative without assurance (6.07). This also means that the non-financial performance indicators have impacts on the estimated stock price.

5.11 Question 5

How reliable is the financial information disclosed in financial reports? For this, the participants were asked to determine this based on the 11-point Likert scale ranging from zero (not valid) to 10 (highly valid).

Table 5.38: How reliable is the Financial Information

Groups		**Mean**	Std. Deviation
Assess Reliability of the Financial Performance in the Annual Report	Control	**6.30**	.304
	Positive with Auditing	**6.30**	.353
	Positive without Auditing	**5.97**	.353
	Negative with Auditing	**6.55**	.467
	Negative without Auditing	**5.70**	.268

Given the descriptive statistics and Figure 5.11 in the Appendices, it is clearly seen that the amount of reliability disclosed in the financial reports in all groups is on average in the above average domains of 6.55–5.70. Based on the inferential statistics, the first control group and the other four groups were compared with the control groups using the independent samples test that resulted in the following:

$\mu_1 = 6 : H_0$

$\mu_1 \neq 6 : H_1$

Table 5.39: One-Sample Statistics for the Control and Other Groups

	N	Mean	Std. Deviation
Q7=Control	30	**6.30**	1.664

Table 5.40: One-Sample Test for the Control and the Other Groups

	Test Value = 58000			
	t	df	**Sig. (2-tailed)**	Mean Difference
Q7=Control	.987	29	**.332**	.300

According to the performed test of One Sample Statistics in Table 5.39, it was observed that the control group considered reliability of financial information about 6.30, which is within the average valid ranking. Also, based on the One Sample *t*-test (see Table 5.40), the significance level of.332 confirmed the researcher's claim. Therefore, $H_0 H_0$ assumption is acceptable, and the test is not significant. In the second stage, the control group and the positive with assurance group examined this using the independent samples test.

Table 5.41: Group Statistics for the Control and the Positive with Audit Groups

Groups		N	Mean	Std. Deviation
Assess Reliability of the Financial Performance in the Annual Report	Control	30	**6.30**	1.664
	Negative without Audit	30	**6.30**	1.932

Table 5.42: Independent Samples Test for the Control and the Positive with Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Assess Reliability of the Financial Performance in the Annual Report	Equal variances assumed	.615	**.436**	.000	58	**1.000**	.000
	Equal variances not assumed			.000	56.749	**1.000**	.000

Based on the independent samples test in Table 5.41, it was observed that the control group's theory (average of 6.30) and the positive with assurance group's theory (average of 6.30) about the reliability of financial information in the disclosed financial reports are exactly at the same level. Moreover, as shown in Table 5.42, it becomes clear that the significance level is 1.000, which is higher than 0.05, indicating that the test is significant. Therefore, $H_0 H_0$ assumption is acceptable. In the third stage, the control group and the positive without assurance group examined this using the independent sample test.

Table 5. 43: Group Statistics for the Control and Positive without Audit Groups

Groups		N	Mean	Std. Deviation
Assess Reliability of the Financial Performance in the Annual Report	Control	30	**6.30**	1.668
	positive without Audit	29	**5.97**	1.899

Table 5.44: Independent Samples Test for the Control and Positive without Audit Groups

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Assess Reliability of the Financial Performance in the Annual Report	Equal variances assumed	.889	**.350**	.791	57	**.432**	.368
	Equal variances not assumed			.789	55.520	**.433**	.368

According to the independent samples test in table 5.43, it can be observed that the control group's theory (average of 6.30) and the positive with audit group's theory (average of 5.97) about reliability of financial information in the disclosed financial reports are the same and are, approximately, at the same level of significance. Moreover, according to Table 5.44, it becomes clear that there is a significance level of 0.432 that is higher than 0.05. Therefore, $H_0 H_0$ assumption is acceptable. In the fourth stage, the control group and the positive with audit group examined this using an independent samples test.

Table 5.45: Group Statistics for Control and Positive with Audit Group

Groups		N	Mean	Std. Deviation
Assess Reliability of the Financial Performance in the Annual Report	Control	30	**6.30**	1.664
	Negative with Audit	29	**6.55**	2.515

Table 5.46: Independent Samples Test for Control and Positive with Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Assessing the Reliability of the Financial Performance in the Annual Report	Equal variances assumed	8.916	**.004**	-.455	57	**.651**	-.252
	Equal variances not assumed			-.452	48.346	**.653**	-.252

Based on the independent samples test in Table 5.45, it was observed that the control group's estimate (average of 6.30) and the negative with assurance group's estimate (average of 6.55) about the reliability of financial information in the disclosed financial reports are at the higher levels of significance. Moreover, based on the data in Table 5.46, in relation to the independent samples test, it has become clear that there is significance level of 0.651, which is higher than 0.05. Therefore, $H_0 H_0$ assumption is acceptable. In the fifth stage, the control group and the negative without audit group examined this using the independent samples test.

Table 5.47: Group Statistics for the Control and the Negative without Audit Groups

Groups		N	Mean	Std. Deviation
Assess Reliability of the Financial Performance in the Annual Report	Control	30	**6.30**	1.664
	Negative without Auditing	30	**5.70**	1.466

Table 5.48: Independent Samples Test for the Control and the Negative without Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	Df	Sig.	Mean Difference
Assessing the Reliability of the Financial Performance in the Annual Report	Equal variances assumed	.626	**.432**	1.482	58	**.144**	.600
	Equal variances not assumed			1.482	57.090	**.144**	.600

Based on the independent samples test in Table 5.47, it was observed that the control group's estimate (average of 6.30) and the negative without audit group's estimate (average of 5.70) about the reliability of financial information in the disclosed financial reports are at a lower level of significance, with the lowest amount of assurance coefficient in the average valid rank of the negative without audit group. Moreover, as shown in Table 5.48, in relation to the independent samples test, it has become clear that there is a significance level of 0.144, which is higher than 0.05. Therefore, $H_0 H_0$ assumption is acceptable.

5.12 Question 6

The respondents of the four groups of the positive with assurance, positive without audit, negative with assurance, and negative without audit were asked to evaluate the reliability of the non-financial performance indicators that had been disclosed in the financial reports. For the assurance variables, the participants were asked to evaluate the non-financial indicators of zero (not reliable) to 10 (very reliable) based on the 11-point Likert scale of the assurance provided by external auditors.

Table 5.49: Evaluating the Reliability of the Non-Financial Performance Indicators

Groups		**Mean**	Std. Deviation
Evaluating the reliability of the non-financial performance indicators	Positive with Auditing	**7.70**	.311
	Positive without Auditing	**4.62**	.168
	Negative with Auditing	**6.83**	.285
	Negative without Auditing	**4.40**	.189

Table 5.50: The Result of ANOVA and Post-Hoc Comparisons of the Significant Difference in Reliability of N-FPI

(I) Group	(J) Group	Mean Difference (I-J)	Post HOC **p-value**
Positive with Auditing	Positive without Auditing	3.079*	**.000**
	Negative with Auditing	.872	**.065**
	Negative without Auditing	3.300*	**.000**
Positive without Auditing	Positive with Auditing	-3.079*	**.000**
	Negative with Auditing	-2.207*	**.000**
	Negative without Auditing	.221	**.921**
Negative with Auditing	Positive with Auditing	-.872	**.065**
	Positive without Auditing	2.207*	**.000**
	Negative without Auditing	2.428*	**.000**
Negative without Auditing	Positive with Auditing	-3.300*	**.000**
	Positive without Auditing	-.221	**.921**
	Negative with Auditing	-2.428*	**.000**

* The mean difference is significant at 0.05 level

(ANOVA: df =3; F=44.066; **P-value = .000)**

Based on the data given in Table 5.49, the average for the positive group with audit was 7.70, followed by 4.56 for the positive group without audit, 6.83 for the negative group with audit, and 4.40 for the negative group without audit. Also, table of ANOVA 4.63 p-value=0.000 indicated that this test is significant and this showed the difference between the averages of the groups. As shown in Table 5.50 and Post Hoc, no significant difference was observed between the positive with assurance group and the negative with assurance group (see Table 5.103 and Figure 5.12 in the Appendices).

In other words, their average assessment is the same. It can be said that the positive and negative with assurance groups evaluated the reliability of the non-financial performance indicators in the average valid assessment to be approximately around 6.80 – 7.70. The Tukey table of appendix 4.104 does not represent a significant statistical difference for the positive and negative without audit groups. Thus, the two groups evaluated the reliability of the non-financial performance indicators in the same rank at about 4.40 – 4.62, which is in the average to low valid rank. The Attribution Theory suggests that the effects shown above are obtained by the credit. For their evaluation, special tests were conducted for the participants' responses to the questions, including evaluation of the verified non-financial performance indicators in the annual reports of these cases. In summary, the evidence shows that the accuracy and validity issues are more important when disclosures are positive, that is, consistent with the Attribution Theory.

5.13 Question 7

Do the participants have different understanding of reliability, which is dependent upon the non-financial information with a positive or a negative trend? To provide assurance, the participants were questioned based on the 11-point Likert scale and the level of assurance was provided by the external auditors on the non-financial indicators ranging from 0 (not valid) to 10 (valid).

Table 5.51: Group Statistics for the Participants with Different Understandings of Reliability

Groups		N	Mean	Std. Deviation
Level of Assurance by External Auditors on N-FPI	Positive with Auditing	30	**7.63**	1.691
	Negative with Auditing e	29	**6.48**	1.299

Table 5.52: Independent Samples Test for the Participants with Different Understandings of Reliability

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Level of Assurance by External Auditors on N-FPI	Equal variances assumed	2.385	**.128**	2.923	57	**.005**	1.151
	Equal variances not assumed			2.936	54.261	**.005**	1.151

Based on the data given in Table 5.52 of the Leuven test (yielded a significance level of 0.128), it was observed that the two groups demonstrated an equal variance. Therefore, assuming equal variance and that the values for the t-test of below 0.005 to indicate statistical significance that is greater than 0.05, there are significant differences found between the groups. Thus, the assessment of the two groups was not deemed to be equivalent. Based on Table 5.51, it can be seen that the positive outcome with the audit group based upon the audit report (of external auditors) on non-financial performance indicators was 7.63. This is in contrast with the value for the negative with the audit group, which was 6.48.

5.14 Question 8

Table 5.53: Assessing the Level of N-FPI

Assessing the Level of N-FPI in

	N	**Mean**	Std. Deviation	Std. Error	Minimum	Maximum
Positive with Auditing	30	**7.70**	1.622	.296	5	10
Positive without Auditing	29	**6.10**	1.145	.213	5	8
Negative with Auditing	29	**6.21**	1.236	.229	4	8
Negative without Auditing	30	**4.57**	1.006	.184	2	6
Total	**118**	**6.14**	**1.686**	**.155**	**2**	**10**

Table 5.54: The Result of ANOVA and the Post-Hoc Comparisons of Significant Difference between the Groups

(I) Group	(J) Group	Mean Difference (I-J)	Post HOC **p-value**
Positive with Auditing	Positive without Auditing	1.597*	**.000**
	Negative with Auditing	1.493*	**.000**
	Negative without Auditing	3.133*	**.000**
Positive without Auditing	Positive with Auditing	-1.597*	**.000**
	Negative with Auditing	-.103	**.990**
	Negative without Auditing	1.537*	**.000**
Negative with Auditing	Positive with Auditing	-1.493*	**.000**
	Positive without Auditing	.103	**.990**
	Negative without Auditing	1.640*	**.000**
Negative without Auditing	Positive with Assurance	-3.133*	**.000**
	Positive without Auditing	-1.537*	**.000**
	Negative with Auditing	-1.640*	**.000**

* The mean difference is significant at 0.05 level

(ANOVA df =3; F=30.265; **P-value = .000)**

Table ANOVA 5.54, the P-value = .000 less than 0.05 indicated that this test is significant and showed the difference between the average of the groups. Based on the information given in Table 5.54 and Post-Hoc, it was observed that among the four respondent groups, only two groups of the positive without assurance and the

negative with assurance do not have a significant difference, and among other groups, the difference is evident. Generally, it can be said that the average level of non-financial performance indicators for the year 2011 was evaluated by the four groups and the least assessment was made by the negative without audit group as 4.57, and the most assessment was made by the positive with assurance group as 7.7.

5.15 Question 9

To what degree do you believe that an auditor plays an important role in ensuring the credibility of annual reports? Thus, in the form of a question given to the five groups, a survey was conducted and their opinions were compared.

Table 5.55: Auditors Play Important Role in Ensuring the Credibility of Annual Report

Groups		**Mean**	Std. Deviation
Auditors Plays Important Role in Ensuring the Credibility of Annual Report	Control	**8.33**	.255
	Positive with Auditing	**8.50**	.202
	Positive without Auditing	**7.55**	.316
	Negative with Auditing	**7.59**	.176
	Negative without Auditing	**6.83**	.250

First, the control group was considered as the base group, and based on the descriptive statistics of Table 5.55, the average assessment is 8, which is at a very reliable rank. Based on the inferential statistics, the first control group, the four other groups were compared with the control group using the unpaired *t*-test with the results, as follows:

$\mu_1 = 8 : H_0$

$\mu_1 \neq 8 : H_1$

Table 5.56: One-Sample Statistics for Auditors Plays Important Role in Ensuring the Credibility of Annual Report

	N	Mean	Std. Deviation
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	30	**8.33**	1.398

Table 5.57: One-Sample Test for Auditors Plays an Important Role in Ensuring the Credibility of Annual Report

	Test Value = 58000			
	t	df	**Sig. (2-tailed)**	Mean Difference
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	1.306	29	**.202**	.333

Based on the performed test of One Sample Statistics in Table 5.57, it was observed that the significance level is 0.202, which is higher than 0.05. Therefore, this test is not significant. It indicates that the evaluation level of the control group is 8, which is considered as a too valid class. In the second stage, the control group and the positive with assurance group examined this using the independent samples test.

Table 5.58: Group Statistics for the Control and Positive with Audit Groups

Groups		N	Mean	Std. Deviation
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	Control	30	**8.33**	1.398
	Positive with Auditing	30	**8.50**	1.106

Table 5.59: Independent Samples Test for the Control and Positive with Audit Groups

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	Equal variances assumed	2.709	**.105**	-.512	58	**.611**	-.167
	Equal variances not assumed			-.512	55.094	**.611**	-.167

Based on the independent samples test in Table 5.59, it was observed that a significance level of the Leuven test is 0.105, in which both groups have equal variances. The significance level in the *t*-test is 0.611, indicating equal averages in both groups. It shows that the test is not significant. Therefore, $H_0 H_0$ assumption is acceptable. In the third stage, the control group and the positive without assurance group examined this using the independent samples test.

Table 5.60: The Control and Positive without Audit Groups

Groups		N	Mean	Std. Deviation
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	Control	30	**8.33**	1.398
	Positive without Auditing	29	**7.55**	1.703

Table 5.61: Independent Samples Test for Control and Positive without Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Auditors Plays Important Role in Ensuring the Credibility of Annual Report	Equal variances assumed	1.865	**.177**	1.930	57	**.059**	.782
	Equal variances not assumed			1.924	54.170	**.060**	.782

As revealed by the independent samples test in Table 5.61, a significant statistical difference was observed in the positive without assurance group compared with the control group, based on the significance level of 0.059, which is less than 0.05. In the fourth stage, the control group and the negative with assurance group examined this using the independent samples test.

Table 5.62: The Control and Negative with Audit Groups

Groups		N	Mean	Std. Deviation
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	Control	30	**8.33**	1.398
	Negative with Assurance	29	**7.59**	.946

Table 5.63: Independent Samples Test for the Control and Negative with Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	Equal variances assumed	6.506	**.013**	2.396	57	**.020**	.747
	Equal variances not assumed			2.412	51.095	**.020**	.747

As presented in Table 5.63, the control group with an average figure of 8.33 was observed to have a significant statistical difference and a significance level of 0.020, which are less than 0.05 compared with that of the negative with assurance group with an average of 7.59. In the fifth stage, the control group and the negative without assurance group examined this using the independent samples test.

Table 5.64: The Control and Negative without Audit

Groups		N	Mean	Std. Deviation
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report	Control	30	**8.33**	1.398
	Negative without Auditing	30	**6.83**	1.367

Table 5.65: Independent Samples Test for the Control and Negative without Audit

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Auditors Plays Important Role in Ensuring the Credibility of Annual Report	Equal variances assumed	.036	**.850**	4.203	58	**.000**	1.500
	Equal variances not assumed			4.203	57.971	**.000**	1.500

Based on the independent samples test in Table 5.65, the negative without assurance group was observed to have a significant level of difference compared with the control group without audit, according to the significance level of 0.000 which below 0.05. In the third stage, the control group and the positive without assurance group examined this using the independent samples test. Therefore, this test is generally characterized by minimal belief in an audit role belonging to the negative without audit group with an average of 6.83, the value that is considered to be an average rank. Therefore, the highest amount of belief in audit attendance is related to the positive with assurance group of 8.5 levels as an excellent rank.

5.16 Overall Conclusions for Questions 5 to 9

As shown in the tables, graphs and inferential statistics mentioned above, for questions 5 to 9, the assurance level to financial and non-financial performance provided for the five groups can be summarized as follows.

In the results obtained from the assurance level in Question 5 for the five assurance-level groups between 6.55 belonging to the negative with the assurance group, the positive with assurance and the control groups are equal (i.e., 6.30). In addition, the lowest level belonged to the negative without audit group at 5.70 level.

In Question 6, the average level of assurance in both groups of positive and negative with assurance is close to 6.83 and 7.7. The level of positive and negative no audit groups was 4.62 and 4.4, respectively.

In Question 7, given the fact that non-financial indicators allocated to only the positive group and the negative with assurance group, an assurance level created by obtaining this information is presented in the positive with assurance group. This level is estimated at about 7.63, on average, for the whole group. In Question 8, the four groups (with the exception of the control group) were asked to evaluate the level of non-financial performance indicators for 2011. The highest level was related to the positive with assurance group, the next level was related to the positive without assurance group, after which the other groups, like the negative with audit groups and the negative without audit groups, are at the lowest levels.

In Question 9, all the groups were asked to determine the necessity of reports by audits according to their questionnaire and no available information in determining the credibility of financial statements. According to the above investigations, it became clear that the positive with assurance group gave the highest value to the existence of audit, followed by the control group which considered audit as a necessary role. Meanwhile, the positive without assurance group gave a lowest value to the role of the audit with an average level of 6.83 for the opinions of the whole group.

5.17 Testing of the Interactive Effects of Auditing Conditions

5.17.1 Testing of Second Hypothesis

Mutual effects of auditing and nonfinancial information factors and the effect on the estimated stock value. How is disclosure of non-financial performance and assurance interaction shown in their effect on estimated stock prices by investors?

Table 5.66: Estimation of the Share Price

Dependent Variable: Estimation of the Share Price

Auditing performance	Non-financial	N	Mean	Std. Deviation
Provided	positive	30	67280.00	4982.369
	negative	29	55834.41	742.268
Not provided	positive	29	62900.00	3725.395
	negative	30	54257.33	959.234

Table 5.67: Tests of Between-Subjects Effects

Dependent Variable: Estimation of the Share Price

Source	df	Mean Square	F	P-value
Corrected Model	3	1.109E9	19.833	**.000**
Intercept	1	4.256E11	42171.651	**.000**
Auditing	1	2.975E9	294.781	**.000**
Non-Financial Performance	1	2.616E8	25.923	**.000**
Non-Financial Performance* Audit report	1	57923995.04	5.739	**.018**

R Squared = .743 (Adjusted R Squared = .736)

As shown in Table 5.67, the tests of between-subjects effects and P-values are equivalent to 0.000, 0.000 and 0.0018, respectively. Therefore, based on the given amount that is less than 0.05, these assumptions showed the effects of audit report and non-financial performance factors on estimating the stock price and the interactional effect of audit engagement and non-financial information on the estimated stock price.

The significance level of p-value = 0.018 in Table 5.67 represents the interactional significance of two non-financial performance and report factors on the estimated stock price. Figure 5.13 and Figure 5.14 in the Appendices show the relationship between the variables and non-financial performance.

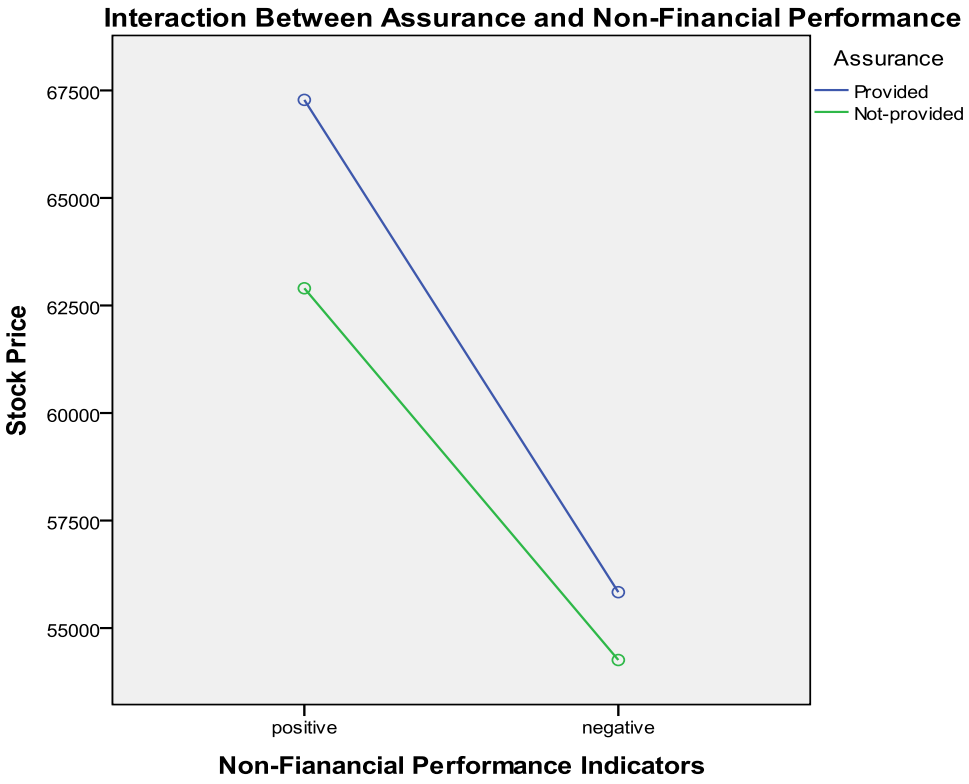


Figure 5.1: Interaction between Assurance and Non-Financial Performance

As depicted in Figure 5.15, the interactions between audit report and nonfinancial performance on the estimated stock price were observed when the non-financial information disclosed positively and without audit. In this case, estimation of stock price would be over the estimated R62,900, that is more than the base index of R58,000, as the base price. Therefore, disclosure of positive nonfinancial performance indicators would increase institutional investors' stock price estimates (supporting hypothesis 1). When non-financial information disclosure tends to be negative, and there is no reliable estimate of the stock price, the stock price will then be R54,257, which is lower than R58,000 compared with the base index. As shown in Table 5.18, the significance level of 0.000 is less than 0.05, indicating that the test is significant and or in other words, disclosure of negative nonfinancial performance indicators will decrease institutional investors' stock price estimates stock price estimates (supporting hypothesis 1).

On the other hand, as shown in Table 5.73, the interaction between non-financial information in a positive form by providing audit reports estimated the stock price as R67,280. This amount of price, compared to R62,900 on the basis of just non-financial information, increased the stock price to R4,380, which was due to the participants' trust in the auditor's audit reports.

The effects of the test of between-subjects shown in Table 5.81 revealed that this difference is significant (F=5.73 P=.018). Thus, the provision of audit report for the non-financial performance indicator disclosures affects stock price estimate more when the disclosures are positive (Supporting hypothesis 2).

Finally, with negative non-financial information and providing its reports, the stock price was estimated as R55,834 compared to the base price of R58,000 and the negative nonfinancial performance without audit report the stock price estimated as R54,257. Based on the independent sample test in Table 4.23, it was observed that the significance level of.012 is less than 0.05. Also, the effects of the test of between-subjects shown in Table 4.74 indicate that this difference is significant (F=5.73, P=.018). Therefore, the provision of independent audit report for non-financial performance indicator disclosures affects stock price estimate less when the disclosures are negative. These results support H2 in the study. Hypothesis 2 predicted just the interaction between non-financial performance disclosure and audit report. It was expected that audit report would influence the stock value and its relevant estimations when disclosures are positives and negative. Investors react to positive and negative information. In addition, the participants reacted to audit report on non-financial information.

5.18 Further Analysis

A few additional questions relevant to the analysis of the main assumptions, which may have effect on reliability of the results, were examined thoroughly. Considering the main issue of estimated stock prices given in the form of two questions, more issues were examined for the two related questions.

5.18.1 Does Gender Influence the Estimated Stock Price?

Table 5.68: Gender Influence the Estimated Stock Price

Gender		N	Mean	Std. Deviation
Your Estimations of the Share Price	Male	121	**1.91**	.816
	Female	27	**1.74**	.764

Table 5.69: Independent Samples Test for Gender

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig.	Mean Difference
Your Estimations of the Share Price	Equal variances assumed	.135	**.714**	.980	146	**.329**	.168
	Equal variances not assumed			1.022	40.364	**.313**	.168

Based on the inferential statistics in Table 5.69 and the significance level of Leuven test as 0.714 (larger than 0.05), the variance values are equal. Therefore, the value of 0.329 for the independent samples test represents a significant hypothesis. This means that the gender of the participants has no effect on the estimated stock values.

5.18.2 Does Respondents' Age Affect the Estimated Stock Price?

Table 5.70: Respondents' Age and the Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	4	.486	.741	**.566**
Within Groups	143	.656		

In this study, the age of the respondents was classified into five categories, while the ANOVA was used to test this hypothesis. According to the significance level of .566 that is larger than 0.05, the age of respondents was found to have no effect on the estimated value.

5.18.3 Do Business Activities Affect Estimated Stock Price?

Table 5.71: Business Activities Affect Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	4	1.020	1.589	**.180**
Within Groups	143	.641		

According to the one-way ANOVA test, the significance level of about .180, which is greater than 0.05 was observed in this study. Therefore, this test is not significant. In other words, the business activities of the respondents based on year have no effect on their estimation of stock price. One reason for this issue is due the highest frequency belonging to the age group of 11–15 years which is related to about 70.9% of the individual respondents.

5.18.4 Does Work Experience Affect Estimated Stock Price?

Table 5.72: Work Experience and Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	6	1.029	1.619	**.146**
Within Groups	141	.636		

The test of one-way ANOVA revealed that the significance level of about 0.146, which is greater than 0.05, was observed in this study. Therefore, this test is not significant. This also means that the respondents' business activities based on year have no effect on the estimation of stock price. One reason for this is related to the highest frequency of groups with 4–5 years of activities involving 31.8% of the

respondents. Moreover, there is no respondent without working experience in the accounting field.

5.18.5 Does Field of Working Affect the Estimated Stock Price?

Table 5.73: Field of Working and the Estimated Stock Price

	Df	Mean Square	F	Sig.
Between Groups	5	.496	.755	**.584**
Within Groups	142	.657		

The test of one-way ANOVA revealed the significance level of about 0.584, which is greater than 0.05. Therefore, this test is not significant. This also means that the business field of the respondents has no effect on the estimation of stock price. One reason for this is due to the same field of study of the respondents that is related to their work activities in an organizational classification. In fact, sampling is performed among experts.

5.18.6 Do Organizational Posts Affect Estimated Stock Price?

Table 5.74: Organizational Posts and the Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	3	.160	.242	**.867**
Within Groups	144	.662		

The test of one-way ANOVA showed the significance level of about 0.867, which is greater than 0.05. Therefore, this test is not significant. This also means that the organizational posts of the respondents have no effect on the estimation of stock price. One reason for this is due to the fact that all the respondents are from the same organizational field. In fact, sampling was performed among experts.

5.19 The Second Question

5.19.1 Does Gender Influence the Estimated Stock Price?

Table 5.75: Gender Influence and the Estimated Stock Price

		Levene's Test for Equality of Variances		T-Test for Equality of Means			
		F	Sig.	T	df	Sig.	Mean Difference
Share Price Will Increase or Decrease in Future Years	Equal variances assumed	.437	**.510**	-1.612	146	**.109**	-1835.868
	Equal variances not assumed			-1.585	37.806	**.121**	-1835.868

Based on the inferential statistics presented in Table 5.75 and the significance level of Leuven test of 0.510 (larger than 0.05), the variance values were found to be equal. Therefore, the value of 0.109 for the independent samples test represents insignificant hypothesis. This also means that the participants' gender has no effect on the estimated stock value.

5.19.2 Does Respondents' Age Affect the Estimated Stock Price?

Table 5.76: Respondents' Age and the Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	4	21632784.635	.742	**.565**
Within Groups	143	29143605.098		

Based on the fact that the age group is classified into five categories, the ANOVA was used to test this hypothesis. According to the significance level of 0.565, which is less than 0.05, the respondents' age was found to have no effect on the estimated value.

5.19.3 Do Business Activities Affect Estimated Stock Price?

Table 5.77: Business Activities and the Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	4	15959762.052	.545	**.703**
Within Groups	143	29302291.044		

Based on the one-way ANOVA test, it was observed that the significance level is about .703, the value which is greater than 0.05. Therefore, this test is not significant. This also means that the respondents' business activities based on year did not have any effect on the estimation of stock price. One reason for this issue is due to the highest frequency belonging to the group of 11–15 years of activities, involving 70.9% of the respondents.

5.19.4 Does Work Experience Affect Estimated Stock Price?

Table 5.78: Work Experience and the Estimated Stock Price

	df	Mean Square	F	Sig.
Between Groups	6	54440396.632	1.954	**.076**
Within Groups	141	27854072.963		

The test of one-way ANOVA yielded that the significance level is about 0.076, which is greater than 0.05. Therefore, this test is not significant. This also means that the respondents' business activities based on year did not have any effect on the estimation of stock price. One reason for this is due to the highest frequency of groups with 4–5 years of activities, including 31.8% of the respondents. Moreover in this study, there is no respondent without any work experience in the accounting field.

5.19.5 Does Field Of Working Affect the Estimated Stock Price?

Table 5.79: Field of Working and the Estimated Stock Price

Share prices will increase or decrease in the future years

	Df	Mean Square	F	Sig.
Between Groups	5	16009909.461	.545	**.742**
Within Groups	142	29394486.762		

The test of one-way ANOVA revealed that the significance level at about 0.742, which is greater than 0.05. Therefore, this test is not significant. This also means that the business field of the respondents did not have any effect on the estimation of stock price. One reason for this is due to the respondents' field of study in relation to their work activities in an organizational classification. In fact, the sampling in this study was performed among experts.

5.19.6 Do Organizational Posts Affect Estimated Stock Price?

Table 5.80: Organizational Posts and Estimated Stock **Price**

	Df	Mean Square	F	Sig.
Between Groups	3	8586685.766	.292	**.831**
Within Groups	144	29363240.349		

According to the test of the one-way ANOVA, it was observed that the significance level is about 0.831, which is greater than 0.05. Therefore, this test is not significant. This also means that organizational posts of the respondents had no effect on the estimation of stock price. One reason for this is due to the fact that all the respondents are from the same organizational field. In fact, the sampling in this study was performed among experts.

5.20 In Your Opinion, Which One of the Non-Financial Performance Indicators has more Impact on the Estimated Stock Price?

Table 5.81: Non-Financial Performance Indicators *Group Cross Tabulation

Non- Financial Performance		GROUP				Total
		Positive with Assurance	Positive without Assurance	Negative with Assurance	Negative without Assurance	
	Customer Satisfaction	13 24.5%	12 22.6%	9 22.6%	15 30.2%	52 100 %
	Employee Satisfaction	8 20.5%	9 23.1%	12 30.8%	10 25.6%	39 100 %
	Internal process of the company	9 33.3%	8 29.6%	5 18.5%	5 18.5%	27 100 %

. The descriptive statistics for the total number of 148 participants, 52 people were found to have placed priority on job satisfaction, 39 people on employee satisfaction, and 27 people to the internal processes of the company. The participants argued that these kinds of nonfinancial indicators had the most influence on the estimated stock prices (see Figure 5.16 in the Appendices).

5.21 Are You Interested in More Information about this Company?

Table 5.82: Groups *More Information about This Company Cross Tabulation

Groups		More Information about This Company		Total
		Yes	No	
	Control	27 **90%**	3 10%	30 100%
	Positive with Assurance	10 **33%**	20 67%	30 100%
	Positive without Assurance	13 44%	16 56%	29 100%
	Negative with Assurance	11 38%	18 62%	29 100%
	Negative without Assurance	14 47%	16 53%	30 100%
Total				148 100%

Based on the descriptive statistics in Table 5.82 which deals with additional information required for the estimation of stock price, it was found that over 90% requirement for more information on decision making related to stock price was related to the control group. The least required information for decision making was provided by the groups with the positive or negative nonfinancial information of accounting reports. Therefore, it can be concluded that nonfinancial information can be disclosed as a complementary part of financial statements because it has important impact on decision making.

5.22 Do you think you have adequate ability in completing the task?

Table 5.83: Adequate Ability in Completing Task

Percentage	Number	
97.3	**144**	Yes
2.7	**4**	No
100	148	Total

Based on the descriptive statistics in Table 5.83, about 97% of the participants announced that they have the required knowledge to complete these questions. These results can have an effect on the reliability of the results.

5.23 The Effects of the Type of Investment Institutions on the Estimated Stock Price

Table 5.84: Type of Investment Institutions on the Estimated Stock Price

	Df	Mean Square	F	Sig.
Between Groups	6	14092838.745	.477	**.825**
Within Groups	141	29570990.320		

As shown in Table 5.91 and the one-way ANOVA test, with the significance level of .825, no statistical significant difference was determined. This means that the type of institutions has no influence on the estimated stock prices. In addition, Table

5.106 in the Appendix of a Post Hoc test yielded the same result based on the Tukey test (see Table 104 in the Appendices).

5.24 Summary

A detailed explanation of the findings obtained from the data analysed in this study has been presented in this chapter. The hypotheses of this research study were developed based on the literature review. In order to test the main hypothesis, two questions (1 and 2) were designed, with two different methods for the respondents to understand the questions and for a more accurate explanation of the questionnaires by the researcher. The statistical technique used in this study is for data analysis, which includes descriptive statistics, one sample t-test, independent sample t-test, one-way and two-way ANOVA, and the Kruskall-Wallis test. The one-way and two-way ANOVA were employed to determine the effects of disclosing non-financial performance indicators and assurance report on the stock price estimate. The results of this study provide evidence of the Prospect Theory, Attribution Theory and hypotheses. The result of this study can have significant contributions to the development of effective stock market on investor's behaviour in the Iranian stock exchange. The conclusions of this research study are given in Chapter 6.

CHAPTER 6

DISCUSSION AND CONCLUSION

6.1 Introduction

This chapter provides an overview of the research and a summary of the results and conclusions. The first section provides a recapitulation of the findings. The second section provides discussions and highlights of the study. The third section highlights the implication of the study. In the penultimate section the limitation of the research findings and suggestion for future research, and the last section provides conclusions of the study.

6.2 Recapitulation of the Findings

The utilization of the non-financial performance measures to overpower the shortcomings of the traditional financial measures has dramatically increased in the recent years and is gaining support (Kang & Gray, 2011). This can be considered because of the recent involvements in performance evaluation systems. Financial measures have been regarded as too late, overly accumulative, and excessively one-dimensional in nature to be applicable (Coram, Mock, & Monroe, 2011). In this respect, there is evidence that points out the influence of non-financial performance measurements on the estimation of companies that have not been measured completely from a financial perspective. Traditional financial measurement systems that use accounting measures have been criticised as inadequate and inappropriate for today's business environment. Various individuals and groups have called for more disclosure of information by non-financial companies.

According to researchers, investors believe financial statements issued by Iranian companies do not present comprehensive and conclusive information regarding Iran's stock market. Meanwhile, Mohsen (2006) asserted that Iran's financial reports do not disclose non-financial performance for the stock market. Generally, due to the lack of non-financial performance indicators, disclosure and the

lack of this kind of information in financial report systems in the Iranian stock market, investors may not be able to estimate a company's share price accurately. Therefore, they face uncertainty and high risks in their estimation. Inadequate information, especially financial information, may influence investors' decision making. However, because of the lack of disclosure of this kind of information in the stock market, this study has provided additional evidence in relation to the value of disclosure of non-financial performance indicators through their effects on stock price estimation. At the start of the research, the aim was to achieve the following:

1. To determine the effects of disclosure of non-financial performance indicators on institutional investors' stock price estimates.

2. To analyse the moderating effects of the provision or non-provision of independent audit report and disclosure of non-financial performance indicators (positive or negative) on institutional investors' stock price estimates.

It is important to state here that all these objectives have been satisfied, and the discussion below aims to prove this. For this purpose, the experimental research method was utilized in order to obtain the kind of information that was needed to satisfy the objectives. This research addressed the following questions and hypotheses:

6.2.1 Research Questions

Two questions were raised so as to address the issues above.

1. What are the effects of disclosures of non-financial performance indicators on institutional investors' stock price estimates?

2. How do the interactions between disclosure of non-financial performance indicators and independent audit report impact institutional investors' stock price estimates?

In order to answer the two research questions and test hypothesis, the study focused on one independent variable (non-financial performance indicators), a moderating variable (audit report) and a dependent variable (stock price estimate). The research design used a quantitative method with 19 closed-ended questions as the survey instrument. The study used a sample of managers of investment institutions in the stock exchange who have had experiences in the Iranian stock market. Data were collected during the classes which were held by Tehran Stock Exchange once every three months. A total of 148 respondents (121 males and 27 females) completed the survey. The collected data were analysed by using the SPSS windows version 17.0. Four different statistical analyses were employed for the survey: descriptive statistics, one sample t-test, independent–sample t-test analysis, and one–way and two-way ANOVA analysis. Institutional investors are appropriate for this experimental research because they have obtained the knowledge and experience necessary to answer the questions. Investors, especially investment institutions, perform logically to same extent according to appropriate experience and knowledge in investment decision making. They use a great deal of information inside and outside of the company before deciding about choosing any share (Hasanali & Abdolah, 2010; Sasan & Aliakbar, 2009). Investor's behaviour is dependent upon the kind of information in the stock market. Therefore, the study demonstrated a framework that is grounded in the disclosure of non-financial performance indicators, audit report, in order to examine investors' behaviour in the stock price estimate.

Prospect Theory and Attribution Theory are behavioural theories that have been tested in the accounting and financial environments (Abdolallah, 2009). Banker *et al*. (2004) have tested two theories of risks in uncertain situation. Rose *et al*. (2002) tested the Prospect theory in an investment environment. Several studies have tested the theories of prospect and attribution in environment of auditing and revealed reactions towards audit report with evaluation information (Battalio *et al*., 1990; Schneiher *et al.*, 1993; Emby, 1994; O'clock, 1995; Blondel, 2002; Conchar *et al*., 2004). Both the theories have been used in uncertainty situation, cause and effect, financial and accounting research, as well as financial environments. Both are based on the psychology theories (Conchar, 2004; Quiggin, 1993). Previous researchers

have stated that the Prospect Theory and Attribution Theory theories are related to each other (Tammy, 2006).

The Prospect Theory, which provides a framework for the hypotheses, explains how "positive or good news" and "negative or bad news" about non-financial performance indicators affect the attitude of users through increased "positive and negative" responses. The theory suggests that the cause and effect relationship increases the level of users' attitude. In addition, the Prospect Theory also helps to explain the impact of confidence on the attitude of investors. In particular, it predicts the users' attitudes and approach when non-financial performance is disclosed either positively or negatively (Wilson & Levine, 1997). Meanwhile, Kelley and Michela (1980) have shown that the Attribution Theory is not a single theory, and that, in fact, is a wide class of theories which describe the cause and effect reasoning. Both theories (PT and AT) predict how people react in risky environments such as financial decisions.

According to the objectives of this study, non-financial performance is required in the field of disclosure and audit report of the performance to combine the two theories together. The present study examined the effects of disclosure of non-financial performance indicators (customer satisfaction, employee satisfaction and internal process) and audit report of this type of information on stock prices. Based on the literature review and a combination of the two theories with the non-financial performance indicators, a new model for disclosure of non-financial performance and stock prices in the stock market has estimated that the theory is consistent with both of them. This study examined the disclosure of non-financial performance indicators related to "Positive N-FPI," or "good news," and "negative N-FPI" or "bad news" (Basu, 1997; Hayn, 1995; Yen, 2004) and manipulated them.

According to the relationships between the variables in the past studies, as well as the recommendations and findings of some previous researchers, the study's interactive effects between variables and audit report are essential for non-financial performance (Hunton & McEwen, 1997; Ku nor & Chandle, 2005) that creates a relationship between the two theories and finally a theoretical framework. In this study, estimation of the stock price refers to the evaluation of non-financial

performance in the stock market. Therefore, it is necessary that this type of information based on Prospect Theory is disclosed at two positive and negative levels in an experimental environment. On the other hand, investors will not use this information unless the information is being handled and reviewed by an independent auditor. Thus, the Attribution Theory considers non-financial performance evaluation process and protects this issue. Generally, it is believed that this model plays the main role in the estimation of stock price by investment institutions, whether the stock price is increased or decreased. The mentioned model of non-financial performance disclosure was introduced based on two defined theoretical models. In this model, the BSC indicators play an important role in the obtained results. In this regard, there is no comprehensive model that can evaluate the performance of non-financial information. Thus, the present model is an attempt to fill the gap in the literature review.

On the other hand, in this study, the design included two factors used at two levels (2 x 2 + 1). This means that two independent variables, which include disclosure of non-financial performance at the two levels (positive non-financial performance indicators and negative non-financial performance indicators) and audit report on this type of information at two levels (providing or not providing audit) + control group. Much information is achieved through this plan. The study has provided estimation of the company stock price at both levels, while providing or not providing audit report is determined for each kind of non-financial performance disclosures (positive and negative). These factors were tested for two theories: the Prospect Theory (Kahneman & Tversky, 1984) and the Attribution Theory (Heider, 1958). These factors and theories tested were completely crossed resulting in a total of five experimental conditions.

6.3 Discussion

6.3.1 Research Question One and H1

What are the effects of disclosing non-financial performance indicators on institutional investors' stock price estimates?

This particular research question addressed the following research hypothesis.

H1 - Disclosure of non-financial performance indicators (customer satisfaction, employee satisfaction and firm internal process) affects institutional investors' stock price estimates more when the disclosures are positive than when they are negative.

6.3.2 Testing of the Hypothesis

The analyses to test the hypotheses were done through Independent Sample T-test and an ANOVA with Post Hoc comparisons of significant difference in stock price estimates according to groups. Given the equality of variance (Levene's test), the one-way ANOVA method was used among the inferential statistics tests. Based on the P-value = .000 < 0.05, it is indicated that this test is significant as it shows the difference between the average of groups (see Table 5.12). The control group average was R58,058, while the average of the positive nonfinancial performance group was R62,900 and the average of the negative nonfinancial performance group was R54,257. This difference is very important. The ANOVA presented in Table 5.12 with Post Hoc shows the significant main effect of the non-financial information variable which indicates that NFPI affect stock price estimate (see Table 5.100 and Figure 5.9 in the Appendices).

6.3.3 Further Analysis of Separate Groups

In the first stage, the estimations of the control group, based on the stock changes of R58,000 for the next year, were:

1. According to the tests presented in Table 5.13, the control group was observed to have predicted a fixed amount of stock value of R58,000, with no change. This value with a significant level of 0.945 is more than 0.05, indicating that the test is on significant.

2. Hypothesis one is related to the perceived value of N-FPI compared to the control group. According to the independent sample test, it was observed that the control group's estimate and the positive non-financial performance

indicators without the audit report group's estimate contradict each other based on a significance level of .000, which is less than 0.05. This finding indicates that the test is significant. In addition, as shown in Table 5.15, it was found that disclosure of positive non-financial performance indicators without audit report group predicted that the value of stocks would increase to above R58,058, while the control group estimated the value to an average of R629000 for the following year. It was also observed that that influence of the non-financial performance indicators alone could have a kind of incremental impact of over R4842 on the stock price. H1 proposed that disclosure of positive NFPI would increase institutional investors' stock price estimates. These results support H1 in the study. Moreover, in the third stage, the control group and the negative without audit group examined this using the independent samples test to test H1 and to see if the negative non-financial performance indicators would affect the estimation of the stock prices.

3. On the other hand, hypothesis one relate to the perceived value of N-FPI compared to the control group. According to the independent samples test depicted in Table 5.18, the control group's estimate and the negative nonfinancial performance group's estimate contradicted each other based on the significance level of .000, which is less than 0.05. This finding indicates that the test is significant. In addition, as illustrated in Table 5.17, the negative non-financial performance group was found to have predicted that the value of stocks would decrease from R58,058, as estimated by the control group for the next year, to an average of R54,257. It was also observed that that influence of the non-financial performance indicators could have a kind of incremental negative impact of over R3,800 on the stock price. H1 proposed that disclosure of negative NFPI would decrease institutional investors' stock price estimate. These results support H1 in the study. It was also observed that disclosure of negative non-financial performance indicators decreased stock price much lesser than the four other groups. Thus, it could be presumed that the participants had reacted negatively to the non-financial performance indicators.

6.3.4 The Overall Results

Based on the results elaborated above, the value of stocks in the following year, in comparison to the value of R58,000 designed for the respondents in the form of two questions, can be summarized as follows. In response to the first question, two groups of the control and positive without audit report are of the opinion that the stock value would increase from R58,000, while the remaining group argued that the rate of R58,000 for the shares would decrease. Meanwhile, the control group was in favour of a fixed value of the stock. The second question related to increased or decreased stock prices that are more accurate estimated that this would confirm the results of the first question. In other words, the control group considered the same amount of R58,000 for the following year. Based on the average value of the prices in the group (i.e., R58,000), however, it is clear that the tendency was towards stability of R58,000. Based on the above results (Question 2), and also the positive without assurance group, it was noted that the increase in the average shares to an extent of R62,900. The group of negative without assurance pointed out a tendency towards the reduction of stock levels from R58,000 to an average estimated level of R54,257. These reactions were more in the case of positive information due to the participants' confidence in the positive information as against the negative information. In particular, they indicated an increased value in the stock price to above R58,000, while the negative without audit report group gave a minimum level of confident which was based on their responses. This result, according to their answers to Questions one, is quite evident.

The findings for Question 1 revealed that the positive non-financial performance based on only BSC indicators had an effect on the estimated stock price. More specifically, the participants reacted reasonably to this type of without-assurance information. Therefore, it can be concluded that disclosure of non-financial information in the positive form will be useful for users for stock price estimation and decision making (supported the results of hypothesis 1). On the other hand, negative non-financial performance based on only BSC indicators has an effect on the estimated stock price in the next year. The participants reacted rather negatively to this type of without audit report information. Hence, it can be

concluded that disclosure of nonfinancial information in the negative form will be useful for users for stock price estimation and decision making. However, this effect is very salient, and the estimated stock price of these groups is very different to that of the control group, with a base indicator of R58,000. These results support H1 in the study.

These reactions were more in the case of positive information due to the participants' confidence in the positive information, as against to the negative information that is consistent with the Prospect Theory. In this study, the research literature was developed through investigation of the effects disclosure of non-financial performance indicators (positive and negative) on institutional investors' stock price estimates. The results confirm the findings of some previous studies in the field of effective decision making about non-financial performances (see for example, Dehning, 1998; Hayn, 1995; Robert & Patrik, 2009). These findings are clearly indicated in the scientific research and therefore, the assumption is not considered in this research, although they are reviewed in the results section.

The previous studies by Phillips (2002), and Lev and Zarowin (1999) suggested that non-financial information is used in decision making related to the use of information as an important intrinsic item of value. In addition, the studies also proposed that they represent some sort of a better prediction of future financial performance of a company than its financial performance (Johnson & Kaplan, 1987; Lev & Zarowin, 1999). The results provide evidence of specific knowledge about non-financial disclosure that helps investors to gain a better understanding of and to use this type of information in the valuation of companies, in combination with the financial information. In addition, the results also provide evidence that supports the Prospect Theory.

Marc and Krishna (1999) and Paul *et al*. (2009) found that disclosure of non-financial performance indicators (e.g., employee satisfaction, customer satisfaction) into external reports is relevant and useful to users. Ambrose and Gregory (2011) expressed that more than 85% of investors and analysts want this type of report to evaluate companies. Meanwhile, a number of researchers have expressed that since the financial performance of companies is related to a company's historical

information, non-financial performance of the company can be used to predict and estimate the future of their performance better (Lev & Zarowin, 1999). In addition, some researchers found that the current financial measurements are not a feasible way to reflect the long-term profits of firms, while extant research supports the claim that non-financial performance measurements are positively dependant upon the function of future accounting (Hunton *et al*., 2003; Yen, 2004). In the recent years, companies have begun using non-financial performance indicators such as customer satisfaction and qualitative factors for products in their evaluation (Paul *et al*., 2009).

6.3.5 Research Question Two and H2

How do the interactions between disclosure of non-financial performance indicators and independent assurance services impact institutional investors' stock price estimates?

This particular research question addresses the following hypothesis.

H2 - Provision of audit report for disclosure of non-financial performance indicators affects institutional investors' stock price estimate more when the disclosures are positive than when they are negative.

6.3.5.1 Primary Analysis of Groups

The analyses to test the hypotheses were done through the Independent Sample T-test and ANOVA with Post Hoc comparisons of significant difference in the stock price estimate according to groups. Given the equality of variance (Levene's test), the one-way ANOVA method was used among the inferential statistics tests. As P-value = .000 < 0.05, this test is therefore significant because it shows the difference between the average of the groups (see Table 5.12). The average of the control group was R58,058, while the average of the positive non-financial performance group with assurance was R67,280 and the average of the negative non-financial performance group with assurance was R55,834. This difference is very important. The ANOVA in Table 5.12 with Post HOC showed a significant main effect for the non-financial performance indicators and assurance. In

the first stage, the control group and the positive with assurance group examined this using the independent sample test.

1. Based on the independent sample test, the estimates of the control group and the positive with audit report group contradicted each other at the significance level of .000, which is less than 0.05. This revelation indicates that the test is significant. In addition, the positive with audit report group predicted that the value of stock would increase to above R58,058, while the control group estimated the average of R67,280 for the following year (see Table 5.19). The influence of the two factors of non-financial performance and audit report on this kind of information was observed to have an incremental impact over R9,222. In other words, when there was a disclosure of positive NFPI, the provision of assurance would increase the institutional investors' stock price estimate. This study examined whether the positive and negative disclosures had important and significant impacts on the estimated stock prices. Meaningful and significant impacts of the non-financial performance indicators in the previous studies have been confirmed by Banker *et al*. (2009), Ittner and Larcker (1998b), Allan (2010) and Paul *et al*. (2009). In the second stage, the control group and the negative with audit report group examined this using the independent sample test.

2. Based on the findings of the independent sample test in Table 5.22, it can be observed that the control group's estimate and the negative non-financial performance with audit report contradicted each other based on the significance level of .012, which is less than 0.05. This indicates that the test is significant. In addition, as shown in Table 5.21, the negative non-financial performance group predicted that the value of stocks would decrease from R58,058, while the control group estimated an average of R55,834 for the following year. It was also observed that the influence of the two factors of non-financial performance and audit report on this kind of information had an incremental impact over R2,223. In other words, when there is a disclosure of negative NFPI, the provision of audit report will

decrease institutional investors' stock price estimate. In the third stage, the negative with audit report and the negative without audit groups examined this using the independent samples test.

3. Based on the independent samples test in Table 5.24, it can be observed that the negative with audit report group's estimate and the negative without audit group's estimate are different from each other. The significance level is .005, which is less than 0.05, indicating that the test is significant. In addition, as shown in Table 5.23, the estimated value of the stock price for the negative with audit report group is R55,834, whereas this is R54,257 for the negative group without audit, with a difference of R1,577. In other words, when disclosure of negative non-financial performance indicators and assurance are provided, the mean stock price was R55,834 and this was R54,257 when assurance was not provided, which was found to be significant. In the fourth stage, the positive with audit report group and the positive without audit report group examined this using the independent sample test.

4. Based on the independent sample test in Table 5.26, it can be observed that the positive with audit report group's estimate and the positive without audit report group's estimate are different from each other, with the significance level of .000, which is less than 0.05. This indicates that the test is significant. In addition, as illustrated in Table 5.25, the positive with audit report group was found to have predicted that the value of stocks to increase to R67,280 and this was to R62,900 by the positive without audit report group, which showed a major difference. This difference was due to the reaction of the participants to the audit reports. In other words, when disclosure of positive nonfinancial performance indicators and audit report were provided, the mean stock price was R67,280 compared to R62,900 when the audit report was not provided; the difference was found to be significant. In the fifth stage, the positive with audit report group and the negative with audit report group examined this using the independent sample test.

5. Based on the results of the independent sample test in Table 5.28, it can be observed that the positive with audit report group's estimate and the negative with audit report group's estimate are different from each other, as shown by the significance level of 0.000, which is less than 0.05. This indicates that the test is significant. In addition, as shown in Table 5.27, it was found that the the positive with audit report group estimated value of the stock price to be R67,280, and this was R55,834 for the negative group with audit report. Generally, it can be said that for the following year, the positive with audit report group seemed to estimate the value of stocks to increase from R58,000, while the negative with audit report group predicted that the value of stocks would decrease from R58,000. In the sixth stage, the positive without audit report group and the negative without audit group examined this using the independent sample test.

6. The findings of the independent sample test in Table 5.30 revealed that the positive without audit report group's estimate and the negative without audit group's estimate are different from each other. The significance level was 0.000, which is less than 0.05, indicating that the test is significant. In addition, based on the average estimated value of stock prices by both the groups, it was observed that the price would be R629000 for the positive without audit report group, and this was R54,257 for the negative group. Generally, it can be said that for the following year, the positive without audit report group tended to estimate the value of stocks to increase from R58 000, the negative with audit report group estimated this to decrease from R58,000 (see, Figure 5.10 in the Appendices).

6.3.5.2 Testing the Interactive Effects of the Audit Report Conditions

In Table 5.81, the tests of between-subjects effects and P-values are equivalent to 0.000, 0.000, and 0.0018, respectively. Therefore, based on the given amounts, which are below 0.05, the assumptions showed the effects of the audit report and non-financial performance factors on estimating the stock price and also the interactional effect of the audit engagement and non-financial information on the

estimated stock prices. The significance level of p-value = 0.018 in Table 5.74 represents the interactional significance of two non-financial performance and audit report factors on the estimated stock price.

As shown in Table 5.73, the interaction between the non-financial information in the positive form by providing audit reports estimated the stock price at R67,280. This price, as compared to R62,900 on the basis of just non-financial information, increased the stock price to R4,380 due to the participants' trust in the auditor's audit reports. The results of the test of Between-Subjects in Table 5.74 showed that this difference is significant (F=5.73; P=.018). Therefore, the provision of assurance service (independent audit report) for the non-financial performance indicator disclosures affects stock price estimate more when the disclosures are positive (supporting Hypothesis 2).

Finally, with the negative non-financial information and providing its reports, the stock price was estimated at R55,834 compared to the base price of 58,000 and the negative non-financial performance without audit report, the stock price was estimated at R54,257. Based on the independent samples test in Table 4.23, it can be observed that the significance level is .012, which is lower than 0.05. In addition, the result of the test of Between-Subjects in Table 5.74 showed that this difference is significant (F=5.73, P=.018). Thus, the provision of the audit report for non-financial performance indicator disclosures affects stock price estimate less when the disclosures are negative. These results support H2 in the study. Hypothesis 2 predicted just an interaction between the non-financial performance disclosure and audit report. It was expected that the audit report would influence the stock value and its relevant estimations when disclosures are positive and negative. Investors react to positive and negative information. In addition, the participants reacted to the audit report on non-financial information. However, this reaction was less negative than that of non-financial information. Disclosure of the non-financial performance, in itself, negatively stimulates the participants to react in a negative manner. This reaction is less against the non-financial performance, and perhaps, it will have much less sensitivity.

The research literature in this study was developed through the investigation of the effects of disclosing non-financial performance indicators (positive and negative) and the provision or non-provision of independent audit report on institutional investors' stock price estimates. The results confirm the findings of some previous studies on effective decision making in relation to non-financial performances. (e.g., Ittner & Larcker, 1998; Banker *et al*., 2004). These findings are clearly reported in scientific research and therefore, the assumptions are not considered in this research, although they are reviewed in the result section.

The participants were also asked to estimate the stock price for the three consecutive years based on the information provided. The positive with audit report and the positive without audit report groups believed that the stock prices would increase in an increasing trend. In contrast, the negative without audit group estimated a kind of inclining pattern which reaffirms the above assumptions. These groups, in relation to the audit report level to non-financial performance indicators related to the respondent groups, said that the positive and negative with audit report groups had the most amount of assurance as compared to the positive and negative without audit report groups. The results indicated that the respondents reacted to the non-financial information with audit reports for this type of information with more assurance. This may indicate good outcomes for the audit profession.

The findings presented in Table 5.106 and Figure 5.12 in the Appendices, and also the results mentioned in Chapter 4, the value of stocks in the next three years, in comparison to the value of R58,000 designed for the respondents in the form of two questions, can be summarized as follows. In response to Question 3, four groups of control, positive with audit report, positive without audit report, and negative with audit report, are of the opinion that the stock value would increase from R58,000. The negative group without audit believed that the value of stock prices would decrease from R58,000. The positive with audit report group had the highest increases in price with the average of R73,447. In the fifth question, the participants were asked to provide their judgment about the estimation of stock prices for the next three years. The highest level of audit report is related to the positive with audit report group. It was demonstrated that they had adequate and sufficient information

available in both the first and second questions. They indicated an increased value in the stock price to above R58, 000, while in the negative with audit report, a minimum level of audit report was reported based on their responses. This result, according to their answers to questions one and two, is quite evident.

Koonce and Mercer (2005) noted how their research had relevance in examining disclosures of non-financial data. They suggested that it is necessary to provide a framework to disclosure of non-financial performance and have trust in this kind of information to attain more confidence of users. Meanwhile, scientific research strongly supports the idea that audit report influences the accuracy and validity of disclosure. Important and sufficient evidences have shown demand for auditing in environments without law (controlled) and lawful support, which further confirms this claim. There is also evidence that shows the market make attributions about incentives associated with managements' voluntary information disclosures. Hirst *et al*. (1995) provided experimental evidence that investors consider situational incentives when deciding how much to rely on a disclosure.

The Attribution Theory provides a very strong theoretical framework for our predictions (Paul *et al*., 2009; Elder *et al*., 2010). In previous studies, it was clearly shown that accounting and audit report are related values, which influence decision making of users (e.g., Abdolallah, 2009; Banker *et al*., 2004; Blondel, 2002). The present research has helped to answer the research questions. It also adds this point in the review of literature that assurance value is added to non-financial information based on BSC in an experimental study. This study has provided some experimental evidence based on impacts of structured disclosures of non-financial information on the estimated stock price and the impact of audit report on this type of information. The three main findings of the results are therefore presented.

First, the non-financial performance indicators were formulated based on BSC, which have very significant impacts on the estimated stock price. This should be interesting for regulators, users, and the accounting profession. If this type of information is value-related, these findings therefore suggest that companies will benefit from this kind of disclosure.

Second, it provides more information to investors and other foreign users in relation to decision making in selling or buying of a company's shares.

Third, this study has shown that the value of audit report on non-financial performance is context specific. In more specific, audit report provided a significant difference for the estimation of stock prices when the nonfinancial information disclosure was positive. However, there was no significant difference when non-financial information disclosure was negative. It is expected that users will be more reassured about the positive reliability of information disclosure. Therefore, it is expected (according to the Attribution Theory) that this volume will be increased. It was expected that the audit report would have a benefit for reducing uncertainty for the participants. Asymmetric reaction to positive and negative information is a good evidence in psychological and accounting research which is compatible with the PT. This has an implication for managers by showing the fact that if non-financial information disclosure is positive, there is a value in engaging an auditor to attest such information. However, if the disclosure of information is negative, it seems that the audit report is not considered as a value for the company. Accounting theory states that preparation of assurance audit increases reliability. This study has also provided evidence that shows structured disclosure of nonfinancial information is required by AAA FASC (2002).

Libby *et al*. (2002) stated that the assessment of the stock price is a complex task. Thus, participants require good and sound knowledge of a company's financial statements and the concepts of evaluation. In this study, real investment institutional trading in the capital market was used, while their reaction against values related to disclosure of nonfinancial information by a company was also tested. They indicated that their reactions to this type of disclosure, which goes according to what has been expected in relevant research in the past. Investment institutions are able to analyze financial data in a good manner, and they are aware of the importance of non-financial information to evaluate a company (Bouwman, 1982; Bouwman, Frishkoff, & Frishkoff, 1987; Hunton & McEwen, 1997; Ku Nor & Chandle, 2005). Financial managers of investment institutions have good knowledge and expertise, and they act professionally in predicting and making decisions of a company. Financial managers

of investment institutions participating in the experience were appropriate for this study because 71% of them have direct relationships with buying and selling of shares in the stock market and financial organizations. About 97% of them announced that they have the required knowledge to complete these questions. Financial managers of investment institutions observed the value of non-financial measures and interpreted it as good news (positive) or bad (negative) news and then they estimated stock prices based on the (good or bad) news. This approach is similar to the one used by Hopkins (1996) and Paul *et al.* (2009). These results can be important for the accounting profession, and some of them can help resolve current challenges in the accounting profession. In addition, the findings can help to develop and extend accounting and auditing standards related to the disclosure of non-financial performance.

Although previous researchers such as Banker *et al*. (2004), Banker *et al*. (2000), Hunton and Wright (2004), and Paul *et al*. (2009) have investigated the effects of individual assurance and disclosures, they did not consider the interaction between these factors. The research literature of the current study was developed through the investigation of interactional effects and preparation or non-preparation effects of voluntary assurance value on sign/power on voluntary disclosure of non-financial information.

One of the most important factions using financial information is the group of institutional investors. Investors are providers of financial resources who attempt investment through stock market to maximize their wealth. Currently, investors consider a wide range of factors for investment. Investor's decision making is becoming more complicated with more and greater risks. The results of these investments may have important effects on the investor's life. One of the factors that has a great effect on development and growth of the investment market is investor assurance. Some researchers have suggested that audit reports are required for financial and non-financial performances because users need to trust this information in their estimates (AICPA, 1994; FASB 2010a). Alex (2000) and Kevin (2008) expressed market assurance resulting from assurance related to financial reports and disclosure of all financial and non-financial performance; it is possible to decrease

capital risks or investors' risks, so as to prevent excessive loss and mistakes due to investment outcomes. Therefore, the moderating variable in the model research is audit report; it is expected to moderate the influence of the relationship between the independent and dependent variables in the positive domain. In the negative domain, little or no effect (Hirst *et al.*, 1995). Assurances can serve as a moderating variable in establishing a linkage between company's information and its trusted users. One question proposed and tested in this research is the role of audit report structures (if any) in the effects disclosure of non-financial performance indicators. The role of audit report structure has been tested in the accounting and financial contexts.

The findings of this research have generally shown that audit report structure helps to increase trust and/or upward tendency of stock price estimate by investors. Since audit report structures are supposed to address concerns about risks associated with stock price estimates, they are extremely significant. The Prospect Theory and Attribution Theory are behavioural theories that have been tested in the accounting and financial environments (Battalio, 1990; Conchar, 2004; Quiggin, 1993). Chang *et al*. (2002) have tested two theories of risks in uncertain situation. Rose *et al*. (2002) tested the Prospect Theory in an investment environment. Several studies have tested the theories of prospect and attribution in the environment of auditing, and they have shown reaction audit report with evaluation information (Basu, 1997; Hayn, 1995; Webby & Connor, 1996; Yen, 2004). This study considered assurance as a moderator variable, which helped in understanding the behavioural effects that were often perceived as aless or gain domain. It was expected that the relationship between disclosing non-financial performance to be either positively or negatively, while audit report as a moderator variable to provide or non-provide that serves to have interactive effect on the estimation of stock prices by investors.

6.3.6 The Overall Results for Questions 5 to 9

Based on the data presented in the tables, graphs and inferential statistics mentioned for in the research questions 5 to 9, assurance level to financial and non-financial performance provided for the five groups can be summarized as follows: In the results obtained from the assurance level in question five for five assurance-level

groups between 6.55 belonging to the negative with audit report group, the positive with audit report and the control groups are equal (i.e., 6.30). In addition, the lowest level belongs to the negative without audit group at 5.70 level. In question six, the average levels of assurance for both groups of positive and negative with audit report are close to 6.83 and 7.7. The level of positive and negative without audit groups would be as 4.62 and 4.4, respectively. In question seven, given the fact that non-financial indicators were allocated to only the positive group and the negative with audit report group, an assurance level created by obtaining this information is presented in the positive with audit report group. This level was estimated at about 7.63, on average, for the whole group. In question eight, the four groups (except for the control group) were asked to evaluate the level of non-financial performance indicators for 2011. The highest level was indicated by the positive with assurance group. Based on question eight, the next level is related to the positive with audit report group, after which the other groups (the positive without audit report and the negative without audit groups) were found to be at the lowest levels.

In question nine, all the groups were asked to determine the necessity of reports by audit according to their questionnaire and without any information available in determining the credibility of financial statements. Based on the above investigations, it became clear that the positive with audit report group gave the highest value to the existence of audit, and the control group considered audit to have a necessary role. The positive without audit report group gave the lowest value to the role of the audit, with an average level of 6.83 for opinions of the whole group.

6.4 Additional Analysis

A few additional questions that are relevant to the analysis of the main assumptions, which may have an effect on the reliability of the results, were examined thoroughly. Considering the main issue of the estimated stock prices given in the form of two questions, more issues for the two related questions were examined.

Does gender influence the estimated stock price?

Based on the inferential statistics in Table 5.76, and according to the significance level of Leuven test at 0.714 which is larger than 0.05, the variances value are equal. Therefore, the value of 0.329 for the independent sample *t*-test represents a significant hypothesis. This means that the participants' gender has no effect on the estimated stock values.

1. Does respondents' age affect the estimated stock price?

Based on this, the age group was classified into five categories, and the ANOVA was used to test this hypothesis. According to the significance level of .566, which is larger than 0.05, the age of the respondents has no effect on the estimated value.

2. Do business activities affect estimated stock price?

According to the one-way ANOVA test, it can be observed that the significance level of about .180 is greater than 0.05. Therefore, this test is not significant. It means that the business activities of respondents based on year have no effect on the estimation of stock price. One reason for this issue is due to the highest frequency belonging to the age group of 11–15 years related to about 70.9% of the individual respondents.

3. Does work experience affect estimated stock price?

Based on the test of one-way ANOVA, the significance level was about 0.146, which is greater than 0.05. Therefore, this test is not significant. This also means that the respondents' business activities based on year have no effect on the estimation of stock price. One reason for this is due to the highest amount of frequency of groups with 4–5 years of activities involving 31.8% of the respondents. In the case of this study, no respondent was without any work experience in the accounting field.

4. Does field of working affect the estimated stock price?

Based on the test of one-way ANOVA, it was observed that the significance level is 0.584, which is greater than 0.05. Therefore, this test is not significant. This means the business field of the respondents has no effect on the estimation of stock price. One reason for this is related to the respondents' same field of study in relation to their work activities in an organizational classification. In fact, sampling was performed among the experts.

5. Do organizational posts affect estimated stock price?

According to the test of one-way ANOVA, it was observed that the significance level was about 0.867, which is greater than 0.05. Therefore, this test is not significant. This also means that the organizational posts of respondents have no effect on the estimation of stock price. One reason for this is due to the fact that all the respondents have the same organizational field. In fact, sampling was performed among the experts.

6. In your opinion, which one of the non-financial performance indicators has more impacts on the estimated stock price?

Based on the descriptive statistics for the total number of 148 participants, 53 were found to place priority on job satisfaction, followed by 39 who emphasised on employee satisfaction, and 27 on company's internal processes. The respondents argued that these non-financial indicators have the most influence on the estimated stock prices.

7. Are you interested in more information about this company?

Based on the descriptive statistics in Table 5.89 that deals with additional information required for estimation of stock price, it was found that over 90% requirement for more information to make decisions related to stock price were indicated by the control group. The least number of participants requiring information for decision making was by the groups with positive or negative non-financial information of accounting reports. Therefore, it can be concluded that non-

financial information can be disclosed as a complementary part of financial statements because it has an important impact on decision making.

8. Do you think you have adequate ability in completing the task?

Based on the descriptive statistics in Table 5.90, about 97% of the participants stated that they have the required knowledge to complete these questions. These results can have an effect on reliability of the results.

9. The impact of type of investment institutions on the estimated stock price.

Based on the data given in Table 5.91, the one-way ANOVA test, and the significance level of .825, it is determined that there is no statistically significant difference. The Post Hoc Test revealed that the type of institutions has no influence on the estimated stock prices. In addition, Table 5.106 in the Appendix for the Post HOC test yielded the same results based on the Tukey test.

6.5 Implications of the Study

Implications of the present study are both theoretical and practical.

6.5.1 Implications to the Theory

This study has introduced a novel application of the extended Prospect Theory and Attribution Theory models for disclosure of non-financial performance: First, linking PT and AT for the interactive effects of the provision or non-provision of assurance reports on the sign (positive and negative) of disclosures of non-financial performance. Second, this study extends the theories of psychology (PT and AT) in accounting and finance, and in the stock market environment, as well as the test of where PT stands in an investment context, and where valuation includes stock price estimates by non-financial performance indicators. Third, this research has also helped to extend the use of AT by using the assurance nature of non-financial performance.

6.5.2 Implications to Practice

On the practical level, the study has offered supports for the present research literature. First, this study has extended previous research work of some researchers (Ittner & Larcker, 1998b; Johnson & Kaplan, 1987) who proposed that they are related to nonfinancial performance values. In addition, it has extended on the research literature review to develop valuable market voluntary disclosures of the company (Eccles *et al*., 2001; Alessandra *et al*., 2007). In addition, this study complements a growing area of research which inspects non-financial performance indicators based on the BSC that has an influence on investors and regulator policies. Second, this study answers the requests by FASB, SEC, and AICPA for more theoretical approaches used in scientific research.

The proposed research model of this study has some implications for management, analysis and financial analysts, regulator standards, business, professional accounting, auditing and important investors because it provides valuable evidence about indicators to provide non-financial performance for the financial markets and to ensure desired effects on this type of information. This study has provided experimental evidence for the effect of structured disclosure of non-financial information based on the BSC non-financial performance indicators on the estimated stock price and audit report effects on this information. Based on BSC, non-financial performance indicators have significant effects on stock price; this should be of interest to regulators, consumers and those in the accounting field. This kind of information is of relevant value as companies will benefit from this disclosure.

Based on BSC, the proposed research model shows that non-financial performance indicators are appropriate for external disclosure to give investors more information in deciding to buy and sell shares of companies. Experimentally, this study has investigated the BSC's effect on users of external financial reporting. This study provides valuable evidence for a kind of disclosure structure based on the BSC structure required by AAA FASC (2000). In particular, valuable information about the assurance of non-financial disclosures should be interesting for accounting professionals and managers who will consider this particular service.

The research model provides evidence that indicates knowledge and expert information on non-financial disclosures to help investors to better understand this information, and to combine this information to evaluate the company and overcome the potential cognitive bias. The main contribution of this model is to help develop investors' understanding of and insights in relation to non-financial performance related to decision making and evaluation of future company's financial activities. Finally, if this study has successfully achieved the main objective outlined for the research, it can therefore be considered as important for accounting professionals and for some of the challenges currently faced by those in the accounting profession. Since there is no standard framework related to non-financial performance indicators in Iran, this study can contribute to the setting of accounting standards in Iran. This study will also help future researchers, regulators and standard setters to develop an appropriate accounting framework for disclosure of non-financial performance indicators (N-FPI).

Finally, this study strongly advocates that regulators may start focusing on developing accounting and auditing standards related to nonfinancial performance and assurance on this kind of information. In short, if evidence of this research supports ties between disclosure of non-financial performance report and stock price estimates of companies in the market, the policy implication is based on the results to support given suggestions by AICPA, or encourages SEC, or FASB that defines non-financial performance and the requirement of each company in each industry to continuous reports of these types of information. In specific, this study fills the gap in the literature.

6.6 Contributions of the Study

Non-financial performance indicators are particularly interesting for managers because they increase disclosure of policies and provide insights into ways to improve the usefulness of management disclosures. Such insights will help the management to find ways to build credit in the financial reports of investors and assurance maintenance of company and investors (Eccles *et al*., 2001; Alessandra *et al*., 2007). Regulator standards consider mandatory disclosure of such information

and will attempt to codify this information. In this regard, financial analysts will decide on how to use this kind of information in their decision-making. Also, providing audit report on non-financial performance should be motivating for accounting and auditing professions. It is also interesting that managers of the company must purchase this kind of service (i.e., pay for independent auditors to audit non-financial performance of company).

Based on BSC, non-financial performance indicators are useful estimation of stock price of investors that show they are using this information. This should be of interest for business people, analysts, regulators, and users of financial reports. Valuable information related to the audit report of non-financial disclosures should be interesting for auditing professionals and managers who must consider this service. Purchasing voluntarily audit report is costly, and under such circumstances, directors and audit committee members find value for their companies. In addition, audit professionals are also interested with them because they may be able to work on developing services and improving service for their customers with such a direct effect on their decision-making. On the other hand, since audit report of non-financial performance has an effect on decision-making, the demand for audit report may increase in capital markets. Therefore, as a potential market for growth in accounting and audit occupation, audit report will be identified.

The importance of non-financial performance indicators can be observed in (AICPA) the United States' stock market and SEC 2008 final reports. It is suggested that application of non-financial performance indicators be increased in the market. The main focus of many studies, including regulators of accounting standards, is on financial reports, when non-financial information is less emphasized. This focus of attention, however, is changing and a new flow of studies has begun, i.e. studies investigating the value of related non-financial information. The advantages of this study are listed below:

1. This study is beneficial to the management, financial analysts, regulator standards, business, professional accounting, auditing and important investors because it provides valuable evidence about indicators to provide non-financial performance for the financial markets and to ensure effects on this

type of information.

2. The main significance of this study is it has developed a better understanding of and insights into investors and regulators regarding non-financial performance related to the evaluation of a company's future financial performance.

3. This study addresses calls for greater disclosure by FASB (2009), AICPA (2001) and SEC (2008) that is presented from a report entitled, "Improving Business Reporting: Insights into Enhancing Voluntary Disclosure."

4. This study provides institutional investors with a better understanding of financial reporting analysis and stock price estimates. This may prevent inappropriate investors' behaviours during mergers and acquisitions, which in turn may lead to continuous growth and greater stock market efficiency and increasing number and volume of trades in the Iranian stock market.

6.7 Limitations of the Study

There are some restrictions in this study. The highest amount of inherent restrictions that are common in experimental studies consists of behavioural tests conducted in a controlled environment and added a domestic reliability to results of this study. However, experimental studies may limit participants in a realistic manner and reduce external reliability. A sample of this study included participants who have more financial expertise, and are active in the stock market. Another limitation in this study is that it is dependent upon financial information. There is a limited positive trend compatible with positive non-financial information that contradicts with the negative non-financial information. This may lead to the lack of reactions towards negative non-financial information because it is a positive economic trend, and in this way, it reduces additional value of information. Another limitation is that only one type of non-financial information disclosure was provided based on BSC. In particular, it is a dependent limitation with the experimental BSC approach.

6.8 Suggestions for Future Research

Future research could examine the impacts of voluntary assurance on the validity of voluntary disclosures in the context of different levels of credibility of company management disclosures and different properties of its disclosure. For example, research on understanding users of financial statements can focus on the advantage of additional disclosure and audit report without considering costs. Certainly, a company must accept some related costs to provide additional disclosures. Future research may investigate the costs, as well as the advantages of additional disclosure of this kind of information through reviews by the management in decision making related to their disclosure and their decisions, regardless of whether assurance is obtained via voluntary disclosure or not.

Future research should examine how non-professional investments and decisions of financial analysts and brokers are evaluated based on BSC indicators. Other indicators of non-financial operations should also be investigated to increase disclosure for other users of financial lists. Another suggestion for future research is to compare two groups of professionals and non-professionals, and to compare the results based on nonfinancial information. Future studies need to examine how biases and lack of specific knowledge of professional investors can be reduced. Thus, increased disclosure in the market can be considered as financial benefits for all users. Finally, other similar experimental studies in other stock markets of other countries should also be conducted to support the research.

6.9 Conclusion

The effects of disclosure of non-financial performance indicators and audit report in the Iranian stock market have been addressed in this study. However, it also raises many questions and doubts for investors. This study focused on disclosure of non-financial performance indicators and audit report, which influence investors' behaviour in the stock market. One of the factors that has significant effects on the development and growth of the investment market is investor assurance (Banker *et al*., 2000; Ittner & Larcker, 1998b). Investor behaviour has been widely discussed for

a few years, but the stock market has changed rapidly since financial scandals (Enron.WorldCom, Adelphia). Investors need more information about financial and non-financial information disclosure to secure their investments.

This research implemented the experiment method to understand investors' behaviour in the Iranian stock market. The researcher expected that an experiment method could help to answer the existing questions and test hypotheses. Therefore, this study identified how disclosure of non-financial performance indicators and assurance report impacted investors stock price estimates in the Iranian stock market. This research has addressed and examined using different statistical analyses for the two research questions. 1. What are the effects of disclosures of non-financial performance indicators on institutional investors' stock price estimates? 2. How do the interactions between disclosure of non-financial performance indicators and independent audit report impact institutional investors' stock price estimates? Moreover, this study has tested four hypotheses postulated in Chapter 4.

Generally, the study found that disclosure of non-financial performance indicators and independent audit report would lead to increase investors' confidence and certainty, and reduce risks in their estimation in the stock market. The findings of this study support that disclosure of non-financial performance indicators and audit report in corporation can affect institutional investors' stock price estimates.

In conclusion, disclosure of non-financial performance indicators (customer satisfaction, employee satisfaction and firm's internal process) address stock market efficiency. Corporations need to understand that continuous disclosure of non-financial performance indicators is a way to maintain their relationships with the investors.

APPENDICES

Appendix A: Positive non-financial performance indicators

Non-financial Performance Indicators:	**2010 Current year**	2009 Prior year
I. Learning and Growth:		
1. Hours of employee training per employee(per year)	**55**	50
2. Employee suggestion per employee	**7**	6
3. Number of employees trained	**12**	8
4. Employee turnover rate	**7%**	9%
5. Average tenure of sales personnel (year)	**4.5**	4
6. Number of innovations	**6**	4
II. Customer-Related:		
7. Repeat sales	**%45**	%40
8. Returns by customers (% of sales)	**%2.5**	%3
9. Number of overdue deliveries	**15**	20
10. Number of customers' complaints	**12**	17
11. Response time to customers (minutes per day)	**45**	40
12. Number of new customers acquired	**37**	32
Internal Business Processes:		
13. Returns to suppliers	**%2.5**	%3
14. Setup times	**58**	53
15. Defect rates	**2.9%**	3.4%
16. Manufacturing cycle time	**28**	23
17. Inventory level	**26**	31

Appendix B: Negative non-financial performance indicators

Non-financial Performance Indicators	**2010 Current year**	2009 Prior year
Learning and Growth		
1. Hours of employee training per employee (per year)	**48**	50
2. Employee suggestion per employee	**4**	6
3. Number of employees trained	**6**	8
4. Employee turnover rate	**9.2%**	9%
5. Average tenure of sales personnel (year)	**3.8**	4
6. Number of innovations	**2**	4
Customer-Related		
7. Repeat sales	**%38**	%40
8. Returns by customers (% of sales)	**%3.2**	%3
9. Number of overdue deliveries	**22**	20
10. Number of customers' complaints	**19**	17
11. Response time to customers (minutes per day)	**38**	40
12. Number of new customers acquired	**30**	32
Internal Business Processes		
13. Returns to suppliers	**%3.2**	%3
14. Setup time	**51**	53
15. Defect rates	**3.6%**	3.4%
16. Manufacturing cycle time	**21**	23
17. Inventory level	**33**	31

Appendix C. Audit Report on the Non-Financial Performance Indicators

We examined non-financial performance indicators for the financial year at the end of 29-12-1389 with details presented at page 4. Responsibility of preparing and providing non-financial information is with Board of Management of the company. We independently examined non- financial performance for stakeholders. This investigation was accordance with International Auditing Standard No. 108. Based on this test and methods that we have considered, this process is conducted according to the situation and method of obtaining information. This process has been done to determine whether this non-financial information is properly collected, classified and reported.

Audit Opinion

According to our investigations, we concluded that non –financial indicators were properly collected, classified and reported from all important aspects.

Big 4 audit

Tehran

31-04-1390

Appendix D

Table 5.1.1: Cronbach's Alpha of the Questions

	Cronbach's Alpha if Item Deleted
Assess how confident you are in your valuation judgment.	.724
What is your estimations regarding the stock price according to financial report.	.770
Auditors Plays an Important Role in Ensuring the Credibility of Annual Report.	.768
Level of Assurance by External Auditors on NFPI.	.771
Assess Reliability of the Non- Financial Performance in the Annual Report.	.783
Assess Reliability of the Financial Performance in the Annual Report.	.829
Extent Non-financial Performance Indicators Influence Stock Price.	.761
Mubarakh Folads Stock Price Estimate over the Next Three Years.	.737
If you think or estimate that stock price will increase or decrease in future years.	.761

Appendix E

List of Abbreviation

Number	Abbreviation	Full Term
1	AICPA	American Institute of Certified Public Accountants
2	SEC	Securities and Exchange Commission
3	GAAP	Generally Accepted Accounting Principle
4	IAR	Internal Audit Report
5	AAA FASC	The American Accounting Association Financial Accounting Standards Committee
6	CPA	Certified Public Accountants
7	IFRS	International Financial Reporting Standards
8	IASB	International Accounting Standards Board
9	FASB	Financial Accounting Standards Board

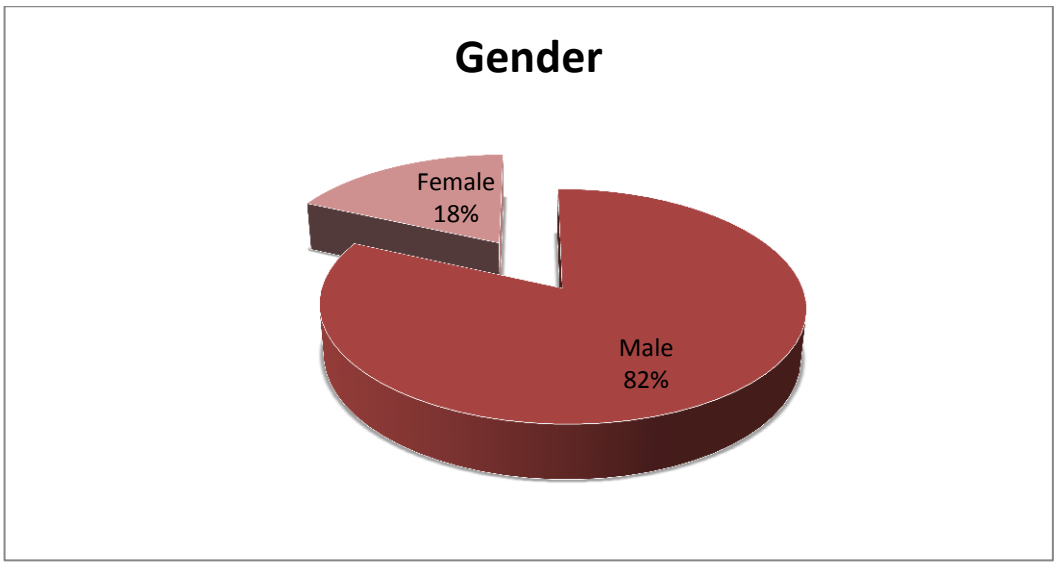


Figure 5.1: Breakdown of the Respondents Based on Gender

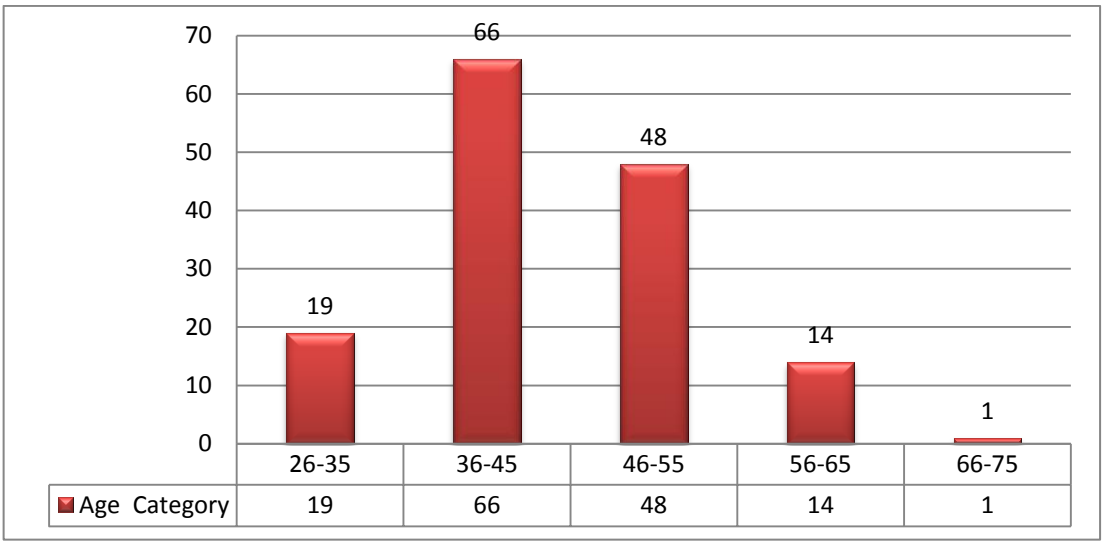


Figure 5.2: Age Distribution of the Respondents

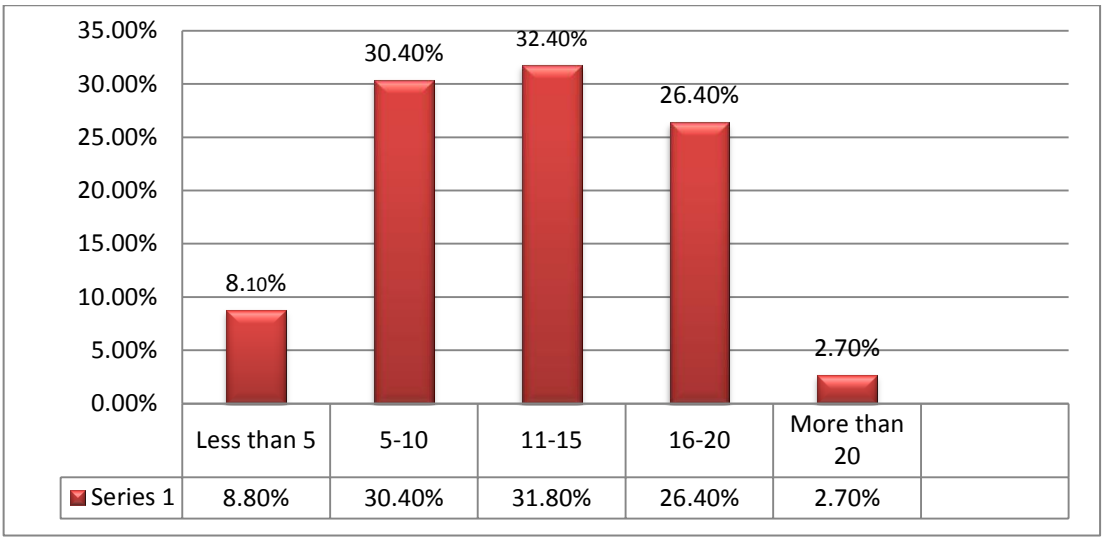


Figure 5.3: Years of Experience in the Stock Market

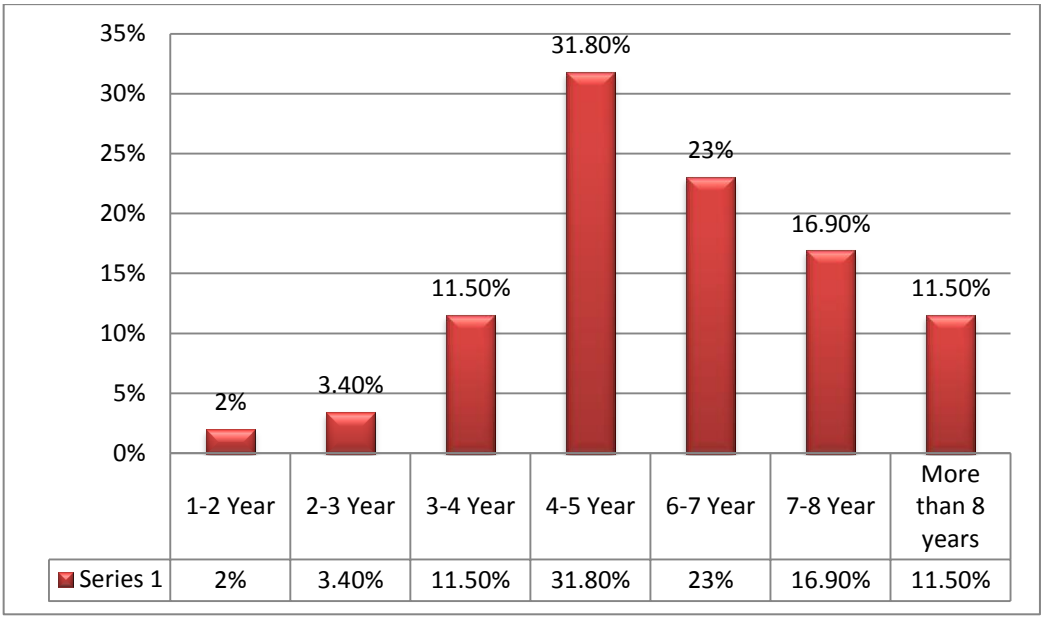


Figure 5.4: Respondents' Work Experience in Finance

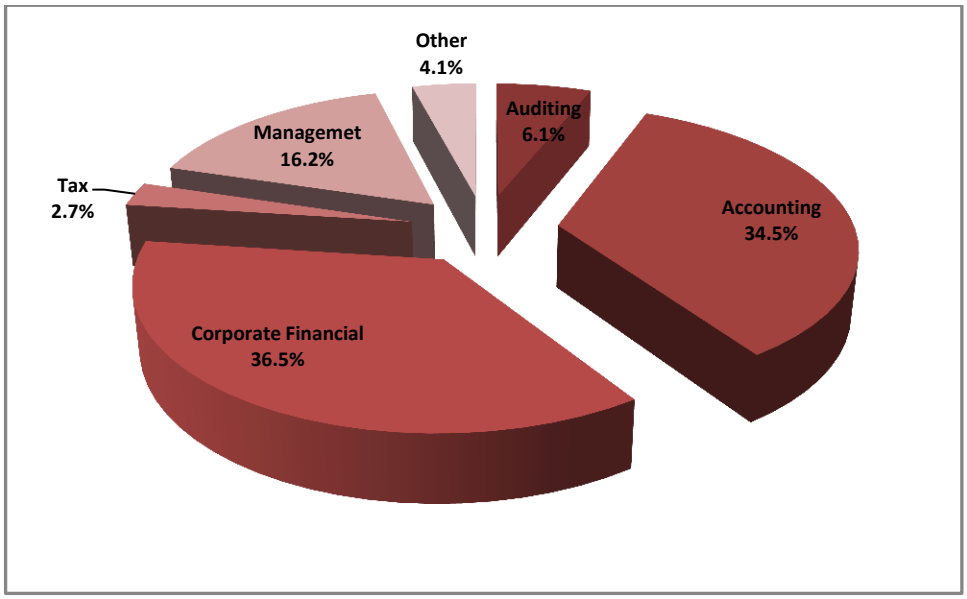


Figure 5.5: Specialized Field

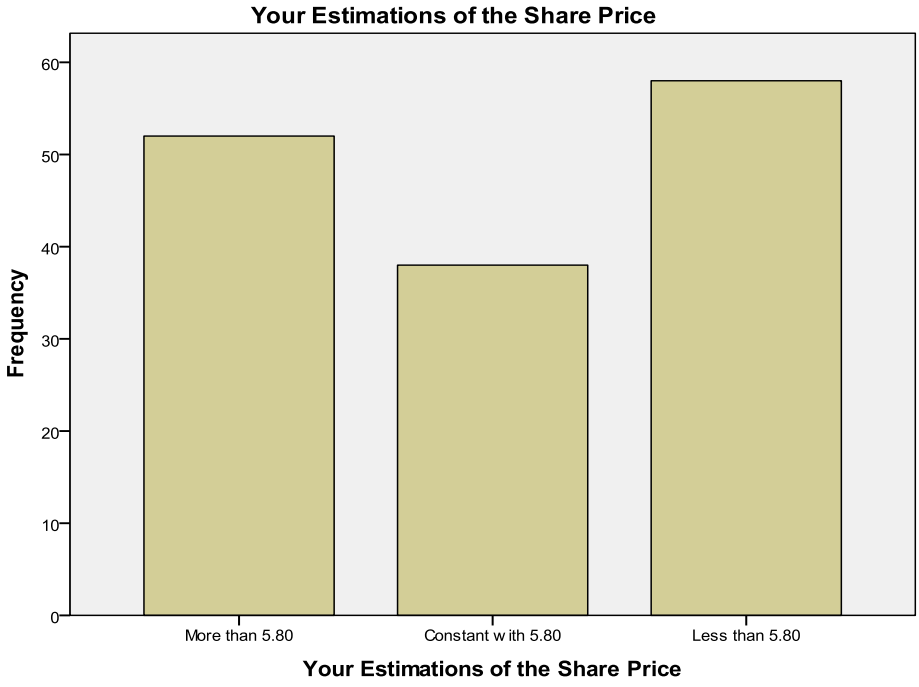


Figure 5.6: Stock Price Estimate Based on the Percentage without Group Breakdown to Question One

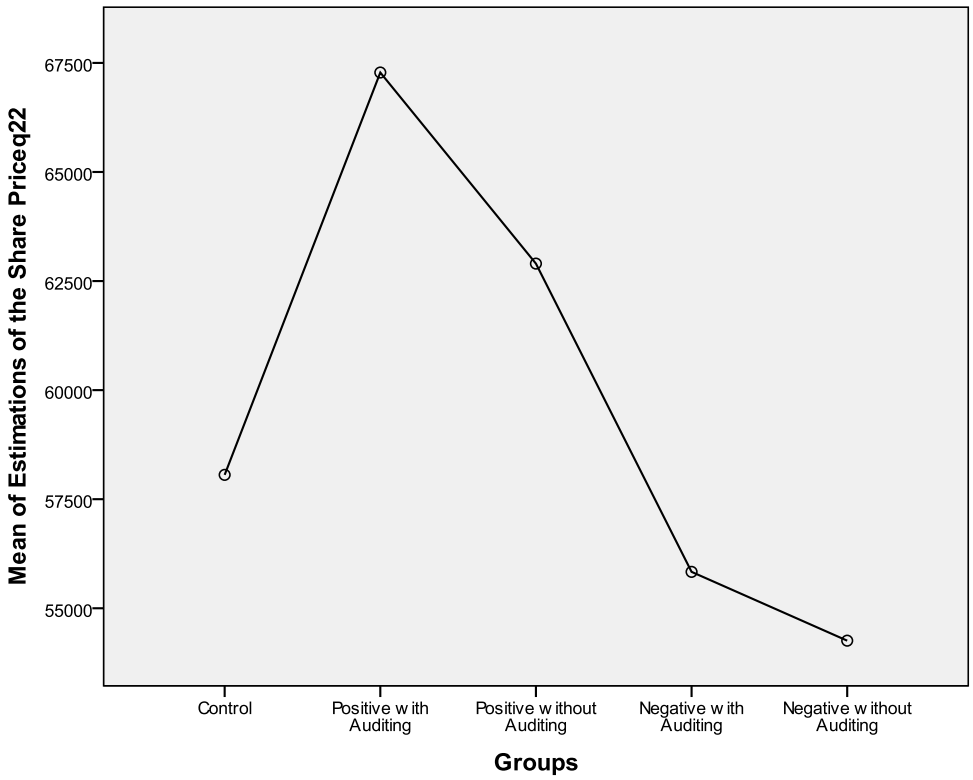


Figure 5.7: Stock Price Chart Related to Question 2

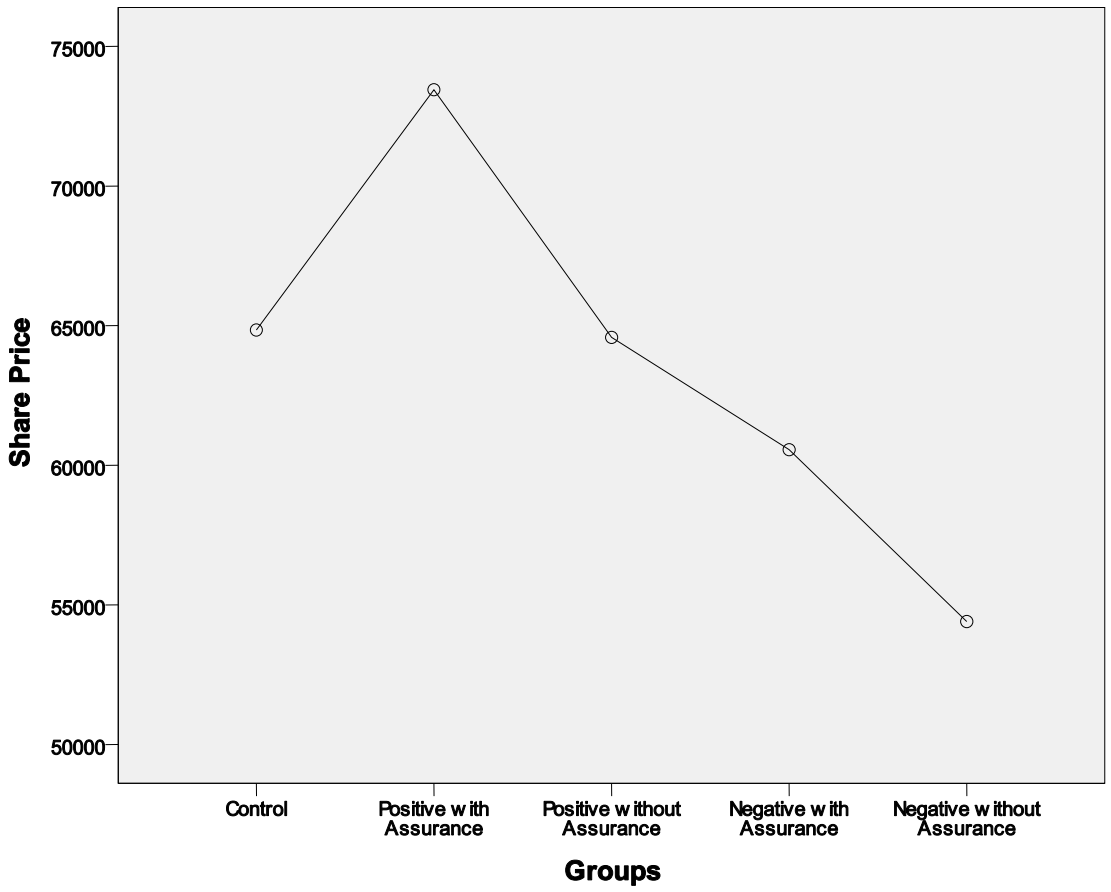


Figure 5.8: Stock Price for Three Years

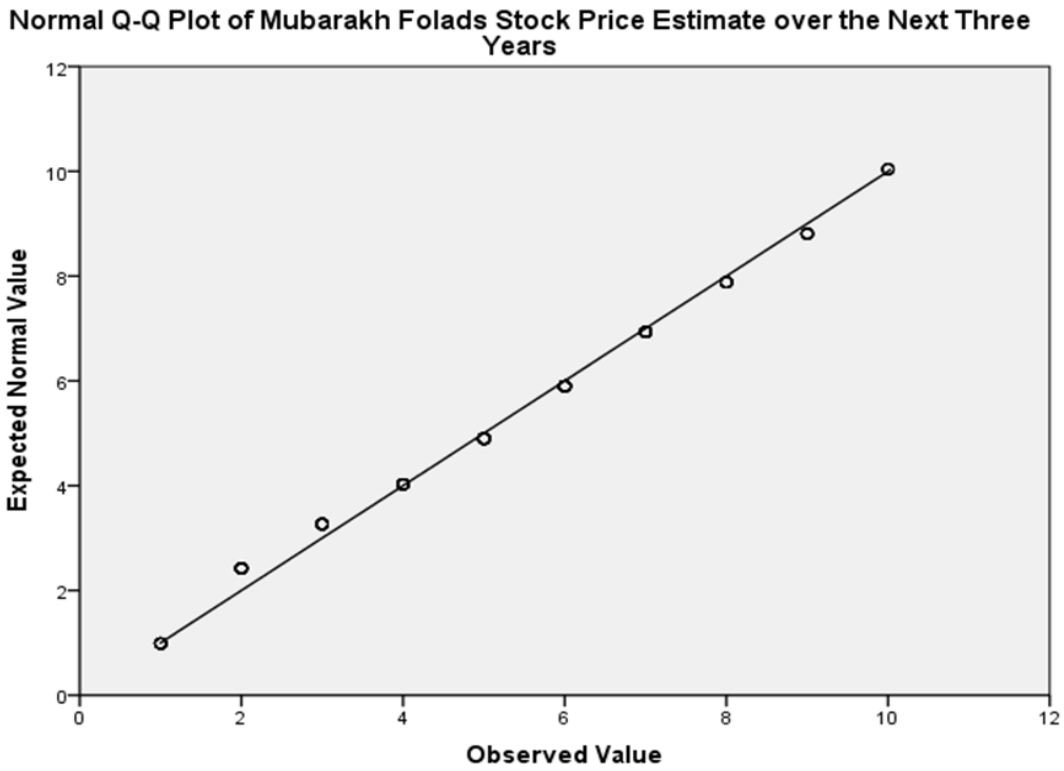


Figure 5.9: The Q-Q plot

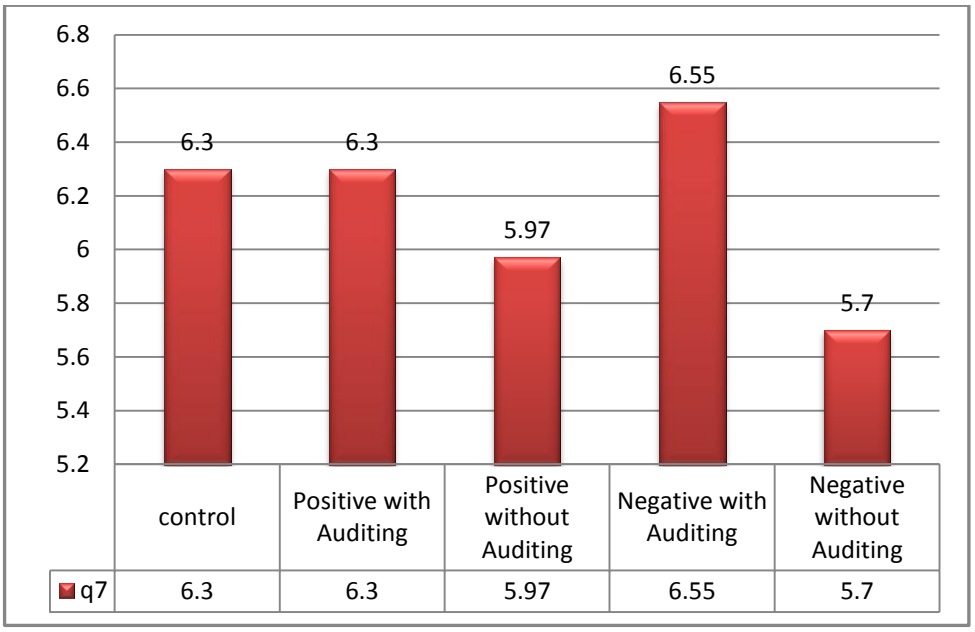


Figure 5.10: Chart for Question 5

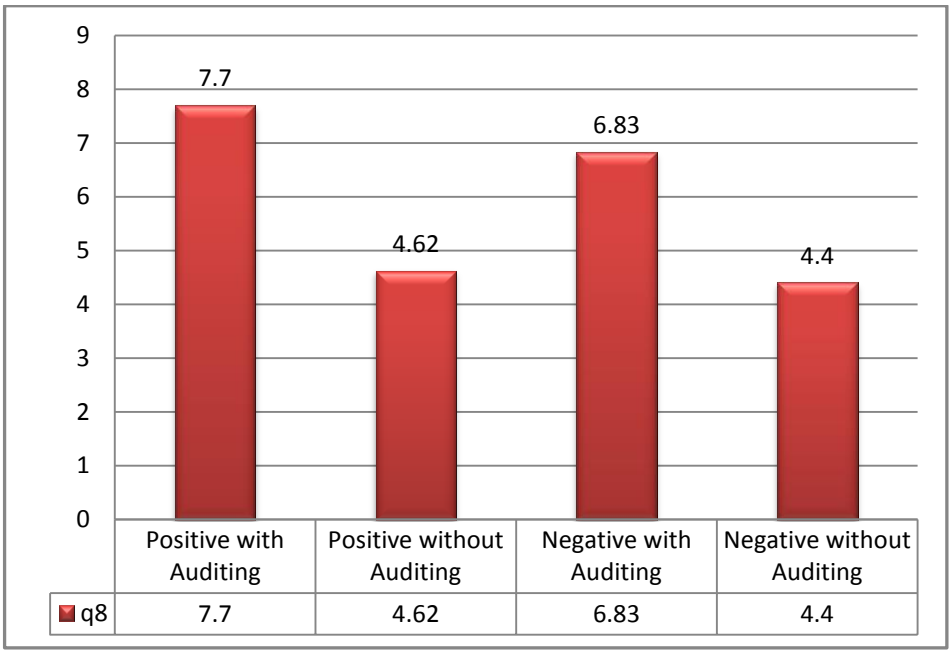


Figure 5.11: Chart for Question 6

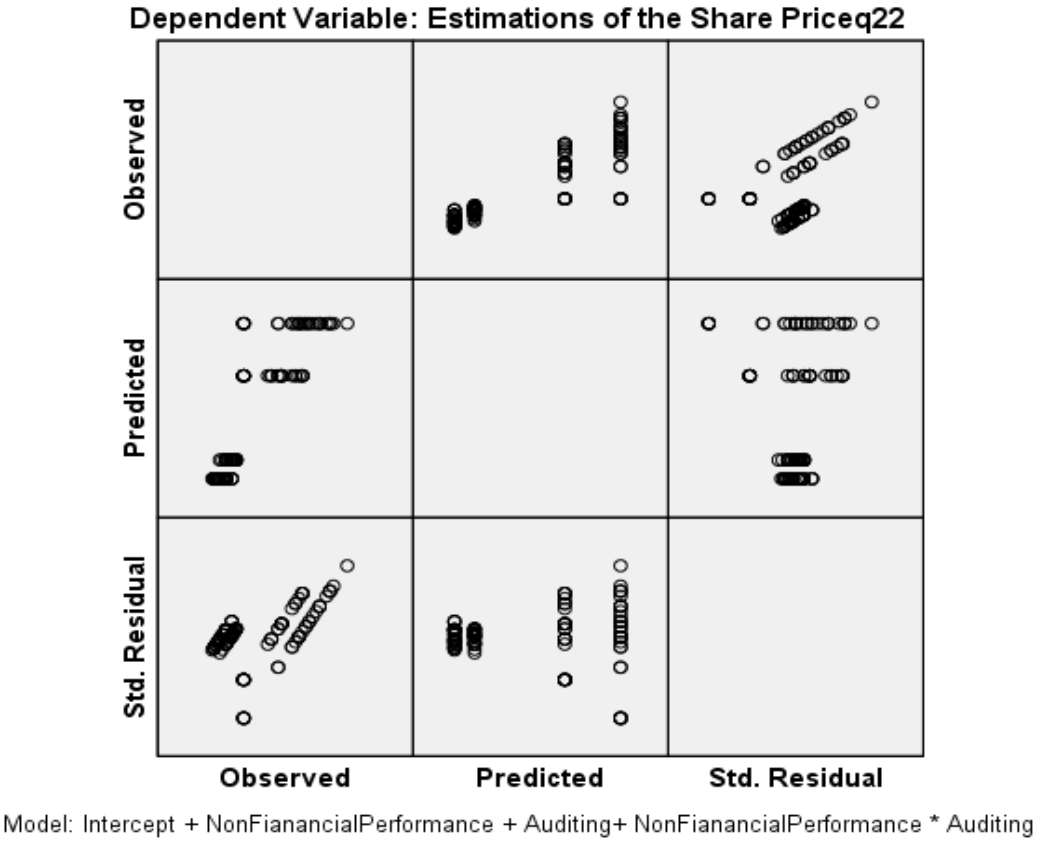


Figure 5.12

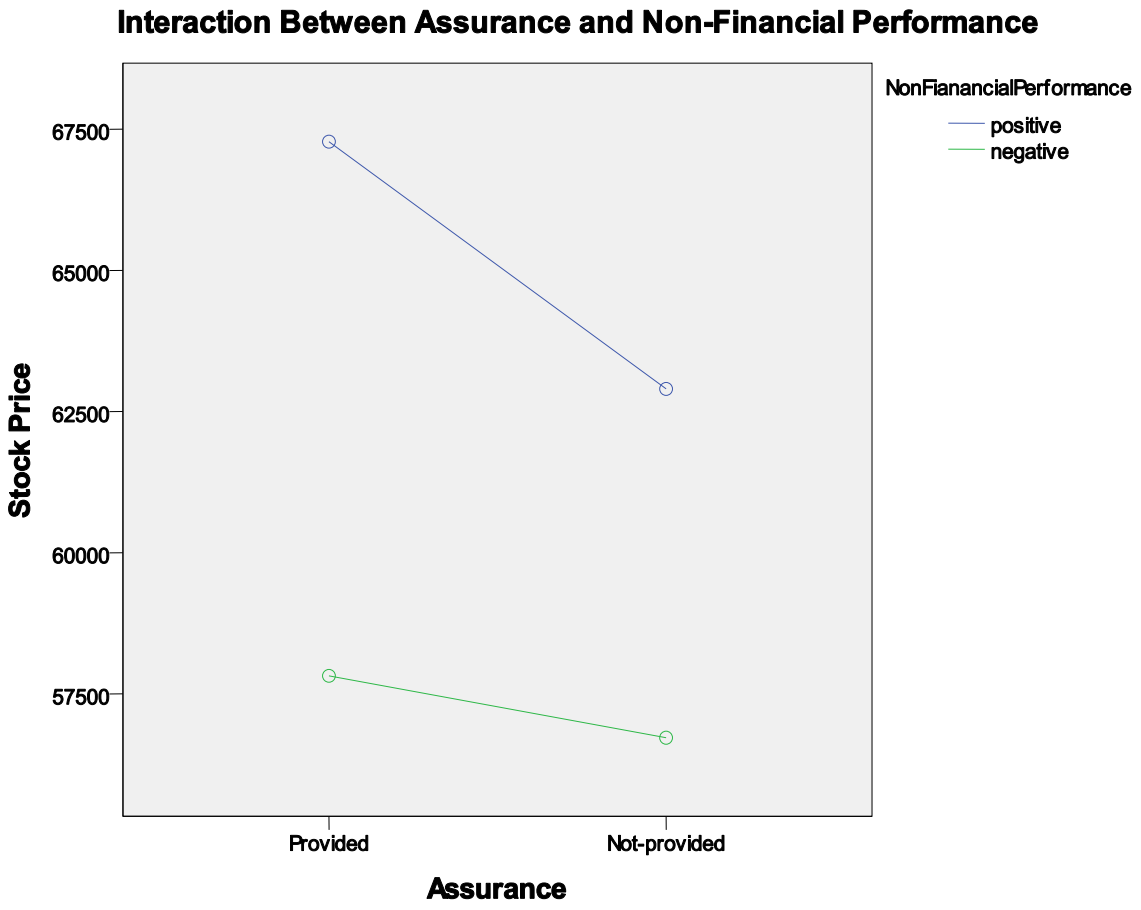
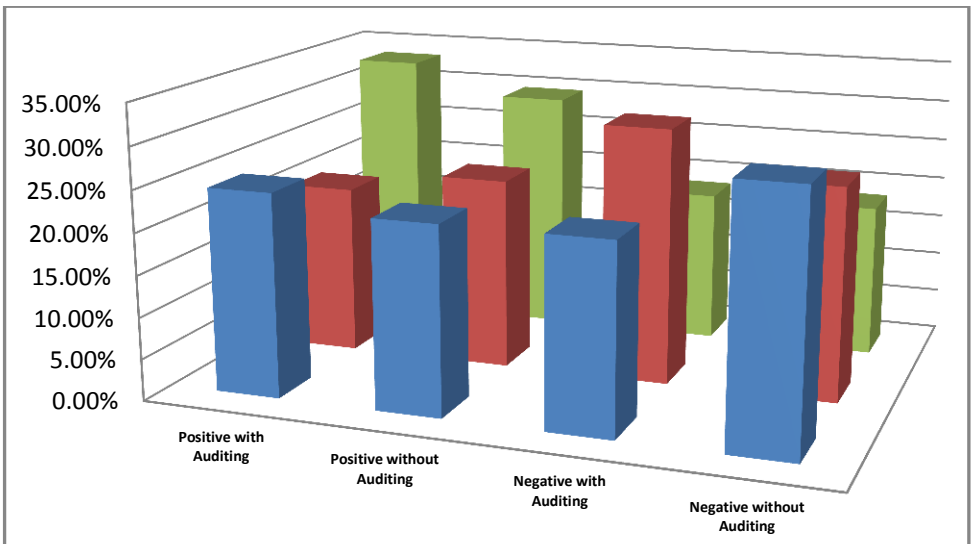


Figure 5.13



	Positive with Auditing	Positive without Auditing	Negative with Auditing	Negative without Auditing
Customer satisfaction	24.50%	22.60%	22.60%	30.20%
Employee satisfaction	20.50%	23.10%	30.80%	25.60%
internal process of the company	33.30%	29.60%	18.50%	18.50%

Figure 5.14: Three Indicators in the Study

Multiple Comparisons

Table 5.100: Share Price Will Increase or Decrease in Future Years

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control	Positive with Auditing	-9222.000*	902.282	.000	-11005.53	-7438.47
	Positive without Auditing	-4842.000*	910.027	.000	-6640.84	-3043.16
	Negative with Auditing	2223.586*	910.027	.016	424.74	4022.43
	Negative without Auditing	3800.667*	902.282	.000	2017.13	5584.20
Positive with Auditing	Control	9222.000*	902.282	.000	7438.47	11005.53
	Positive without Auditing	4380.000*	910.027	.000	2581.16	6178.84
	Negative with Auditing	11445.586*	910.027	.000	9646.74	13244.43
	Negative without Auditing	13022.667*	902.282	.000	11239.13	14806.20
Positive without Auditing	Control	4842.000*	910.027	.000	3043.16	6640.84
	Positive with Auditing	-4380.000*	910.027	.000	-6178.84	-2581.16
	Negative with Auditing	7065.586*	917.706	.000	5251.56	8879.61
	Negative without Auditing	8642.667*	910.027	.000	6843.82	10441.51
Negative with Auditing	Control	-2223.586*	910.027	.016	-4022.43	-424.74
	Positive with Auditing	-11445.586*	910.027	.000	-13244.43	-9646.74
	Positive without Auditing	-7065.586*	917.706	.000	-8879.61	-5251.56
	Negative without Auditing	1577.080	910.027	.085	-221.76	3375.92
Negative without Auditing	Control	-3800.667*	902.282	.000	-5584.20	-2017.13
	Positive with Auditing	-13022.667*	902.282	.000	-14806.20	-11239.13
	Positive without Auditing	-8642.667*	910.027	.000	-10441.51	-6843.82
	Negative with Auditing	-1577.080	910.027	.085	-3375.92	221.76

* The mean difference is significant at the 0.05 level

Multiple Comparisons

Table 5.101: Share Price Will Increase or Decrease in the Next Three Years—Question 3
Tukey HSD

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control	P with A	-8603.333*	711.747	.000	-10569.82	-6636.85
	P without A	2364.000*	717.857	.006	-1719.36	2247.36
	N with A	4284.000*	717.857	.000	2300.64	6267.36
	N without A	10440.000*	711.747	.000	8473.52	12406.48
Positive with Auditing	Control	8603.333*	711.747	.000	6636.85	10569.82
	P without A	8867.333*	717.857	.000	6883.97	10850.70
	Ne with A	12887.333*	717.857	.000	10903.97	14870.70
	N without A	19043.333*	711.747	.000	17076.85	21009.82
Positive without Auditing	Control	-2364.000*	717.857	.006	-2247.36	1719.36
	P with A	-8867.333*	717.857	.000	-10850.70	-6883.97
	N with A	4020.000*	723.915	.000	2019.90	6020.10
	N without A	10176.000*	717.857	.000	8192.64	12159.36
Negative with Auditing	Control	-4284.000*	717.857	.000	-6267.36	-2300.64
	P with A	-12887.333*	717.857	.000	-14870.70	-10903.97
	P without A	-4020.000*	723.915	.000	-6020.10	-2019.90
	N without A	6156.000*	717.857	.000	4172.64	8139.36
Negative without Auditing	Control	-10440.000*	711.747	.000	-12406.48	-8473.52
	P with A	-19043.333*	711.747	.000	-21009.82	-17076.85
	P without A	-10176.000*	717.857	.000	-12159.36	-8192.64
	N with A	-6156.000*	717.857	.000	-8139.36	-4172.64

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Multiple Comparisons

Table 5.102: Extent of Non-financial Performance Indicators' Influence on Stock Price = Question 4

Tukey HSD

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Positive with Auditing	Positive without Auditing	1.036	.417	.068	-.05	2.12
	Negative with Auditing	1.863*	.417	.000	.77	2.95
	Negative without Auditing	1.100*	.414	.044	.02	2.18
Positive without Auditing	Positive with Auditing	-1.036	.417	.068	-2.12	.05
	Negative with Auditing	.828	.421	.207	-.27	1.93
	Negative without Auditing	.064	.417	.999	-1.02	1.15
Negative with Auditing	Positive with Auditing	-1.863*	.417	.000	-2.95	-.77
	Positive without Auditing	-.828	.421	.207	-1.93	.27
	Negative without Auditing	-.763	.417	.266	-1.85	.33
Negative without Auditing	Positive with Auditing	-1.100*	.414	.044	-2.18	-.02
	Positive without Auditing	-.064	.417	.999	-1.15	1.02
	Negative with Auditing	.763	.417	.266	-.33	1.85

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Table 5.103: Multiple Comparisons – Question 6

(I)Q8	(J) Q8	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Positive with Auditing	Positive without Auditing	3.079*	.349	.000	2.17	3.99
	Negative with Auditing	.872	.349	.065	-.04	1.78
	Negative without Auditing	3.300*	.346	.000	2.40	4.20
Positive without Auditing	Positive with Assurance	-3.079*	.349	.000	-3.99	-2.17
	Negative with Auditing	-2.207*	.352	.000	-3.12	-1.29
	Negative without Auditing	.221	.349	.921	-.69	1.13
Negative with Auditing	Positive with Auditing	-.872	.349	.065	-1.78	.04
	Negative with Auditing	2.207*	.352	.000	1.29	3.12
	Negative without Auditing	2.428*	.349	.000	1.52	3.34
Negative without Auditing	Positive with Auditing	-3.300*	.346	.000	-4.20	-2.40
	Positive without Auditing	-.221	.349	.921	-1.13	.69
	Negative with Auditing	-2.428*	.349	.000	-3.34	-1.52

* The mean difference is significant at 0.05 level

Post Hoc Tests

Table 5.104 Multiple Comparisons

Share Price Will Increase or Decrease in Future Years

Tukey HSD

(I) Name of Participant	(J) Name of Participant	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Investment Bank	Insurance Company	1305.000	2106.098	.996	-4995.11	7605.11
	Financial Company	2349.000	2106.098	.922	-3951.11	8649.11
	Institutional Unit Trust	1015.000	2106.098	.999	-5285.11	7315.11
	Assets Management Companies	1494.353	1956.230	.988	-4357.45	7346.15
	Unit Trust management Company	2349.000	2106.098	.922	-3951.11	8649.11
	Investment Fund	2721.167	2046.759	.837	-3401.44	8843.77
Insurance Company	Investment Bank	-1305.000	2106.098	.996	-7605.11	4995.11
	Financial Company	1044.000	1719.622	.997	-4100.02	6188.02
	Institutional Unit Trust	-290.000	1719.622	1.000	-5434.02	4854.02
	Assets Management Companies	189.353	1532.411	1.000	-4394.65	4773.36
	Unit Trust management Company	1044.000	1719.622	.997	-4100.02	6188.02
	Investment Fund	1416.167	1646.412	.978	-3508.86	6341.19
Financial Company	Investment Bank	-2349.000	2106.098	.922	-8649.11	3951.11
	Insurance Company	-1044.000	1719.622	.997	-6188.02	4100.02
	Institutional Unit Trust	-1334.000	1719.622	.987	-6478.02	3810.02
	Assets Management Companies	-854.647	1532.411	.998	-5438.65	3729.36
	Unit Trust management Company	.000	1719.622	1.000	-5144.02	5144.02
	Investment Fund	372.167	1646.412	1.000	-4552.86	5297.19
Institutional Unit Trust	Investment Bank	-1015.000	2106.098	.999	-7315.11	5285.11
	Insurance Company	290.000	1719.622	1.000	-4854.02	5434.02
	Financial Company	1334.000	1719.622	.987	-3810.02	6478.02
	ssets Management ompanies	479.353	1532.411	1.000	-4104.65	5063.36
	Unit Trust management Company	1334.000	1719.622	.987	-3810.02	6478.02
	Investment Fund	1706.167	1646.412	.945	-3218.86	6631.19
Assets Management Companies	Investment Bank	-1494.353	1956.230	.988	-7346.15	4357.45
	Insurance Company	-189.353	1532.411	1.000	-4773.36	4394.65
	Financial Company	854.647	1532.411	.998	-3729.36	5438.65
	Institutional Unit Trust	-479.353	1532.411	1.000	-5063.36	4104.65
	Unit Trust management Company	854.647	1532.411	.998	-3729.36	5438.65
	Investment Fund	1226.814	1449.779	.980	-3110.01	5563.63
Unit Trust management	Investment Bank	-2349.000	2106.098	.922	-8649.11	3951.11

Company	Insurance Company	-1044.000	1719.622	.997	-6188.02	4100.02
	Financial Company	.000	1719.622	1.000	-5144.02	5144.02
	Institutional Unit Trust	-1334.000	1719.622	.987	-6478.02	3810.02
	Assets Management Companies	-854.647	1532.411	.998	-5438.65	3729.36
	Investment Fund	372.167	1646.412	1.000	-4552.86	5297.19
Investment Fund	Investment Bank	-2721.167	2046.759	.837	-8843.77	3401.44
	Insurance Company	-1416.167	1646.412	.978	-6341.19	3508.86
	Financial Company	-372.167	1646.412	1.000	-5297.19	4552.86
	Institutional Unit Trust	-1706.167	1646.412	.945	-6631.19	3218.86
	Assets Management Companies	-1226.814	1449.779	.980	-5563.63	3110.01
	Unit Trust management Company	-372.167	1646.412	1.000	-5297.19	4552.86

APPENDIX F

Questionnaire

Positive Non-Financial Performance Indicators and Audit Report on Non-Financial Performance Indicators

Instructions

Thank you for participating in this study. It should take not more than 30 minutes of your time. The purpose of this study is to gather information about financial report users' investment estimations. The attached study materials contain excerpts from the 2011-12-29 annual report for Mubarakh Folad. The share price at the close of trading on the day before release of the annual report was R58, 000 (this was also the average share price for the preceding three months).

Based on the release of the information in the case, you will be asked:

To estimate whether you think that Mubarakh Folads' share price will increase, decrease or stay the same.

On completion of the study you will be asked to complete some further questions.

When completing the case, please make the following simplifying assumptions:

- The information included in the case is not intended to be completely representative of that which you would ordinarily receive when evaluating a company. Providing you with that level of detail would require more time to complete the case than could realistically be requested. Therefore, for the purposes of this study, please base your judgements only on the information provided. Any other information that you might use in evaluating a company please consider as 'neutral', e.g., general market conditions. Therefore, your judgements should only be based on events pertaining to Mubarakh Folad.
- No information relating to Mubarakh Folads' annual report has been released to the market before your receipt of the attached information.

Please note that completion and submission of this case will be taken as your consent for participation in this study. Your individual responses in this study will remain strictly confidential and will be analysed only after being combined with the responses of other participants.

If you would like a copy of the results of this experiment, please email me at:

Please now proceed with the case. Thank you again for your participation.

Overview of the Company's Information:

The company

Mubarakh Folads' Company is one of accepted companies in Iran stock exchange market which works in both the domestic and abroad markets. Its activity has started since 1980 and significantly developed until 2011. Its business focus is on steel making plant and Continuous casting plant.

Business:

The company's products are sold through 22 representatives in internal and different countries and the company has a good relationship with product providers. Board of directors observed that one of the most valuable assets of the company is its trademark, which has developed through customer service and product quality.

Also, competitors in this type of industry are to some extent strong. Top managers estimated that the total sales in Iran are almost 11 billions for the 12 months until 2011-12-29. In this company, it is believed that product quality service, customer service and warranty on the products are different from the rival products.

Current price of profit ratio for comparable companies will be in the range of 10 to 16 with average 13. Company had an auditor to give audit reports about financial information shown on pages 6 and 7. Also auditor reports for assurance of the non-financial performance indicators are shown on page 8.

Strategy:

The Company's strategy is to produce high quality products and always put its customers first. Putting customers first means enhancing its relationship with them and responding to their needs. The Company will always try to ensure that its suppliers provide goods of the highest quality. The Company also has a commitment to continuing the development of its own brand and ensuring its recognition in the market. Crucial to this success of this strategy is the importance and value the Company has and will continue to place on its sales staff.

Non-financial performance indicators:

The firm uses non-financial performance indicators as a tool for communication within the firm strategy and performance. Strategy goals organized in a framework of our customers, employees and internal processes of the company. The firm uses the non-financial performance indicators (BSC) to measure the performance which includes non-financial performance. The firm has a research development which guarantees research for some key non-financial indicators for companies, as reported in the following:

This is the first time that the firm distributes this type of report:

Positive Non-Financial Performance Indicators

Non-financial Performance Indicators	**2011 Current year**	**2010 Previous year**
I. Learning and Growth		
1. Hours of employee training per employee (per year)	55	50
2. Employee's suggestion per employee	7	6
3. Number of employees trained	12	8
4. Employee turnover rate	7%	9%
5. Average tenure of sales personnel (year)	4.5	4
6. Number of innovations	6	4
Customer-Related		
7. Repeat sales	%45	%40
8. Returns by customers (% of sales)	%2.5	%3
9. Number of overdue deliveries	15	20
10. Number of customers' complaints	12	17
11. Response time to customers (minutes per day)	45	40
12. Number of new customers acquired	37	32
III. Internal Business Processes		
13. Returns to suppliers	%2.5	%3
14. Setup times	58	53
15. Defect rates	2.9%	3.4%
16. Manufacturing cycle time	28	23
17. Inventory level	26	31

Financial Statement

Statement of Financial Performance of

Mubarakh Folad

for the year ended 29-12-1389

	2011	2010	2009
	R000	R000	R000
Total revenue	**151,842**	144,781	137,839
Cost of good sale	**(146,712)**	(139,808)	(133,084)
Operating profit before tax	**5,230**	5,049	4,808
Tax	**(1,399)**	(1,406)	(1,376)
Operating profit after tax	**3,831**	3,643	3,432
Retained earnings in the first period	**934**	6,869	6,100
Total available for allocation	**11,765**	10,539	9,532
Dividends	**(3,308)**	(2,466)	(3,582)
Retained earnings in the end period	**8,457**	8,073	5,950
Earnings per share (EPS)	**40.1**	38.3	36.5

Balance sheet

Mubarakh Folad

for the year ended 29-12-1389

	2011	2010	2009
	R000	R000	R000
Total current assets	**23,496**	22,587	21,386
Total non-current assets	**13,361**	14,018	13,472
Total assets	**36,857**	**36,605**	**34,858**
Total current liabilities	**7,299**	7,521	7,696
Total non-current liabilities	**9,101**	9,011	9,212
Total liabilities net	**16,400**	16,532	16,908
Equity:			
Share capital (10,000,000)	**12,000**	12,000	12,000
Retained profits	**8,457**	8,073	5,950
Total equity	**20,457**	20,073	17,950
Total Liabilities and Equity	**36,857**	**36,605**	**34,858**

Cash flows

Mubarakh Folad

for the year ended 29-12-1389

	2011	2010	2009
	R000	R000	R000
Net cash from operating activities	**6,283**	5,593	5,482
Net cash from investing activities	**(2,282)**	(2,188)	(2020)
Net cash from financing activities	**(3,400)**	(2,800)	(2,700)
Net increase in cash flow	**601**	605	762
Cash in the first period	**1567**	989	195
Cash in the end period	**2,168**	**1,594**	**987**

Independent Audit Report (Financial)

To the stockholders of **Mubarakh Folad**'s company

We audited Mubarakh Folad's company balance sheet on 2011-12-29 and reported of profit and loss and cash flows for the fiscal year ending to mentioned year in this institution are set on pages 6 to 8. Responsibility of financial report is with the company's directors and this institute. Comments on the mentioned financial lists are based on conducted financial audits. Audit of this institution was done based on standards in Iran. According to the aforementioned standards, it is necessary to plan the auditing designs of this institution in the way that ensures and not distort the rational financial reports. Also, audit includes a principle and method of auditing and estimates about the financial information of the financial lists provided by the Management Board. In this institution, it is believed that the conducted audit provides us a rational basis for giving comment.

Audit Opinion

According to opinion of this institution, the financial reports mentioned above represented the financial position of the company on 2011-12-29, results of operations and cash flows for the fiscal year ending to the mentioned date with all the important aspects according to the accounting standards in an appropriate manner.

Big 4 audit

Tehran

2012- 04-30

Audit Assurance Report on Non-Financial Performance Indicators:

We examined the non-financial performance indicators for the financial year at the end of 2011-12-29, with details presented on page 4. Responsibility of preparing and providing the non-financial information is with the Board of Management of the company. We independently examined the non-financial performance for stakeholders. This investigation was in accordance with International Auditing Standard No. 108. Based on this test and the methods that we have considered, this process was conducted according to the situation and the method of obtaining information. This process has been done to determine whether this non-financial information is properly collected, classified and reported.

Audit Opinion

Based on our investigations, non–financial indicators were concluded to have been properly collected, classified and reported from all important aspects.

Big 4 audit

Tehran

2012- 04-30

Part One: Questions

1. Given that the share price at the close of trading on the day before the release of the annual report was R58000, what are your estimations of the share price on the release of the annual report. Please tick one:

Stock prices will be more than R58000 [ ]

Stock price will be less than R58000 [ ]

Stock prices will remain constant 58000 [ ]

2. If you think the **share price will increase or decrease** in the future years, please indicate by how much in percentage terms?

Increase is [ ] %

Constant [ ]

Decrease is [ ] %

3. If you think the **share price will increase or decrease** in the next three years. Please indicate by how much in percentage terms?

Increase is [ ] %

Constant [ ]

Decrease is [ ] %

4. To what extent did the non-financial performance indicators influence your stock price estimate?

0 1 2 3 4 5 6 7 8 9 10

Not at all very much so

Part Two: Questions (please give the answer without referring to any information)

Note: In questions 5 and 6, reliability means that information can be dependent on fair offering without error and also deals or events could be reasonably expected to provide fair information (Statement No. 3 about the accounting concept).

5. Assess the reliability of the financial information disclosed in the annual report.

0 1 2 3 4 5 6 7 8 9 10

Not reliable Average reliable Very reliable

6. Assess the reliability of the non-financial performance indicators disclosed in the annual report.

0 1 2 3 4 5 6 7 8 9 10

Not reliable Average reliable Very reliable

7. What level of assurance on non-financial performance indicators has been required by external auditors?

0 1 2 3 4 5 6 7 8 9 10

No Assurance Average assurance High assurance

8. Please assess the level of the non-financial performance indicators in 2011.

0 1 2 3 4 5 6 7 8 9 10

Very poor Average Very good

9. To what degree do you believe that an auditor plays an important role in ensuring the credibility of annual reports?

0 1 2 3 4 5 6 7 8 9 10

Not at all most definitely

Part 3: Biography Questions

1. What is your gender? Male ☐ female ☐

2. How old are you?

20-25 ☐ 26-35 ☐ 36 -45 ☐ 46-55 ☐ 56-65 ☐ 66 -75 ☐ 76+ ☐

3. How many years have you had activity in the stock market activity?

Less than 5 years ☐ 5-10 years ☐ 11-15 years ☐ 16-20 years ☐ more than 20 ☐

4. How much experience do you have in accounting?

None ☐ 2<3 years ☐

< 1 year ☐ 3<4 years ☐

1>2years ☐ 4<5 years ☐

>5 years ☐

5. In which specialized field do you work better?

Auditing ☐ Tax ☐

Accounting ☐ Management ☐

Corporate financial ☐ Other (please note) ☐

6. What is your organizational status?

Management ☐ Auditor ☐ Accountant ☐ Financial manager ☐

7. How do you want to measure your knowledge according to meaning and interpretation of financial reports?

0 1 2 3 4 5 6 7 8 9 10

8. In your opinion, which of the non-financial performance indicators has greater impact on the estimated stock price?

Customer satisfaction ☐

Employee satisfaction ☐

Internal process of the company ☐

9. Would you like to have more information about this company?

Yes ☐

No ☐

10. Do you think you have adequate ability in completing task?

Yes ☐

No ☐

Thank you

APPENDIX J

پرسشنامه

دستورالعمل

برای شرکت در این تحقیق متشکر وممنون هستم . تقدیم این پرسشنامه شاید بمدت 30 دقیقه وقت شما را بگیرد . پرسش نامه ای که به پیوست حضورتان می گردد بخشی از یک پژوهش علمی است که هدف از این تحقیق، جمع اوری اطلاعات درباره ارزشیابی سرمایگذاری سرمایگذاران است. برای دستیابی به اهداف تحقیق ، گزارش مالی سالانه یک شرکت انتخاب شده . قیمت سهام در نزدیکترین معامله یک روز قبل از انتشار گزارش سالانه بود 58000 ریال (این همچنین بود میانگین قیمت سهام برای سه ماه گذشته). براساس انتشار اطلاعات در این تحقیق مورد انتظار است شما به سئوالات زیر جواب دهید.

براورد کنید برای 1389 ایا شما فکر می کنید که قیمت سهام شرکت افزایش ،کاهش یا ثابت باقی خواهد ماند؟.

زمانی که شما پرسشنامه را جواب می دهید. لطفا در نظر بگیرید فرضیات ساده زیر:

از انجایی که هدف مطالعه افشاء عملکرد غیر مالی است ،بنابراین برای اهداف این مطالعه ،لطفا اساس وپایه قضاوت و تصمیم گیری خودتان فقط روی اطلاعاتی که مهیا شده در نظر بگیرد .هر گونه اطلاعاتی که شما ممکن است استفاده کنید در ارزیابی شرکت لطفا بدون تاثیر در نظر بگیرید برای مثال شرایط عمومی بازار ،...بنابراین، قضاوت شما بایستی فقط باشد براساس رویدادها مربوط با شرکت .هیچگونه اطلاعات مرتبط با گزارش مالی شرکت به بازار قبل از دریافت شما انتشار نشده است.

بدهیی است پاسخ مناسب ودقیق جنابعالی به سئوالات ، نتایج حاصل از تحقیق را اعتبار بخشیده ومستدل می نماید ،جواب های انفرادی شما در این مطالعه بطور محرمانه باقی خواهد ماند و با جوابهای دیگر پاسخ دهنده تجزیه و تحلیل و ترکیب خواهد شد. اگر شما دوست دارید یک کپی از نتایج این تحقیق لطفا ایمیل خود را قید نمایید.از حسن نظر وتوجه جنابعالی سپاسگزارم.لطفا حال شروع کنید .

مروری کلی بر اطلاعات شرکت

شرکت فولاد یکی از شرکتهای پذیرفته شده در بورس اوراق بهادار تهران است، که هم در داخل کشور وهم در خارج از کشور فعالیت دارد. فعالیتش از سال 1358 و بطور معنی داری تا سال 1389 رشد کرده .شرکت روی فولاد تمرکز کرده.

تجارت:

شرکت محصولاتش را از طریق 25 شعبه در میان کشور می فروشد شرکت ارتباط خوبی با عرضه کنندگان کالا دارد.هئیت مدیره دید که یکی از با ارزش ترین دارایی شرکت علائم تجاری است ،که توسعه یافته است از طریق تعهدات مشتریان ،خدمات و کیفیت کالا. همچنین ،رقبا در این نوع صنعت تا اندازه ای قوی هستند. مدیران ارشد براورد کردن که کل فروش جزیی در ایران تقریبا 11 بیلیون برای 12 ماه پایان 29-12-1389 بود .شرکت معتقد است خدمات کیفیت محصولاتش ،سرویس برای مشتریان و ضمانت روی محصولاتشان با محصولات شرکتهای رقیبشان متفاوت است . قیمت جاری نسبتهای سود برای شرکتهای قابل مقایسه در دامنه 10 الی16 با میانگین 13قرار گرفته. شرکت یک حسابرس برای ارائه گزارش حسابرسی روی اطلاعات مالی داشته که در صفحه 6 الی 8 نشان داد شد. همچنین ،گزارش حسابرس برای اطمینان روی شاخص های عملکرد غیر مالی روی صفحه 5 نشان داد شده.

شاخص های عملکرد غیر مالی

شرکت از چهار چوب مفهومی BSC بعنوان یک ابزار در درون شرکت برای ارتباط توسعه استراتژی در عملکرد استفاده می کند. اهداف استراتژی در یک چهارچوبی از مشتریا ن ،کارکنان و فرایند داخلی شرکت سازماندهی شد.

استراتژی

استراتژی شرکت معرفی کیفیت بالای محصولات و همچنین اهمیت دادن به مشتریان یعنی رضایت مشتریان در درجه اول می باشد ،یعنی افزایش دادن روابط با مشتریان، فرا هم کردن وسایل اولیه رفاهی برای مشتریان و پاسخ دهی به نیازهایشان. شرکت همچنین سعی خواهد کرد مهیا نماید کیفیت بالای از محصولات برای عرضه کنندگان .شرکت همچنین کمیته ای دارد برای ادامه دادن توسعه علایم تجاری و اطمینان از شناسایی ان در بازار . موفقیت این استراتژی بسیار مهم است زیرا تاثیر دارد در ارزش شرکت .

کارت امتیاز دهی متوازن(BSC)

شرکت چهارچوب مفهومی BSC را برای اندازگیری عملکرد استفاده می کند. که ان شامل اندازگیری عملکرد مالی وغیر مالی میباشد. بعنوان قسمتی از این نگرش وجود دارد یک تعداد از اندازگیری که مورد بررسی ونظارت قرار گرفتند برای بوسیله مدیریت . شرکت دارد یک بازار توسعه پژوهش که متضمن تحقیق برای اندازگیری بعضی از شاخص های کلیدی غیر مالی برای شرکت همانطور گزارش شد زیر:این برای اولین باری است که شرکت این نوع گزارش را انتشار می دهد.

شاخصهای عملکرد غیر مالی بصورت مثبت:

شاخصهای عملکرد غیر مالی بصورت:	1388 سال قبل	1389 سال جاری
یادگیری ورشد کارکنان :		
1-ساعت یادگیری هر ساعت کارکنان (هر سال)	50	55
2--پیشنهادات هر کارمند	6	7
3--تعداد کارکنان که یاد گرفته اند	8	12
4--نرخ تعداد گردش کارکنان	9%	7%
5-میانگین تصدی فروش هر شخص (در سال)	4	4.5
6- تعداد ابداعات	4	6
مشتریان شرکت:		
7- فروش مجدد	%40	%45
8-برگشت بوسیله مشتریان بصورت درصد	%3	%2.5
9 -تعداد تحویل از موعد گذشته	20	15
10-تعداد شکایت مشتریان	17	12
11-زمان پاسخگویی به مشتریان(دقیقه هر روز)	40	45
12-تعداد مشتریان بدست امده	32	37
فرایند داخلی تولید:		
13- برگشت به عرضه کنندگان	%3	%2.5
14-زمانهای آماده سازی	53	58
15-میزان کالاهای معیوب	3.4%	2.9%
-16-چرخ زمانی تولید	23	28
17-سطح موجودی	31	26

صورتهای مالی

صورت حساب سود وزیان

شرکت فولاد مبارکه

برای منتهی به 29-12-1389

1389	1388	1387	
000ریال	000 ریال	000 ریال	
151,842	144,781	137,839	درامد کل
(146,712)	(139,808)	(133,084)	بهای تماشده کالای فروش رفته
5,230	5,049	4,808	سود عملیاتی قبل از مالیات
(1,399)	(1,406)	(1,376)	مالیات
3,831	3,643	3,432	سود عملیاتی بعد از مالیات
7,934	6,869	6,100	سود انباشته در اول دوره
11,765	10,539	9,532	کل سود قابل دسترس برای تقسیم
(3,308)	(2,466)	(3,582)	تقسیم سود
8,457	8,073	5,950	سود انباشته در پایان سال
40.1	38.3	36.5	سود هر سهم

ترازنامه

شرکت فولاد مبارکه

برای منتهی به 29-12-1389

2010	2009	2008	
000ریال	000ریال	000ریال	
23,496	22,587	21,386	کل دارایی جاری
13,361	14,018	13,472	دارایی غیر جاری
36,857	**36,605**	**34,858**	**جمع داراییها**

کل بدهیهای جاری	7,696	7,521	**7,299**
کل بدهیهای غیر جاری	9,212	9,011	**9,101**
کل بدهیهای خالص	16,908	16,532	**16,400**
سهام سرمایه (10000000)	12,000	12,000	**12,000**
سود وزیان انباشته	5,950	8,073	**8,457**
کل حقوق صاحبان سهام	17,950	20,073	**20,457**
جمع بدهیها وحقوق صاحبان سهام	**34,858**	**36,605**	**36,857**

گردش وجوه نقد

شرکت فولاد مبارکه

برای منتهی به 1389-12-29

	1387	**1388**	**1389**
	000ریال	000ریال	**000ریال**
وجوه نقد ناشی از فعالیت های عملیاتی	5,482	5,593	**6,283**
وجوه نقد ناشی از فعالیت های سرمایگذاری	(2020)	(2,188)	**(2,282)**
وجوه نقد ناشی از فعالیت های تامین مالی	(2,700)	(2,800)	**(3,400)**
افزایش خالص در گردش وجوه نقد	762	605	**601**
وجه نقد در اول دوره مالی	195	989	**1567**
وجه نقد در پایان دوره مالی	**987**	**1,594**	**2,168**

گزارش حسابرس مستقل

به مجمع عمومي عادي صاحبان سهام شرکت فولاد مبارکه

ما حسابرسی کرده ایم ترازنامه شرکت فولاد مبارکه در تاریخ 29-12-1389 و صورتهاي سود و زيان، و جريان وجوه نقد آن براي سال مالي منتهي به تاريخ مزبور ،همانطوری که تنظیم شده است در صفحات 6 الی 8، مورد حسابرسي اين مؤسسه قرار گرفته است. مسئوليت صورتهاي مالي با هيئت مديره شرکت و مسئوليت اين مؤسسه، اظهارنظر نسبت به صورتهاي مالي مزبور براساس حسابرسي انجام شده، است.

حسابرسي اين مؤسسه براساس استانداردهاي حسابرسي ايران انجام شده است. استانداردهاي مزبور ايجاب مي‌کند که اين مؤسسه، حسابرسي را چنان برنامه‌ريزي و اجرا کند که از نبود تحريفي با اهميت در صورتهاي مالي، اطمينانی معقول بدست آيد. حسابرسي از جمله شامل رسيدگي نمونه‌اي به شواهد پشتوانه مبالغ و اطلاعات مندرج در صورتهاي مالي است. حسابرسي همچنين، شامل ارزيابي اصول و رويه‌هاي حسابداري استفاده شده و براوردهاي عمده به عمل آمده توسط هيئت مديره و ارزيابي کليت ارائه صورتهاي مالي است. اين مؤسسه اعتقاد دارد که حسابرسي انجام شده مبنايي معقول براي اظهارنظر فراهم مي‌کند.

گزارش حسابرس

به نظراين مؤسسه، صورتهاي مالي ياد شده در بالا، وضعيت مالي شرکت فولاد مبارکه در تاريخ 29-12-1389 ، نتايج عمليات و جريان وجوهنقدآن را براي سال‌مالي‌منتهي به تاريخ مزبور، از تمام جنبه‌هاي با اهميت، طبق استانداردهاي حسابداري، به نحو مطلوب نشان مي‌دهد.

4 حسابرس اصلی تهران

1390-04-31

گزارش حسابرسی اطمینان روی شاخص های عملکرد غیر مالی

به مجمع عمومي عادي صاحبان سهام شرکت فولاد مبارکه

ما مورد بررسی قراردادیم شاخص های عملکرد غیر مالی برای پایان سال مالی 29-12-1389 که جزئیات ان در صفحه 4 وجود دارد. مسئولیت تهیه وتنظیم اطلاعات غیر مالی بر عهده هیت مدیره شرکت بوده. ما مورد بررسی قرار دادیم اطلاعات غیر مالی وروی ان اظهار نظر کردیم برای سهامداران .این بررسی مطابق با استانداردهای بین المللی حسابرسی 108بوده . بر این اساس آزمون و روش های که ما در

نظر گرفتیم در مورد شرایط و چگونگی این نوع اطلاعات.این فرایند انجام شده است برای تعیین این که ایا اطلاعات غیر مالی بطور مناسب جمع اوری و خلاصه بندی وگزارش شده اند.

اظهارنظر

براساس بررسیهای ما، نتیجه گیری کردیم که از تمام جنبه‌هاي با اهمیت، شاخص های غیر مالی بطور مناسب جمع اوری ،خلاصه بندی وگزارش شده اند.

4 حسابرس اصلی تهران

1390-04-31

قسمت اول سئوالات

1 -بخاطر داشته باشید که قیمت سهام در اخرین روز قبل از انتشار گزارشهای مالی 5800 ریال بود. پیش بینی شما در ارتباط با قیمت سهام با توجه به انتشار صورتهای مالی چیست .لطفا یگ گزینه را انتخاب کنید.

1 -قیمت سهام بالاتر از 5.8 خواهد بود

2- قیمت سهام کمتر از 5.8 خواهد بود

3-قیمت سهام ثبت خواهد ماند

2-اگر شما فکر می کنید و یا پیش بینی می کنید که قیمت سهام شرکت در سال اینده افزایش ویا کاهش خواهد یافت .لطفا نشان دهید چقدر برحسب درصد ؟

افزایش خواهد یافت.. ..% یا ثابت خواهد بود یا کاهش خواهد یافت ...%

3-اگر شما فکر می کنید و یا پیش بینی می کنید که قیمت سهام شرکت در 3 سال اینده افزایش ویا کاهش خواهد یافت .لطفا نشان دهید چقدر برحسب درصد ؟

افزایش خواهد یافت.. ..% یا ثابت خواهد بود یا کاهش خواهد یافت ...%

4- تا چه اندازهای شاخصهای عملکرد غیر مالی روی براورد قیمت سهام تاثیر دارد؟

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0 1 2 3 4 5 6 7 8 9 10

ابدا هیچی — متوسط — خیلی زیاد

قسمت دوم: سئوالات مربوط به اطمینان روی شاخص های عملکرد غیر مالی میباشد.

توجه کنید: درسئوالات 5و6، قابلیت اطمینان بدین معنی است که اطلاعات میتواند وابسته باشد با ارائه منصفانه، و بدن تورش وخطا، همچنین معاملات ویا رویدادها می تواند بطور منطقی برای ارائه اهداف مورد انتظار باشد.(بیانیه شماره 3 مفاهیم حسابداری)

5-لطفا قابلیت اعتماد به اطلاعات مالی که در گزارشهای مالی افشاء شده اند ارزیابی کنید.

0 1 2 3 4 5 6 7 8 9 10

معتبر نیست — متوسط معتبر — خیلی معتبر

6-لطفا قابلیت اعتماد به شاخص های عملکرد غیر مالی که در گزارش مالی افشاء شده اند ارزیابی کنید.

0 1 2 3 4 5 6 7 8 9 10

معتبر نیست — متوسط معتبر — خیلی معتبر

7- چه سطحی از اطمینان بوسیله گزارش اطمینان (حسابرسان خارجی) روی شاخص های عملکرد غیر مالی مهیا شده است.

0 1 2 3 4 5 6 7 8 9 10

اطمینان نه — متوسط اطمینان — اطمینان بالا

8-لطفا سطح شاخص های عملکرد غیر مالی برای سال 2011 ارزیابی کنید

0 1 2 3 4 5 6 7 8 9 10

خیلی ضعیف — متوسط — خیلی خوب

9- تا چه اندازه های شما معتقد هستید که حسابرس نقش مهمی در اعتبار صورتهای مالی ایفا می کند

0 1 2 3 4 5 6 7 8 9 10

ابدا هیچی — متوسط — خیلی عالی

قسمت سوم= سئوالات بیوگرافی

1-جنسیت شما چیست؟ مرد زن

2-شما چند سال داری؟

35 -26 25-20 45-36 55-46 65-56 75-66 +75

3-تقریبا چند سال است که شما در بازار بورس اوراق بهاداربه سرمایگذاری فعالیت دارید؟

1-5 سال 6 - 10 11 -15 16-20 بیش از 20 سال

4-تقریبا چند تا از سهام های شرکتهای متفاوت رامالک هستید؟ .....

5-چقدر تجربه کار حسابداری شما دارید؟

هیچی کمتراز 6ماه یک سال دو سال 3 سال 4 سال 5 سال بالاتر از 5 سال

6- در چه زمینه ای شما بیشتر تخصص ویا کار کرده اید؟

حسابرسی مالیاتی مدیریت مالی حسابداری پوشش مالی سایر رشته ها

7- پست سازمانی شما چیست؟

مدیر مالی مدیر عامل رئیس حسابداری حسابرس مسئول سرمایگذاری شرکت مسئول پژوهش

8- به نظر شما کدام یک از شاخص های عملکرد غیر مالی تاثیر بیشتری روی براورد قیمت سهام گذاشت؟

1-رضایت مشتریان 2- رضایت کارکنان 3-فرایند داخلی شرکت

9-ایا شما مایل هستید که اطلاعات بیشتری درباره این شرکت داشته باشید؟

بله خیر

10-ایا شما فکر می کنید که توانایی کافی برای کامل کردن این پرسشنامه را دارید؟

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[269] Publications Related to This Study

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Journal Article (ISI)

[1] "Method for Measuring and Disclosure of Non-Financial Performance" Accounting Research Journal Emerald. 26 May 2011, Australia. arj@qut.edu.au.

[2] The Effects of Disclosure of Non-Financial Performance Indicators on Stock Price Estimate in Iran" Australian Journal of Basic and Applied Sciences. 5/11/2012.www.aensiweb.com.

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[3] "The Extract of Non-Financial Factors by Delphi Method" 2 October 2010, Accounting, Business and Financial History-SOUTH AFRICA .www.ijcrb.webs.com.

[4] "Non-Financial Performance for Firm's Evaluation "European Journal of Economics, Finance." 1-septupber -2010. London, United Kingdom. www.eurojournals.com

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[5] "Non-Financial Performance Impact on Investors' Decision Making" International Accounting & Business Research - June 16-18, 2011, in Bangkok (Thailand). www.sibresearch.org.

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[7] "Non-financial performance indicators as incremental information for company Value" 1st international conference on Financial, Business & Accounting"12-14 number 2010.Tun Abdul Razak University. KL- Malaysia. fbaglobe@unitar.edu.my.