Market Reactions to Tangible and Intangible Information: A Case of Nepal

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ABSTRACT

From the past decades, the capital market has been suffering from the unforeseen and sudden economic turbulences that have been directly or indirectly contributing to the stock returns. The study primarily analyzes the market reactions to tangible information and intangible information in Nepalese stock market and to examine the investors' opinions in Nepalese stock market. The sample size is 185 stock investors and the response rate is 27 percent. The major findings of the study are: the capital structure and average pricing method is one factor that influence the investment decisions, next it is the political and media coverage, and the third factor is belief on luck and the financial education. Finally, the forth component for stock market movement is trend analysis. Thus, it is concluded that both the tangible and intangible information are essential to succeed in Nepalese capital market.

INTRODUCTION

From the past decades, the capital market has been suffering from the unforeseen and sudden economic turbulences that have been directly or indirectly contributing for the stock returns. Identifying the factors affecting stock returns are not an easy task for the financial economists, academicians, and practitioners. From the inception of assets valuation model in twentieth century, many efforts have been employed to identify these factors. The work of Markowitz (1952) was based on the single-period which was further extended to CAMP in 1960s and explains the overall market performance that assumed to determine the stock returns. In succeeding periods, numerous studies were conducted in developed and developing economies to explore the factors determining stock returns. Some evidences documented that accounting variables are the major sources of variations whereas other evidences focused on others. The demographic characteristics and behavioral differences became the focus of the study in the later period after the contribution of psychology in finance. Many studies on human psychology contribute to identify the potential dimensions for stock returns. Among the others, Einhorn and Hogarth (1978) documented that people have great confidence in their fallible judgments. The issue of overconfidence in judgment was further confirmed by Einhorn (1980). With the base on these evidences, the general learning in the investment community can be expressed as; the events that burst-out expectedly or unexpectedly that have significant impact on investors' mindset and that information play the important role in individual investment decisions.

After the evolution of the assets valuation models, there has been the considerable shift of the literature towards predicting returns and formulating the forecasting

tools, and techniques. But, there is still a lack of consensus upon single model, tools and procedures. For instance, Fama (1972) divided the stock returns into selectivity and risk: stock returns as changes in expected future dividends or expected future returns (Campbell, 1991); cash-flow news effect (Vuolteenaho, 2002). Daniel and Titman (2006) proposed that stock return is a function of tangible and intangible returns. These empirical evidences focused toward the stock returns decomposition which helps to identify the dimensions that explain the variation of returns. Nowadays, stock returns forecasting became a central issues in finance and numerous studies have been conducted to scan the manifestations. Amid this, the volatile economic environment also deserves the efforts of forecasting.

In behavioral studies, DeLong et al. (1990) documented the overreaction of prices is due to news, price bubbles, and expectations. Sophisticated investors can earn superior returns by taking advantage of under-reaction and overreaction without bearing extra risk (Barberis, et al., 1998) and asset prices are influenced by investor overconfidence (Daniel and Titman, 2000). Sun and Wei (2011) further documented that investors are overly sensitive to intangible information when they need to make more subjective judgments. These evidences suggest that the investment decisions are more than models and numbers so that the importance of financial theories and behavior of the decision makers has been raised. On top of the behavioral evidences, Banz (1981) showed the size effect. Similarly, number of other studies revealed the existence of relationship of stock returns with other accounting variables. For instance, earnings, cash flows, dividends, returns, market equity (size), book-to-market equity, leverage, etc. Size and book-to-market equity provide a simple and powerful characterization of the cross-section of average stock returns (Fama and French, 1992, Daniel and Titman, 1997). On the contrary, Kothari, et al. (1995) documented the relationship between book-to-market equity and returns are weaker and less consistent. These evidences prove the controversy among the previous studies.

Apart from the voluminous studies in the developed and western economy, limited studies have been conducted in the context of Nepal. The positive relation between stock returns and size whereas inverse relation between stock returns and market-to-book value by Pradhan (1993). The positive relation of stock returns with earning yield and size whereas negative relation with book-to-market ratio and cash flow yield and book-to-market value is found to be more informative (Pradhan and Balampaki, 2004). Similarly, K.C. (2009) found the book-to-market equity is the most significant determinant of stock returns. In other studies, Dangol (2010) revealed that Nepalese stock market is inefficient, whereas, Pandeya (2009) found that the Nepalese stock market is less efficient in short run but more efficient in long run. Thus, the previous studies provided the evidences that book-to-market equity and size are the major determinant of stock returns even if the efficiency of the capital market is inconclusive.

Specifically, in the Nepalese context, the study is primarily designed to fill the absence of similar studies. The evidence of efficiency of stock market is controversial and inconclusive, some evidence suggest that Nepalese stock market is inefficient whereas others find it is inefficient in short-run and efficient in long-

run. The central idea is that it is not efficient and there is possibility of outperformance in the market. The educated and well aware investors could score better than others. The market without clear reasons experiences the bearish trend and it has gradually deteriorated the investors' sentiments towards the market reversal in near future. The so-called market crash, because most of the listed stock became overpriced, has sharply decline holding capacities of most of the investors and forced them to supply regardless of minimum trading prices in the market. The significant increase in the supply side of the securities and the absence of motivation for investors, it is naturally difficult to predict the recent future. With these circumstances, the study conducted a survey on equity investors.

The study on market reactions to tangible and intangible information, the stock return of the firm is decomposed into tangible and intangible return components. The tangible returns is based on the past fundamental growth measures and intangible returns is then the part of the past returns that remains unexplained, and presumably is the result of an investor response to information not contained in the accounting growth measures. The accounting growth measures represent the basic accounting variables that can be easily extracted from widely available public disclosure like annual reports, quarterly and monthly reports, and that can be used for the market prediction. Theoretically, in the presence of the efficient capital market the stock prices incorporate all the public and private information, and nobody can outperform the market. But, in practice, the use of technical and fundamental analysis is helpful to excel the market performance. Based on the evidences of previous studies that intangible returns reversal is possible and the book-to-market is a good proxy of intangible returns (Daniel and Titman, 2006). The replication of the similar study with different dimensions might be essential in Nepalese financial market to enhance the financial literacy.

The financial information or the signal provides the ideas of the effects and ranges of market in different periods as well as it helps to segregate the information into facts and rumors in particular. In other words, the study would be a useful effort in an area of research in Nepalese Finance and a novel phenomenon. Finally, the concurrent development in Nepalese financial sector and the gradual expansions of the economy as well as the sophistication of Nepalese capital market deserve the similar studies.

Conceptual framework

Early from the twentieth century, many studies have been carried out in assets valuation. In finance, valuation is the process of assessment and estimation of marketable goods in terms of medium of exchange. It is the act of deciding how much money something might be sold for or the amount of money decided to for particular goods at a specified time. The valuation can be done on assets for example, financial assets (tangible and intangibles), liabilities (debt, bonds, etc). Valuations are important for many reasons in finance thus it is at the heart of financial economics and especially of the corporate finance. Common stock is a kind of financial assets and the trading of these assets happens in the organized stock exchanges at the equilibrium market price. It is determined with the free flow of demand and supply of the securities. The security prices are influenced by the

number of interacting factors. Some of them are in measurable terms for instance, firm specific accounting variables, macro-economic indicators, etc and others are difficult to measure such as investors' psychology, selective investment behavior, attitude and perception, etc. The classification of these interacting variables in terms of its measurement can be termed as tangible variables and intangible variables, respectively. In terms of the investment in financial assets like common stocks, bonds, options, futures, etc. The tangible and intangible variables play the important roles in decision making.

The investment is the postponement of current spending for the future purpose with the expectation of gain. The gain is the compensation for the investor's sacrifice. With the same notion, stock return is also a compensation for the sacrifice of current benefits. In general, stock returns should be at least equal to market returns that help to retain the initial investment for a long position. If it is deviated from the benchmark returns, then there would be the problem of withdrawal of commitment or that create a problem of mispricing. The causes of stock return might be different, among the other factors, one of them could be associated with the changes in expected future dividends or it could be the expected future returns. The changes in lagged returns might also have a significant effect on current stock prices, higher the magnitude on the changes in returns leads to higher the changes in stock prices in the market. The high level of ups and downs in stock prices is termed as market volatility. More specifically, the frequent changes in stock prices with the change of dividend news; the change in expected returns with the change in expected dividends; an innovation in the expected return today might be the implications for distance future; and also shocks in expected future dividends might be the correlation effect on prices . Thus, the stock prices have the significant effects with tangible and intangible information, which is popularly known as market information.

In the financial literature, the basic question that has stimulated voluminous research and became a heated debate is: what moves the stock market or the stock returns? Some studies have been trying to identify the factors by using stock returns decomposition. Decomposition is the process by which the matter is broken down into smaller parts or simple parts. In case of the stock returns decomposition it is the process of dividing stock returns into different parts for instance, returns for selectivity and returns for timing, expected future dividends and expected future returns, cash flow expectations and discount rates, tangible and intangible returns, etc. Some other studies use the fundamental variables to determine the factors affecting stock returns.

The graphical presentation of the theoretical framework of market reactions to tangible and intangible returns is presented in Figure 1.

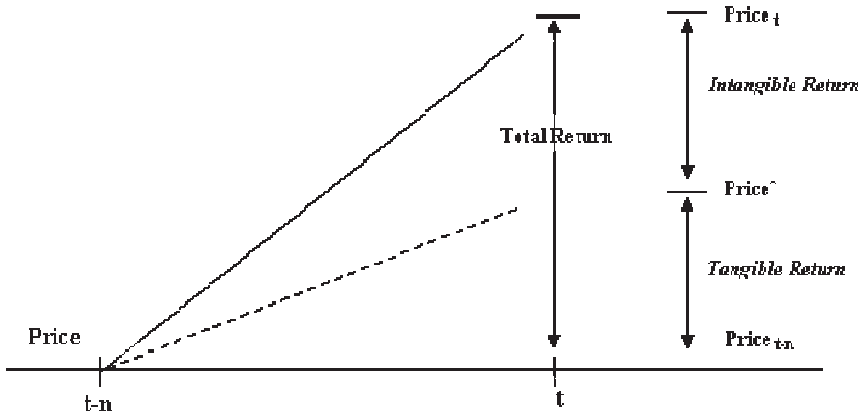

Figure 1: Graphical presentation shows the breakdown of a firm's past return into tangible and intangible returns

The study use some accounting variables: stock price, annual yield, numbers of common stock outstanding, book value of equity, earnings, sales, and cash-flow for the analysis. It is assumed that the price-per-share is equal to the returns i.e. as price increases return increases. The study defined a given firm's tangible return illustrated by the dashed line in the figure, and its intangible return is the residual. In other words, the tangible return as the past stock return that would be expected based solely on the past fundamental growth measures. The intangible return is then the part of the past return that remains unexplained and presumably is the result of an investor response to information which is not contained in the accounting growth measures.

Review of Major Empirical Studies

The evidences in various dimensions of the modern finance have been opined the new insights in theory and practices. The stock returns forecasting being the central issues in finance, numerous studies tried to find the most reliable factors contributing to returns. Among the others, the qualitative studies concerning the investors' reaction to market prices shows that overreaction of prices to news, price bubbles and expectations; the most recent evidence shows investors are overly sensitive to intangible information when they need to make more subjective judgments. These empirical evidences suggested that the investment decisions are more than models and numbers but based on theories and behavior of the decision makers. Despite the absence of finite measurement tools for the behavioral aspects of the investors, these are treated as intangibles. It has greater influences on stock prices and on investment decisions. Thus, these factors are the interest of the study. On top of the behavioral evidences, there are some measurable variables. For instance, earnings, cash flows, dividends, returns, market equity (size), book-to-market equity, etc which provides certain trends in time series. The evidence shows that the book to market ratio and cash flow yield has the most significant positive impact on expected returns (Chan, et al., 1991), size and book-to-market equity provide a simple and powerful characterization of the cross-section of

average stock returns (Fama and French, 1992). On the contrary, Kothari, et al. (1995) documented the relationship between book-to-market equity and returns are weaker and less consistent. Based on these evidences, one can say that size, book-to-market equity, cash flow, stock price, returns, and other quantitative factors are confirmed to be the variables that contribute to the stock returns.

The positive tradeoff between risk and return (Fama and MacBeth, 1973) and the return reversal of DeBondt and Thaler (1985) does not help to rest the evidences in a single statement. Moreover, Zarowin (1989) concluded the winner-loser effect is primarily a size effect; market responds mistakenly in initial phase of information (Ikenberry et al., 1995); anomalies can be due to methodology, and most long-term return anomalies tend to disappear with reasonable changes in technique used for the analysis (Fama, 1998). Market reaction to aggregate earnings is much different than the reaction to firm earnings (Kothari, et al., 2006), greater information uncertainty produce relatively higher expected returns (Zhang, 2006) and the media coverage has been the significant factor for stock return forecasting. The evidence documented by Fang and Peress (2009) showed that high-media coverage stocks earn lower returns and Engelberg and Parsons (2011) revealed that the presence or absence of local media coverage is strongly related to the probability and magnitude of local trading. These evidences give some insight that there are some dimensions in the stock prices that have been consistently providing information about the future movements and it is important to determine.

Apart from the voluminous studies in the developed and western economy, limited studies has been conducted in Nepalese context. Some of the major studies indicates: the positive relation between stock returns and size where as inverse relation between returns and market-to-book value; the positive relation of stock returns with earning yield and size whereas negative relation with book-to-market ratio and cash flow yield and book-to-market value is found to be more informative; book-to-market equity is the most significant determinant of stock returns and in other study, the evidence shows that Nepalese stock market is inefficient. These studies provided the evidences that book-to-market equity and size are the major determinant of stock returns even if the capital market is inefficient in Nepal. Thus, the existing literature provides sufficient evidences of the controversy and lack of consensus. The existing gap justifies the need of further evidences on factors interacting stock returns. More specially, in the context of Nepal, the study of market reactions to tangible and intangible information is a novel phenomenon. The concurrent development in the areas of Nepalese Finance and the gradual expansions of the economy as well as the sophistication of Nepalese capital market operation deserve the study.

Statement of the problem

Financial economists and investors have been spending considerable time searching for investment strategies that yield abnormal returns but the reliable one is yet to be found. Several studies have confirmed that the firm level fundamental variables are useful in explaining the stock returns patterns and the future price movements. For instance, earning yield effect of Basu (1977), size effect of Banz (1981), leverage effect of Bhandari (1988), book-to-market effect of Stattman (1980), joint effect of beta, size, leverage, book-to-market equity and earning yield of Fama and French (1992), book-to-market equity and cash flow yield effect of Chan, et al. (1991) are some of the major studies. These evidences shows that firm level past accounting variables have the explanatory power to predict the future returns. Among the others, the size and book-to-market equity have more significantly explain the variations in stock returns. These variables are taken as explanatory variables for the study that help to confirm the existence of similar results in Nepalese context.

Beyond fundamental growth measures that carry the tangible information of the past performance of the firm, the unexplained part of the past performance is also an important determinant for future movements. The unexplained information is treated as intangible information. For instance, the news effects, lag effects, past performance and overconfidence, investor sentiments, and so on. Some field evidences showed that news events lead some investors to react more quickly. The overconfidence on the past performance, past short-term winners have outperformed past short-term losers (momentum, Jagadeesh and Titman (1993)); high book-to-market-equity firms or book-to-market anomaly (Rosenberg, et al. 1985); higher profitability earn higher average stock returns (Haugen and Baker,1996);leverage effect, that is high-leverage firms have historically outperformed low-leverage firms (Bhandari's,1988) are some of the major evidences. From the different stand point of the finance literature, financial economists have puzzled over the two observations. First, over the long horizons future stock returns are inversely related to the past performance. Second, returns are positively related to price-scaled variables: earning yield, cash flow yield, book-to-market equity, etc. The evidence on these issues in the small and emerging stock market produce some framework to establish the relationship among the variables in the local context.

More specifically, holding the major conclusions of the earlier studies that the stock return reversal exist in long periods, Fama and French (1996) showed that the reversal effect is subsumed by the book-to-market effect, but the survivor bias does not explain the relation between book-to-market and average returns. Further, Daniel and Titman (2006) showed that only intangible return reversal is true, and the book-to-market equity is a good proxy for past intangible returns. With the support of these evidences, the similar procedures have been employed for the study and it is assumed that price scaled variables are the proxies of tangible information which is essential for the calculation of intangible components for the stock returns reversal analysis.

The overreaction hypothesis and Lakonishok et al. (1994) argued that the reversal and book-to-market effects are the results of investor's overreaction to the past firm performance. In contrast, Fama and French (1995; 1996) argued that, since past performance is likely to be negatively associated with changes in systematic risk, high book-to-market firms are likely to be riskier and hence require higher expected returns. Some evidences explained investors overreact to the past accounting growth rates. On the contrary, some other studies documented that the increased risk and return of high book-to-market firm is the result of distress brought by the poor past performance. The controversy in whether investor overconfidence or the risk and return trade-off is the cause of book-to-market effect or return reversal is the motivation of the study.

Apart from the numerous evidences that established the relationship between growth measures and stock returns, the understanding and the application of the results are also equally important to exploit the benefits of the efforts by investment community. The return comprises the dividends plus the capital gains. The future prospects and the market opportunities determine the degree of stock returns and level of investments. Similar to stock returns, investment decisions is an important phenomenon in the area of finance. There are also some evidences that establish the relationship between investment decisions and literacy. A significant association between financial literacy and investment decisions by Van Rooij et al. (2007). Even though, the financial crisis in 2008 has heightened the institutional as well as individual investors' awareness in the field of financial decision making. The literacy and the technological advancement contribute to extract the quality information in time. The evidence suggests that, there is an association between stockholding and computer and Internet use (Bogan, 2006). On the other hand, Lusardi and Mitchell (2006) revealed the negative association between planning for retirement and financial education. These evidences suggest that the additional unseen factors that contribute to investments and returns. These factors play an important role as the market reactors thus, are incorporated as intangible information in the study.

Now, it is important to realize that stock return is a function of multiple interacting factors in the capital market. It has been gradually affected by the defined and undefined factors. The information available in the market could be disseminated by the management or could be developed through the end of invisible hands. The magnitudes of the information that are incorporated in stock prices are determined by the nature and form of the capital market. Along with the information effect, the variation in stock prices can also be affected by the future prospects and the other unseen factors. Thus, the study helps to enhance the knowledge by decomposing the information. There are a number of ways to decompose the information that are influence stock prices. For instance, Campbell (1991) decompose the stock returns into a component that reflects information about cash flows, and a second component that reflects information about discount rates; Daniel and Titman (2006) decompose the returns in tangible and intangible returns. Similarly, the study decompose the information into two components; the first one is firm's past and current performance that is described in its accounting statements treated as tangible information which is relatively concrete and, which is by definition

orthogonal to the tangible information is refer to as intangible information. In light of the separation of market information into two components, the study decompose the stock returns into tangible return –which is associated with past performance and intangible return – which is unrelated with past performance of the firm itself. The decomposition results might be useful to grasp the far sight in the capital market and one can perform well than others.

This study primarily deals with the issues like - what causes the Nepalese stock market to turn down? What are the opinions of Nepalese stock investors on investment alternatives, decision making, market prices and stock returns? What are the factors of investment decision making? What is the perception of stock investors while they earn and when they incur loss? and alike.

Objectives of the study

The basic objective of the study is to analyze the market reactions to tangible information and intangible information in Nepalese stock market. The specific objective of the study is to examine the investors' opinions in Nepalese stock market.

Limitations of the study

The study has been performed on the basis of sample and survey data, thus the limitations of the sample and survey studies might not be discarded. The primary data collected is based on the structured questionnaire so that the broadness of the topic might not be covered. The respondents were selected through the online (web based) process, forwarded the questionnaires and requested them to send back the filled questionnaire using emails so that those investors who has lack of computer skills and lack of access for computers, email and internet were discarded.

Organization of the study

The study is organized in five sections. The overall background of the study, statement of the problem, issues of the study and basic and specific objectives have been included in first chapter. The conceptual framework and review of some major studies in the field of market reactions to tangible and intangible information has been summarized in chapter two. Subsequently, research methodology of the study has been presented in third chapter which describes the research design, nature and sources of data, selection of the sample, and finally the limitations of the study. The fourth chapter is all about the data analysis and presentation. Finally, the summary and the conclusions of the study have been presented in chapter five.

METHODOLOGY

Research design

The research design to be employed in the study consists of descriptive and correlational research design. The descriptive research design is a fact-finding operation searching for adequate information. It is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest. It is a type of study, which is generally conducted to assess the opinions, behaviors, or the

characteristics of a given population. It does not necessarily seek to explain relationships, test hypothesis, make predictions or get the meanings and implications of a study rather it is a process of accumulating facts. The descriptive research design is selected for the study to learn the profile of the respondents, presentation and description of the data collection, and to describe the characteristics of the investors in the Nepalese stock market. The correlational research design is used to obtain the description of the phenomena and to ascertain the extent of relationship of two variables. In general, the magnitude of a correlation depends upon the extent to which an increase in one variable is accompanied by an increase in the other. When the change in one variable leads to specific changes in another, the two variables are said to covary or in other words, the relationship between them exist. In the correlational relationship, changes in one variable accompany changes in another and the magnitude of the changes range between perfect positive correlation (+1) to perfect negative correlation (-1) and no correlation when the coefficient is 0. A positive correlation indicates that the scores move together, both increasing or both decreasing. On the other hands, a negative correlation indicates that as scores on one variable rise, scores on the other decreases. The correlational research design is employed for the study to identify how strongly the selected variables are related or delineating the association of the variables.

Nature and sources of data

The study employs primary data. It has been collected through the structured questionnaire from the stock investors in Nepalese stock market. A survey was carried out to collect opinions of investors in Nepalese stock market. The stock investors were purposively selected. The demographic characteristics and different investment issues namely, investment alternatives, factor influencing investment decisions, market prices and stock returns related issues were incorporated in the questionnaire. Twenty questions consists multiple choices, fill in the blanks, ranking, likert items with 5 point scale, open question and attitude scale (agree/disagree) questions. These questionnaires were provided to the respondents in different locations within Kathmandu as per convenience.

The primary data were collected using three different methods. First, searched the email addresses of 100 individuals from different published sources like yellow pages, the corporate directory and forwarded them the questionnaires in Nepali and English medium then requested them to fill it up either in Nepali or in English format. The second way was, published a survey participation request message in web based investors forum so that the stock investors can send their email address and get the questionnaire, 51 investors posted their email address for the questionnaire request. Finally, 34 questionnaires were forwarded to the investors who are in the family and friends circle. At the time of the data analysis, total 50 useful questionnaires were collected out of 185 distributed questionnaires. Thus, the response rate is about 27 percent which is considered as reasonable.

Data Analysis

The study intends to analyze the market reactions of tangible and intangible information and to analyze the investors' behavior in capital market. The factor

analysis has been employed for the data analysis along with descriptive statistics and correlation analysis.

The primary data analysis has been classified into two parts, the first part is more focus towards the demographic characteristics of investors and the next section contains the factor analysis.

RESULTS AND DISCUSSIONS

Profile of Respondents

Table 1 reports the individual investor's characteristics. In Panel A, each row indicates the level of education of the respondents and the middle columns represent the classification of the respondents' age into three groups, and last column shows the total respondents corresponding to the different level of education. In Panel B, sector of employment of the respondents are distributed into the different age groups. Panel C and Panel D also shows the distribution of age-wise work experience and level of investment in common stocks of the respondents. The distribution includes total 50 respondents.

The table displays the characteristics of the individual investors in local capital market in relation to their age group. In the Panel A, the cross tabulation of educational background and the age groups is designed. The maximum number of respondents lies corresponding to bachelor degree and the 30 to 40 years age group, followed by master degree with age below 30 years. On the other hand, there is no one investor in intermediate and below 30 years group. This panel shows that equal number of respondents consisting 44.90 percent of total respondents earn the bachelor and master degree. In Panel B, the respondents are classified in terms of their employment status which indicates majority are self-employed followed by their association with private sector. 38.00 percent of the total respondents lie in the middle age group, followed by 34.00 percent in below 30 years group. Panel C is the descriptive statistics of the investment related work experience with respect to age of the respondents. Higher proportion of the respondent are like beginners because of their recent involvement in investment related activities, 58.33 percent lies in the below 5 years of work experience group whereas only 6 percent has the greater exposure i.e. above 10 years in capital market. This sample statistics shows that there are younger investors in the stock market or the stock market has been attracting the younger investors compare to above 30 years old people. Finally, the Panel D indicates the level of investment and the age classification. Most of the respondents have below 5 lakh of stock investment followed by 10 to 25 lakh. This statistics shows that very few investors have their stock investment more than 25 lakh. Therefore, the major points of this table are: the proportion of educated investors is high in the market, most of them are self-employed, the stock market has been attracting younger investors and small investor has the more voice in the Nepalese stock market.

Table 1: Profile of Respondents

Panel A: Educational background of the respondents

Education	Age Group (in years)						Total	
	Below 30		30 to 40		Above 40			
	No	%	No	%	No	%	No	%
Intermediate	0	0	1	2.04	4	8.16	5	10.20
Bachelors	7	14.29	11	22.45	4	8.16	22	44.90
Masters	9	18.37	7	14.29	6	12.24	22	44.90
Total	**16**	**32.65**	**19**	**38.78**	**14**	**28.57**	**49**	**100**

Panel B: Sector of employment of the respondents

Employment	Age Group (in years)						Total	
	Below 30		30 to 40		Above 40			
	No	%	No	%	No	%	No	%
Government	0	0	1	2.00	1	2.00	2	4.00
NGO/INGO	2	4.00	0	0	2	4.00	4	8.00
Private Sector	10	20.00	11	22.00	0	0	21	42.00
Self-employed	5	10.00	7	14.00	11	22.00	23	46.00
Total	**17**	**34.00**	**19**	**38.00**	**14**	**28.00**	**50**	**100.00**

Panel C: Work experience of the respondents

Experience	Age Group (in years)						Total	
	Below 30		30 to 40		Above 40			
	No	%	No	%	No	%	No	%
below 5 years	14	29.17	11	22.92	3	6.25	28	58.33
5 to 10 years)	1	2.08	6	12.50	7	14.58	14	29.17
Above 10 years	1	2.08	2	4.17	3	6.25	6	12.50
Total	**16**	**33.33**	**19**	**39.58**	**13**	**27.08**	**48**	**100.00**

Panel D: Level of stock investment of the respondents

Volume	Age Group (in years)						Total	
	Below 30		30 to 40		Above 40			
	No	%	No	%	No	%	No	%
Less than 5 lakh	10	20.00	5	10.00	2	4.00	17	34.00
5 to 10 lakh	4	8.00	5	10.00	2	4.00	11	22.00
10 to 25 lakh	1	2.00	6	12.00	7	14.00	14	28.00
More than 25 lakh	2	4.00	3	6.00	3	6.00	8	16.00
Total	**17**	**34.00**	**19**	**38.00**	**14**	**28.00**	**50**	**100.00**

Table 2 shows the frequency distribution for return preference and the factor affecting investment decisions. For Panel A, stock return alternatives include cash dividend, stock dividend, increase in market value and others. The other columns show frequency, percentage, cumulative percentage of preference. Similarly, in Panel B, factors affecting investment decisions are tabulated. Total 50 respondents were included in the following distribution table.

The table has two separate panels consisting respondents preference on stock return alternatives and the general factors affecting investment decisions, respectively. The figures shows 64.00 percent of respondents focused towards the capital gain rather than usual return options. In Panel B, media and friends are the

major factors that influence the investment decisions, the percentile values shows 41.67 and 29.17 in order. Very few respondents has expressed that they used their own skill and analysis prior to investment decision and they are put in others category.

Table 2: Frequency Distribution of Expected Return

Panel A: Stock return Preference

Return	Frequency	Percent	Cumulative Percent
Cash dividend	8	16	16
Stock dividend	8	16	32
Increase in market price	32	64	96
Others	2	4	100
Total	**50**	**100**	**100**

Panel B: Factors affecting investment decisions

Factors	Frequency	Percent	Cumulative Percent
Family	2	4.17	4.17
Friends	14	29.17	33.33
Relatives	2	4.17	37.50
Media	20	41.67	79.17
Brokers	2	4.17	83.33
Others	8	16.67	100.00
Total	**48**	**100.00**	**100**

Table 3 shows the preference of investment sector and the desired information prior to investing in Panel A and Panel B, respectively. The frequency column indicates the total number of respondents they prefer the corresponding investment sector and the type of information for each options in both Panels. The percentage column shows the total respondents prefer the corresponding row alternatives. For example: For Panel A, first row, the calculation is 100*43/50 = 87.76, where 50 is the total respondents. Similarly, for Panel B, second row, the simplification is 100*34/49, where total respondents for this case are 49.

The popular sector for investment in Nepal is banking and finance; this study also confirmed the general perception for of the people. Surprisingly, manufacturing sector is ranked as last position and insurance and hotel sector is in quite similar position. The hydropower sector is the second most popular sector among the Nepalese stock investors. The next panel shows the importance of tangible and intangible information for investment decisions.

The survey result also showed that investment decision makers have just started to recognize the importance of intangible information in decision making. However, the ranking of the intangible factor: party led government reached to 5^{th} position out of ten (only top five factors are presented here). The most deserving accounting growth measures are: dividend record, earnings announcement, number of outstanding common stock, and book-to-market equity ratio respectively in 1^{st} to 4^{th} ranking.

Table 3: Response for popular investment sectors and the information

Panel A: Popular sector of investment

Sector of investment	Frequency	%	Ranking
Banking and finance	43	87.76	1st
Insurance	14	58.33	3rd
Hotels	15	65.22	5th
Hydropower	19	67.86	2nd
Manufacturing	8	34.78	4th

Panel B: Popular information prior investing

Information (tangible and intangible)	Frequency	%	Ranking
Dividend	39	79.59	1st
Earnings	34	69.39	2nd
Number of equity	17	34.69	4th
Book-to-market equity	18	36.73	3rd
Party (UML, Maoist, NC) led government	16	32.65	5th

Table 4 shows the preference of individual investors on methods of investment analysis. The methods, number of respondents, mean response and standard deviation of the responses are presented in further column respectively. The 5-point Likert scale is used to collect the information where 1 represents 'always' and 5 represents 'not at all'. Total 50 respondents participated in this rating technique.

Generally, the investment process prescribes certain systematic procedures an investor needs to act prior to investing. It shows the different methods that general investors have been performing knowingly or unknowingly. The opinion poll shows that analyze debt/equity, price/earnings, assets and liabilities, dividends, cash flow, sales, earnings estimates, growth rates, and similar growth measures ranked as the first position with overall mean response 1.644 and standard deviation 0.712 which is also the lowest one. Against the financial text books, another key method of financial analysis - technical analysis which is shown in the table in the simple terms: trend analysis, momentum, price cycle analysis, chart analysis, moving average, etc reached to the second last position which indicates that Nepalese investors are lacking technical skill compare to fundamental analysis.

The second most preferred method became noise in the market, newspapers and informal talks, etc. This evidence is more supportive for the experienced stock volatility in the market. At the end, the least preferred method is stock market movements in the foreign markets.

Table 4: Methods of investment analysis and investors preference

Methods for investment analysis	N	Mean	S.D.
(A) Analyze debt/equity, price/earnings, assets and liabilities, dividends, cash flow, sales, earnings estimates, growth rates, etc.	45	1.644	0.712
(B) Trend analysis, momentum, price cycle analysis, chart analysis, moving average, etc.	45	2.933	1.321
Both (A) & (B)	36	2.667	1.287
Noise in the market, newspapers and informal talks, etc	45	1.933	1.116
Analysis and revision of own investment in different alternatives	42	2.214	1.279
Stock indices movement in foreign markets	42	4.048	1.209
Analyze the government policies (tax rates, margin lending, etc)	42	2.286	1.215

The next table compiles the results of the respondents when they earns the first case and when they incur loss, the second case. Table 5 presents the results of the poll in terms of their frequencies and their correlation. Panel A shows investors' own experience, instinct, carefulness and knowledge are the causes of success where as when they incur loss, their most preferred reason is: in general, the market does not perform well. About 56.00 percent vote for their confidence. On the other way, 46.00 percent blame the market performance when they earns and loss respectively. The Panel C, provides the correlation coefficient 0.20 which is insignificant as p-value indicate. Thus, the evidence confirms there is no guarantee that when an investor believes self-capability during gain period and in the case of loss period, the perception is different. The correlation result reconfirms the result.

The table reports the perception of the respondents while they make profit for investing activities and when they incur loss. The first column in Panel A explains the possible causes of the success whereas in Panel B the given options describe the reason of incurring loss from the investment. The frequency and the percentage have the usual meaning and in Panel C, the Pearson correlation coefficient, p-value, and the number of respondents are included.

Table 5: Perception of respondents on success and failure

Panel A: When you are able to earn (profit), what is the most important reason?		
	Frequency	**Percent**
Proper recommendations or advice from broker and analyst	1	2.00
Proper recommendations or advice from family and friends	4	8.00
In general, the market perform well	14	28.00
Own experience, instinct, carefulness and knowledge	28	56.00
Good luck	3	6.00
Panel B: When you incur loss, what is the most important reason?		
Improper recommendations or advice from family and friends	1	2.00
In general, the market does not perform well	23	46.00
Own experience, instinct, carefulness and knowledge	19	38.00
Bad luck	7	14.00
Panel C: Correlation		
Pearson Correlation		0.20
p-value		0.16
N		50

Factor Analysis

This part of the study is more directed towards the identification of keys components in the concurrent market environment that the investors look at prior to make investment decisions. The factor analysis starts in the survey with 16 different variables but to maintain the data requirements for the factor analysis, 6 mutually uncorrelated variables are omitted and finally 10 variables are included in the procedure.

Table 6 presents the correlation matrix and the p-values in the succeeding table below. The variable are defined as: analyzing financial statements is not important (X1), I always evaluate the company profile & track records of management (X6), I believe that success in stock market depends upon luck (X7), I don't know how to interpret financial statements in a good way (X8), I don't know how to interpret financial statements in a good way (X9), The prices move in a direction (increasing/decreasing) provides insight about future price (X11), It is important to look at debt and equity structure before investing (X12), News/media largely influence my investment decision (X13), Political instability is not the major cause of stock market downturn (X15) and The analysis of high and low prices is important while buying and selling stocks (X16). 5 point Likert scaling techniques is used for the response collection where 1 indicates "strongly agree" and 5 indicates "strongly disagree". The Pearson's correlation coefficients are tested at 5 percent level. Total 50 respondents are included in the opinion collection. The coefficients in the brackets are p-values

Since, the basic procedure is the preliminary screening of the responses through the correlation analysis, the factors in the analysis is designed in such a way that

the included variables should have to optimum level of relationship among the other variables. Because of the small sample size, the correlation coefficients in the Table 6 do not meet the requirements of the factor analysis so that it is essential to increase the number of respondents more than 100 which is the limitation of the study. By skipping correlation matrix analysis, the study jump to next step through measure of sampling adequacy to overcome the existing limitation.

Table 6: Correlation Matrix and p-values

	X1	X6	X7	X8	X9	X11	X12	X13	X15	X16
X6	0.04	1.00								
X7	0.13	-0.42	1.00							
X8	0.05	0.40	-0.40	1.00						
X9	0.17	0.32	-0.22	0.17	1.00					
X11	-0.10	0.30	-0.05	0.05	0.12	1.00				
X12	0.13	0.37	-0.10	0.14	0.43	0.23	1.00			
X13	0.24	-0.22	0.15	-0.26	0.12	-0.10	0.04	1.00		
X15	0.18	-0.02	0.03	-0.08	0.02	0.07	-0.07	0.44	1.00	
X16	-0.25	0.33	-0.27	0.11	-0.21	0.15	-0.09	-0.11	0.07	1.00
X6	0.41									
X7	0.21	0.00								
X8	0.37	0.00	0.00							
X9	0.14	0.02	0.07	0.13						
X11	0.27	0.02	0.36	0.38	0.23					
X12	0.21	0.01	0.26	0.19	0.00	0.07				
X13	0.06	0.08	0.18	0.05	0.22	0.27	0.41			
X15	0.12	0.45	0.42	0.30	0.46	0.33	0.32	0.00		
X16	0.05	0.01	0.04	0.24	0.09	0.17	0.29	0.24	0.32	

Table 7 represents the diagonal MSA values which are greater than 0.50 the benchmark value as per Kaiser's recommendation. The MSA results show that the sample is adequate for performing the factor analysis. Thus, there is way out to proceed to the next step.

This table reports the Anti-image correlation matrix. The main diagonal values are the coefficients of the Measure of Sampling Adequacy (MSA) which should be greater than 0.50 to meet the factor analysis criteria as per Kaiser's recommendation.

Table 7: Anti-image Correlation Matrix (Measures of Sampling Adequacy, MSA)

	X1	X6	X7	X8	X9	X11	X12	X13	X15	X16
X1	**0.58**	-0.15	-0.15	-0.11	-0.04	0.12	-0.05	-0.16	-0.13	0.22
X6	-0.15	**0.66**	0.20	-0.21	-0.22	-0.20	-0.26	0.20	-0.04	-0.36
X7	-0.15	0.20	**0.70**	0.28	0.19	-0.09	-0.05	0.00	0.01	0.18
X8	-0.11	-0.21	0.28	**0.72**	-0.04	0.06	0.00	0.19	-0.01	0.03
X9	-0.04	-0.22	0.19	-0.04	**0.62**	-0.04	-0.28	-0.17	0.01	0.31
X11	0.12	-0.20	-0.09	0.06	-0.04	**0.63**	-0.16	0.10	-0.13	-0.06
X12	-0.05	-0.26	-0.05	0.00	-0.28	-0.16	**0.66**	-0.11	0.14	0.10
X13	-0.16	0.20	0.00	0.19	-0.17	0.10	-0.11	**0.56**	-0.43	-0.05
X15	-0.13	-0.04	0.01	-0.01	0.01	-0.13	0.14	-0.43	**0.50**	-0.10
X16	0.22	-0.36	0.18	0.03	0.31	-0.06	0.10	-0.05	-0.10	**0.52**

In the Table 8, the KMO's MSA test show the measure of correlation pattern in the sample is 0.621 considered as good for the further analysis. Bartlett's test of Sphericity which is the test of null hypothesis of no correlation among the variables under consideration but it is rejected at 95% confidence level so that the fundamental requirement for the factor analysis is fulfilled.

The table presents the Kaiser-Meyer-Olkin Measure of Sampling Adequacy coefficient and Bartlett's Test of Sphericity with approximate chi-square value, degree of freedom and the p-value. The test is performed to confirm the sampling adequacy.

Table 8: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.621
Bartlett's Test of Sphericity	Approx. Chi-Square	73.36
	df	45
	Sig.	0.00

Table 9 produces the major aspects of factor analysis. The initial 10 variables have the separate level of variance explaining power. For example, the second variable: I always evaluate the company profile & track records of management explain 70.90 percent of the total variance through its contribution on four different components. On the other hand, the specific variance is the proportion that is not explained by the stated variables. In other words, 29.00 percentage of the total variation has not covered by the second variable. The similar interpretation is applicable for remaining variables and its coefficients in different column headings. The initial Eigen values in the fourth last row indicates the sum of square of each factor loadings in each component. For instance, the first component has the capacity to explain the total variance of about 25 percent whereas the forth component has 14.68 percent. If the four components combine together that has 76.54 percent total variance explanation power. When, the factor analysis proceed to the varimax rotated solution the total variance explaining power remains constant i.e. 76.54 percent but the individual component's capacity tend to changes or come to quite uniform way. The Eigen values of the rotated solutions and its percentage of

variance explanation are changed. The negative factor loadings show the negative relationship between the variables and the components.

This table shows the initial solution of the factor analysis, communalities coefficients of the variables precede to the data reduction procedure. The first column includes variables, the extraction column indicates the power of variation explained by the corresponding variables and the specific variance is variation causes by beyond the corresponding stated variable. The extraction method: Principal Component Analysis (PCA) is used. The components coefficients indicate the correlation between the individual variable and the selected components. The last four rows shows the initial Eigenvalues and percentage of variance explained by the components and rerated Eigenvalues as well as percentage of variance explained respectively.

Table 9: An initial and rotated solution for factor analysis

Component Matrix (Initial Solution)	Component				Extraction	Specific Variance
	1	2	3	4		
Analyzing financial statements is not important	-0.091	0.636	-0.073	-0.314	0.517	0.48
I always evaluate the company profile & track records of management	0.824	0.083	0.154	0.025	0.709	0.29
I believe that success in stock market depends upon luck	-0.660	0.115	-0.172	0.392	0.631	0.37
I don't know how to interpret financial statements in a good way	0.635	-0.044	-0.096	-0.472	0.638	0.36
I do not use the average prices (6 months, 1 yr, 2 yrs, etc) to determine the current prices	0.449	0.624	-0.214	0.016	0.638	0.36
The prices move in a direction (increasing/decreasing) provides insight about future price	0.397	0.057	0.245	0.706	0.720	0.28
It is important to look at debt and equity structure before investing	0.491	0.508	-0.218	0.346	0.667	0.33
News/media largely influence my investment decision	-0.381	0.597	0.439	-0.069	0.699	0.30
Political instability is not the major cause of stock market downturn	-0.174	0.406	0.742	-0.108	0.757	0.24
The analysis of high and low prices is important while buying and selling stocks	0.351	-0.461	0.617	0.020	0.716	0.28
Initial Eigen values	1.742	1.451	1.137	1.028	-	-
% of Variance Explained	24.88	20.72	16.24	14.68	-	-
Rotated Eigen values	1.532	1.383	1.350	1.093	-	-
% of Variance Explained	21.88	19.76	19.28	15.60	-	-

The justification of the selection of principal components can be made through two ways. First one is the straight criterion; under this criterion the number of principal components is equal to the number of Eigen values greater than 1. The next criterion is the scree plot; the number of components is equal to the number of

Eigenvalues greater than first scree. The Figure 2 exhibits the scree plot of the Eigenvalues but the determination is not clearly shown. Generally, except the different criteria, in most cases both methods determine the same number of components. Four components have been determined through both criteria particularly for this study.

Figure 2: The Scree Plot and the determination of number of components greater than 1 Eigen values

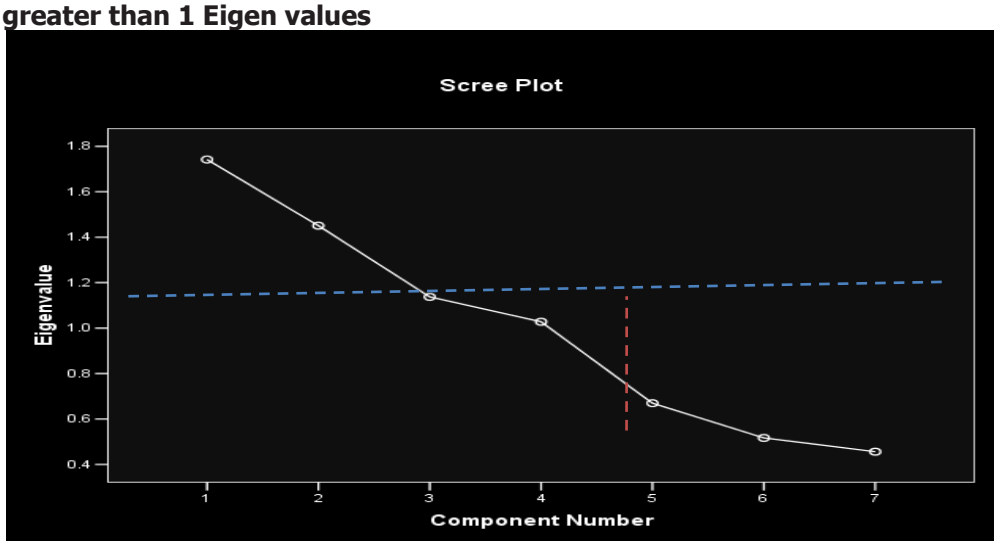

Table 10 below is the final rotated solution after omitting the three cross loading variables and performing the special inverse operation for variable: I know how to interpret financial statements in a good way because it appeared the negative factor loadings (the cross-loading tables and inverse calculation has not been shown). Finally, suppressing the factor loading smaller than 0.40 and sorting them as per the components, only 7 variables are retained that are classified into four separate and independent components.

The rotated solution has three grouping with two variables in each group and one variable in forth component. The results suggest that the retained 7 variables consist of tangible as well as intangible information. The tangible variables are: debt/equity ratio, average pricing, interpreting the financial reports or figures, and the trend of the stock prices. The intangible variables are: politics, news and media effect, and faith on luck. Thus, at the final stage only 7 variables out of 16 variables are grouped into four factors that are empirically shown important factors in investment decision making.

The table below presents the rotated solution for factor analysis having 4 factors and 7 retained variables. The PCA method is used for extraction and Varimax with Kaiser Normalization is used as rotation method. The factor loadings are suppressed below 0.40 and ranked in ascending order.

Table 10: Rotated solution for factor analysis

Rotated Component Matrix (a)	Component			
	1	2	3	4
It is important to look at debt and equity structure before investing	0.832			
I do use the average prices (6 months, 1 yr, 2 yrs, etc) to determine the current prices	0.821			
Political instability is not the major cause of stock market downturn		0.869		
News/media largely influence my investment decision		0.748		
I believe that success in stock market depends upon luck			0.847	
I know how to interpret financial statements in a good way			0.710	
The prices move in a direction (increasing/decreasing) provides insight about future price				0.931

Table 11 is the verification of the factor analysis. The factor analysis is based on the correlation patterns among the variables. The uncorrelated variables do not long last in analysis procedure and those variables that are highly correlated also need to be omitted because of the similar nature of two variables. The variance explanation power of each component is designed through the correctional relationship. When the factor analysis produces the final outcomes in terms of separate factors or components, each of them should be separate and there should be the correlational relationship among the factors. The intra-variable should be highly correlated but the inter-components should be independent. Thus, the factor analysis has confirmed that the tangible components are: debt/equity ratio, average pricing, interpreting the financial reports or figures, and the trend of the stock prices. The intangible components are: politics, news and media effect, and faith on luck, are essential for investment decision making.

The highest relationship is negative 0.23 between factor 1 and factor 3, however the p-value is greater than 0.05 thus there is no significant relationship. Similarly, other extreme is 0.16 with p-value 0.30 which is also does not able to establish the significant relationship between the factors. The remaining coefficients lies between them and their p-values are also greater than 0.05. Thus, it is confirmed that the final components yielded by the factor analysis are independent.

This table reports the correlation matrix of the final outcomes of the factor analysis. The Pearson's correlation coefficients show the degree of relationship between components and the p-values are presented in parenthesis.

Table 4.11: Correlation matrix of identified factors

	Factor 1	Factor 2	Factor 3
Factor 2	0.02 (0.91)		
Factor 3	-0.23 (0.12)	0.16 (0.30)	
Factor 4	0.05 (0.71)	0.01 (0.93)	0.05 (0.72)

CONCLUSION

With the aim to analyze the market reactions to tangible information and intangible information in Nepalese stock market, the descriptive and correlation research design has been employed and the primary data used for the analysis. The data has been collected through the structured questionnaire from the stock investors in Nepalese stock market using the online (email) method. The analysis of first hand data information provides some findings. The primary analysis includes the demographic features of the respondents, their perception towards the capital market issues as well as the specific analysis identified the four major components that an used to analyze prior to making the investment decisions. The summary of the major findings of the study are as follows:

i. The primary data analysis shows that Nepalese stock market starts to attract younger investors in recent period as the majority of the stock investors are younger.
ii. The proportion of educated investors is high in the market, most of them are self-employed and small investors have strong voice in the Nepalese stock market.
iii. The limited investors use their own skills and analytical power in investment decision. The most influencing factors for decision making are media and friends.
iv. Majority of the stock investors prefer capital gain rather than the usual cash dividends and seasonal issues.
v. Banking and finance sector remains the most popular investment sector among the Nepalese investors.
vi. The most used methods of investment are fundamental analysis, and the market noise, media, and informal talks.
vii. Investors believe on their ability when they earn and blame for market when they incur losses.
viii. The tangible components such as dividends, earnings, number of equity, and book-to-market ratio and the intangible component like political party led government are considered the top five most important factors for investment decisions as per the opinion of individual stock investors.
ix. The capital structure and average pricing method is one factor that influence the investment decisions, the next is political and media coverage, the third factor is belief on luck and the financial education, and finally the forth component for stock market movement is trend analysis.

Finally, the conception of research work is the ongoing process, it is expected that there would be substantial attraction for stock market studies in Nepal in the recent future and more information will be available to validate the findings of this research.

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