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**The Determinants of Investment Decisions
in the Rwanda Stock Exchange**

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Preface

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The Determinants of Investment Decisions in the Rwanda Stock Exchange

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Abstract

Stock markets play an important role in providing investment opportunities as they offer investors a means to maximize wealth for an acceptable level of risk. The Rwanda Stock Exchange (RSE) has been operational since 2008 but it is still under-developed and so it is not attractive enough for many potential investors whose investment decisions are subject to certain factors that have to be identified and understood so that they can be given special consideration by RSE's authorities for the sake of better development. The aim of this study is to explore which economic, psychological, social and demographic factors determine investment decisions in RSE the most. The study adopts an explanatory design combined with a survey design. A sample of 187 respondents was selected from a population of 350 active investors operating in RSE. Data was collected using various techniques including a structured questionnaire for investors, semi-directed interviews with brokers and a documentary review. The collected data was analyzed using SPSS and a factor analysis. The research findings show that economic factors were the most influential with an average mean of 4.05, followed by psychological factors with an average mean of 3.96 and then social factors with an average mean of 3.64 whereas demographic factors were ranked last with an average mean of 3.08. The five most influential factors were two economic factors (expected corporate earnings and ownership structure) and three psychological factors (irrational thinking, get-rich-quick and cognitive bias). The five least influential factors were four demographic ones (income, education, age and gender) and one psychological factor (over-reaction). It is, therefore, recommended that RSE's authorities should reshape the stock exchange by focusing attention on the identified influential determinants of investment decisions with more emphasis on economic and psychological factors and less emphasis on social and demographic ones.

Key words: Stock exchange, stock price, capital market, Investment decision, determinants of investment decisions.

1. Introduction

With eight listed companies including four local companies (Bralirwa, Bank of Kigali, Crystal Telecom, and I&M Bank) and four cross-listed companies (the Nation Media Group, Equity Bank, the Kenya Commercial Bank and *Uchumi* Supermarket Limited) the Rwanda Stock Exchange (RSE) has been operational since 2011. Since the initial public offers (IPOs) of these companies their stock prices have been fluctuating. While stocks were over-subscribed at the time of the IPOs and the capital market experienced a tremendous growth from 2011 to 2013, subsequent years were characterized by a downward trend.

Bralirwa's shares were issued at RWF 136 which increased up to RWF 880 in 2013. After it granted share bonuses in 2014, its share price declined to RWF 440 and currently its shares are selling at RWF140. Bank of Kigali's (BK) share price has also been fluctuating since 2011 but not as much as Bralirwa's. BK's shares were issued at RWF125 and increased up to RWF 300 in 2015 and are currently selling at RWF 240. The stock prices have decreased because the number of sellers is larger than the number of buyers. In RSE, the total number of transactions amounted to 1,720 in 2011 but declined to 1,565 in 2014 and then to 998 in 2016.

Considering the value of traded securities, the capital market's operations experienced tremendous growth as their value increased by 141 per cent from 2011 to 2013; but afterwards the market experienced a downward movement as the value decreased on average by 45 per cent per year. According to statistics, the Rwanda stock market dropped by 69.6 per cent in the first six months of 2016 compared to the same period in 2015 (RSE Annual Statistics, 2011-16).

As stocks are traded in the capital market and are subject to the laws of supply and demand and the number of investors is still small, stock prices have been decreasing since 2013. Although RSE along with the Rwanda Capital Market Authority (CMA) undertook a public education and awareness program to sensitize the public on the opportunities and risks involved in capital market investments, RSE's challenge still is attracting investors and promoting the use of capital markets. The level of awareness among the general public is still low and stock market investments are not yet a deeply entrenched culture in Rwanda. Investments and trading in shares are still seen more as speculative ventures or the preserve of sophisticated investors, rather than as long-term investments and savings in financial assets (CMA, 2011, 2016). Given that potential investors are reluctant to invest in RSE, researching to find out the determinants of investment decisions in RSE becomes important.

Factors affecting investment decisions in stock exchanges have been subject to extensive studies. While some scholars (Ariful et al., 2015; Khan et al., 2015; Khaneman and Tverbsky, 1986; Malkiel, 2003) explain investment decisions by considering economic aspects, others (Awais et al., 2016; Hoang and Nguyen, 2014; Larrick and Bores, 1995; Talal et al., 2016; Yates, 1990) have carried out analyses taking into account socio-demographic or psychological factors in line with the behavioral finance theory. However, the novelty of our study is that it considers that investment decisions are a result not only of economic factors, but also psychological, social and demographic ones.

The first category of academic studies analyses investment decisions and maintains that investors are rational and utility maximizing. They hold stocks because they are willing

to hedge against the inflationary erosion of purchasing power, and more importantly, because they expect long-term substantial capital growth and dividend yields. In this regard investments in the capital market can be undertaken by an investor for three basic objectives: wealth maximization; maintaining liquidity; and risk minimization. This implies that a rational investor is influenced by these objectives when making investment decisions (Reilly and Brown, 2011; Teweles and Bradley, 1998).

The second category of scholars argues that investment decisions are subject to irrational behavior. They contend that although much of economic and financial theory is based on the notion that individuals act rationally and consider all available information in the decision-making process, there is a surprisingly large amount of evidence which shows that this is not the case in many instances. Their findings reveal that there are biases in decision-making. These biases have implications on whether to invest in stock market related products, the extent of such investments and the nature of the investments. The biases could cause investors to take poor decisions or financial advisers to give poor advice (Bernstein, 1998; Elvin, 2004; Redhead, 2008).

If one considers existing research findings, the analyses so far have focused either on how economic or psychological factors affect investment decisions in stock exchanges in general. Little attention has been paid to the extent to which common economic, psychological, social and demographic factors influence investors to invest or disinvest in capital markets. Therefore, the contribution of our study is that it explores those factors among common economic, psychological, social and demographic factors which determine investment decisions in RSE the most. It has the following objectives:

- Identifying the determinants of investment decisions in the Rwanda stock market considering their classifications into common economic, psychological, social and demographic factors.
- Examining the extent to which the identified factors affect investments decision in the Rwanda stock market.
- Finding out the most influential determinants with regard to investment decisions in RSE.

2. Literature review

Investment decisions are considered one of the major aspects of finance. However, for an investment decision to be made, the determinants play different influential roles. Various guiding theories have been formulated with regard to investment decisions in the area of finance. It is important to indicate some of the theories relevant to our study here. According to Kam (1990) theories, hypotheses and models can be viewed as synonyms in the role that they play in explaining and predicting what happens in reality. Deemed relevant to our study are: one, a traditional finance theory known as the Efficient Market Hypothesis (EMH), and two behavioral finance theories including prospective theory, regret theory and the anchoring and over-and under-reaction phenomena.

EMH which is based primarily on Fama's (1970) work and findings has influenced traditional finance. It is based on the belief that securities' markets are extremely efficient in reflecting information about individual stocks, about the stock market as a whole and has the view that when information arises, news spreads very quickly and is incorporated

in the prices of securities without delay (Malkiel, 2003). This implies that investors carefully consider all the available information before making investment decisions. In our research we use this to check whether investors take into consideration all the available information when taking investment decisions.

The prospective theory, initiated by Kahneman and Tversky (1986) holds that when confronted with a situation of a gain or a loss, investors tend to take more risks to avoid losses than they take to realize gains. This theory helps our study to assess how investors in RSE are risk-averse.

The regret theory is concerned with how people react emotionally after they have made judgment errors (Larrick and Borens, 1995). They may choose to imitate a majority move to reduce or avoid possible regret caused by incorrect investment decisions. Our study relies on this theory to check if investors in RSE followed the crowd when taking investment decisions.

The anchoring and market over- or under-reaction are other major aspects of behavioral finance theories which are considered to have an effect on investment decisions. They are based on the assumption that in the event of absence of better information, investors are tempted to value recent experiences more than they should (Yates, 1990). Elsewhere, the market over- or under-reaction phenomenon is discussed by DeBondt and Thaler (1985). They maintain that investors tend to be overconfident or optimistic in the event that the market goes up and pessimistic when the market goes otherwise. These theories are used in our study to verify how investors in RSE behaved towards current prices and changes in the market. In addition to the use of these theories, there is also a need to review previous studies conducted in the same area and identify existing research gaps and hence justify the relevance of our study.

Mohammad (2014) did a review to determine the various factors influencing individual investor behavior as explored by several researchers in different countries. His study identified 31 factors including 18 common factors and 13 uncommon ones. Among the common factors, seven were classified as economic, five as psychological, four as demographic and two as social. The uncommon factors were unclassified. Other scholars including Reina (2014), Kishori and Dinesh (2016), Akhter and Ahmed (2013) and Ariful et al., (2015) carried out empirical studies on different stock markets and identified factors that may affect investment decisions. But as their studies are reviews, they do not show the statistical measures to determine the significance of the factors identified. Our study addresses this aspect by considering the classification of common factors.

Ariful et al., (2015) carried out a study of 125 investors selected from an undetermined population to explore the factors that investors in capital markets critically considered while taking investment decisions in Bangladesh. Their study revealed 25 factors classified into seven categories: internal and economic, internal and supporting, internal and regulatory, company image, market information, external and market situation. Through a factor analysis, the study provides a statistical measure of the relevance of the factors under consideration. The study, however, does not indicate which factors were common. Our study adopts a different classification of common factors.

Aisha et al., (2015) who conducted a study to investigate the impact of behavioral factors, considered psychological factors on investment decision making. They selected a sample of 100, including equity fund managers and individuals who invested in banks insurance

companies and in stock markets in Pakistan from an undefined population. The study focuses on four behavioral factors -- heuristics, risk aversion, use of financial tools and firm-level corporate governance. The correlational analysis helps reveal a positive and significant impact for the first two factors whereas the last one proves to have a negative and significant impact on investment decision-making. These findings agree with Qureshi and Hunjra (2012) findings who conducted a similar study. Their study not only failed to define the population but also considered only a limited category of factors. In comparison, based on a determined population our study focuses on the stock exchange and considers a broader range of factors.

Rahnuma and Sultan (2013) conducted a study of 225 selected individual investors to develop a framework about the behavioral aspects of individual investors for investments in the stock market in Bangladesh. They identified various factors classified into five categories -- a firm's image, accounting information, reliability, expert advice and investor action against specific issues. However, while their study was limited to behavioral aspects and considered individual investors, our study has a wider scope and considers all investors in RSE without distinction.

Vijaya (2014) conducted a survey of 200 individual retail investors residing in the twin cities of Hyderabad and Secunderabad in India to identify the factors influencing retail investors' behavior in the Indian stock market. The behavioral factors identified were classified into heuristic, prospect, herding and market factors. Heuristic and prospect factors have also been identified by Sayed and Sara (2011). While their study ignores economic, social and demographic aspects and limits itself to retail investors, our study also takes these aspects into consideration and while considering all investors without discrimination.

Talal et al., (2016) conducted a study to explore the behavioral factors influencing individual investors' stock investment decisions in the Saudi stock market by using a sample of 140 individual investors selected randomly from an unspecified population. Their results indicate that behavioral finance factors (loss averse, overconfidence and risk perception) had a significant effect on stock market decisions of individual investors, while 'herd' had an insignificant effect. Demographic variables (gender, age, education, income and experience) did not make any significant difference to investor decisions, except education that made a significant difference to investor decisions. This study ignores economic and social factors. Our study which is based on a specific population and a larger sample considers these factors in addition to psychological and demographic ones. Further, while Talal et al.'s (2016) study considers individual investors our study considers all investors without discrimination.

To find out the discrepancies among classified groups of investors in the Vietnam stock market, Hoang and Nguyen (2014) conducted a study considering such demographical factors as gender, age, education, investment experience, income and marital status. They selected a sample of 205 out of an unspecified population and used the Chi-square test for an analysis. Their results revealed that males were more willing to take investment risks; elderly investors were less inclined to take investment risks as compared to young investors; more five-year-or-more investors took higher risks than the others; and there were no differences with regard to risk for investors with different income levels while single investors tended to take higher risks than married investors. Whereas this study is limited to demographic factors and fails to give a clear methodology, our study also

considers other categories of factors in addition to demographic factors and gives a clear methodology.

Omo and Mbadiugha (2012) conducted a study on a sample of 2,000 investors to investigate the factors influencing shares of quoted companies in Nigeria. The 20 factors investigated were classified into economic, cultural, social and psychological ones. Their findings revealed that the five most influential factors were two psychological factors (motivation by people and future financial security); two social factors (recommendations by reputed and trusted stock brokers and the management team of the company); and one cultural factor (awareness of the prospects of investing in shares). The five least influential factors were three psychological factors (insights into setbacks in the future); fear of anticipated career problems and motivations of financial security; and two cultural factors (friend's advice and a culture of a shared investment). While this study ignores the demographic factors, our study also considers this aspect.

A study of 168 respondents was conducted by Gunathilaka (2014) to identify the factors influencing equity selection decisions in the Colombo Stock Exchange. The results revealed 19 factors of which the five most influential ones were market awareness, company stability, performance, riskiness and economic impact while the five least influential factors were advice of colleagues, big-quick profit, social status, religious beliefs and trading experience. While Gunathilaka's (2014) study identifies the influential factors it fails to classify them. Our study on the other hand explores factors influencing investment decisions considering their classification into economic, psychological, social and demographic factors.

A sample of 270 investors was used by Khan et al., (2015) who conducted a study to investigate the factors that influenced share investment decisions in Khulna city in Bangladesh. It identified 13 factors classified into market, hedging and economic factors. The most influential factors included industry attractiveness, share price, financial indicators, historical data, expected dividends, financial statements and a firm's rank in the industry. While this study considered only 13 factors with reference to its classification, our study considers 18 common factors classified into economic, psychological, social and demographic factors.

Considering existing literature and empirical studies, it can be seen that investments in stock markets have been subject to extensive research. Investment decisions in any stock are influenced by certain factors: economic, psychological, social or demographic. So far, the few available researches in Rwanda in this area are limited to capital market potential (Kerosi et al., 2014); capital markets and SME financing (ADB, 2012) and challenges for RSE (Kazarwa, 2015). Bearing in mind that this review is not exhaustive, it can be concluded that no prior research has been conducted in Rwanda to examine the determinants of investment decisions in RSE. Hence, there is a gap that needs to be filled.

3. Research methodology

3.1. Research questions

The research methodology aimed to answer the following questions:

- What are the determinants of investment decisions in the Rwandan stock market considering their classification into common economic, psychological, social and demographic factors?
- What are the levels at which identified factors determine investment decisions in the Rwandan stock market?
- What are the most influential determinants with regard to investment decisions in RSE?

3.2. Measuring determinants' influence levels

The determinants' influence levels were measured using a 6-point Likert scale ranging from the lowest scale of strongly disagree to the highest scale of strongly agree. Respondents were requested to indicate their position on the scale against all statements about various factors that were grouped into such categories as economic factors, psychological factors, social factors and demographic factors.

3.3. Scope of the study

The study focuses on the determinants of investment decisions. The determinants were examined considering common investment factors identified by Mohammad (2014) who classified them into economic factors, psychological factors, social factors and demographic factors. Geographically, our study was conducted on Rwandan territory considering only active investors in RSE that were represented by 350 brokers.

3.4. Data source, population and sampling

The study used both secondary and primary data. For secondary data collection, different books, the internet, reports, journals and government publications depending on their relevance to the research topic were used. A self-administered questionnaire was used to collect primary data from a sample of 187 respondents.

The sample size was determined from 350 brokers representing active investors out of a total 25,647 estimated investors. The sample size was calculated using Sloven's formula of sample size determination. The formula is stated as: $n = \frac{N}{1+N(e^2)}$, where n representing the sample size was determined from N representing a given population at a 95 per cent confidence level and a 5 per cent margin of error (e) by means of a related statistical table. The calculation of the sample size was done as:

$$n = \frac{350}{1 + 350(0.05)^2} = 186.67 \text{ rounded at } 187.$$

The random sampling technique was used for sample selection. This technique helped select respondents from the population of the study randomly.

3.5. Statistical tools

The statistical tools used to analyze the collected data mainly included mean and factor analyses. Mean was used to describe data and rank the identified factors according to their levels of influence so as to be able to decide on which factors determined investment decisions in RSE the most. The factor analysis, through a principal component analysis (PCA), helped identify patterns of data and directed data by highlighting similarities and differences between related variables.

4. Data Presentation, Analysis and Discussion

4.1. Profile of the respondents

Insert table 1 about here

Table 1 shows that out of 187 surveyed investors a vast majority were men (70.6 per cent). This is in line with the demographics and characteristics of respondents presented by other scholars (Babajide and Adetiloye, 2012; Obamuyi, 2013) who are of the view that the capital market is sometimes perceived to be risky and men are risk takers while women are generally seen to be risk averse.

More than 63 per cent of the investors were between 26 and 45 years old. This age corresponds to the period when people are mostly productive and are looking at saving for the future and see investing in stock markets as a long term investment. This is in line with Hafer and Hein (2007) who contend that most individuals working today participate in some type of retirement plan either through their employer or in a self-directed plan as they wish to have greater financial security in their future.

Descriptive statistics also show that 89.8 per cent of the investors were at least bachelor degree holders. In other words, a majority of the investors in RSE had a high level of education which means that those with better understanding of what the stock market is and how it functions were more likely to buy and hold stocks.

Moreover, more than 62 per cent of the investors had an average monthly household income of more than RWF 1,200,000. As investing in the capital market means committing funds for the long term, those who earn more are more likely to invest in RSE. An analysis of the primary data also revealed that investors in RSE were from various employment sectors including the private sector, self-employed, the public sector and NGOs as they expect higher returns. As pointed out by White (2007), holding shares is only one of the many different investments and is one of the more risky ones. According to him, statistics show that over long periods an investment in shares outperforms all other investments, including in property.

Table 1 also shows that although RSE is in its infancy, 69.4 per cent of the investors had held stocks for more than two years. They had some experience in capital market activities. In line with Teweles and Bradley (1998) and Hafer and Hein's (2007) findings investing in the stock market is promising for investors as even though holding stock is risky it is done with the expectation of financial gain. The expectation is that if a stock is bought today, its price will be higher sometime in the future when it can be sold and capital gain realized.

Table 1 further shows that more than 50 per cent of the surveyed investors checked stock prices on RSE on a daily basis and more than 25 per cent did it at least once a week. This depicts how investors care about capital gains.

Finally, Table 1 depicts the timing on the stock market which refers to an investor's ability to know when to buy stocks and when to sell them and thereby increase capital gains (White, 2007). RSE started operating in 2011 and it can be noticed that more than 84 per cent of the surveyed investors bought or sold stock at least once and at most four times.

4.2. Descriptive analysis

It can be noted from Table 2 that the factors influencing investment decisions in RSE can be classified into economic, psychological, social and demographic factors. This agrees with Mohammad (2014) and Omo and Mbadiugha (2012) who also identified the same categories. Considering the mean ranks, it is noticeable that the ten most significant determinants of investment decisions are economic and psychological factors. These factors include expected corporate earnings, cognitive bias --- good/bad news, irrational thinking, get-rich-quick, ownership structure, risk factors, bonus payments, cognitive bias-profit maximization, dividends and over- and under-confidence with respective means of 4.51, 4.47, 4.28, 4.27, 4.24, 4.16, 4.12, 3.98, 3.89 and 3.82.

Insert table 2 about here

These findings agree with the Efficient Market Hypothesis suggested by Fama (1970) since investors in RSE relied on available information to take investment decisions. Our findings also concur with Khaneman and Tverbsky's (1986) prospective theory since investors in RSE take risks into consideration when making investment decisions and also with Aisha et al., (2015) and Talal et al., (2016), who point out risks; Khan et al., (2015) who indicate dividends; and DeBondt and Thaler (1985) and Talal et al., (2016) who indicate overconfidence as factors influencing investment decisions. Whereas these findings indicate get-rich-quick factors as one of the most influential ones, Gunathilaka (2014) classified the get-rich-quick factors among the least influential ones. Other factors such as past performance and accounting information have also been identified by Rahnuma and Sultan (2013) and Khan et al., (2015).

It can also be observed from Table 2 that the four least important determinants of investment decisions in RSE were all demographic -- education, decrease in income, age and gender with means of 3.07, 3.03, 2.94 and 2.78 respectively. These findings are in line with Talal et al., (2016) and Hoang and Nguyen's (2014) findings who also identified income, age, gender and education as demographic factors influencing investment decisions in stock exchanges.

Notable in Table 2 are the social factors. These include herding -- friends or family members' decisions, experienced investors' decisions and influence of people's opinions. Their corresponding means are 3.34, 3.63 and 3.65 respectively. These findings confirm the regret theory suggested by Larrick and Bores (1995) and imply that investors in RSE followed the crowd to a certain extent when taking investment decisions. They also agree with Vijaya (2014), Omo and Mbadiugha (2012), Gunathilaka (2014) Rahnuma and Sultan (2013) and Sayed and Sara (2011) who also indicate friends or family members' advice and experienced investors' advice as herding factors influencing investment

decisions in stock markets. Though a descriptive analysis made it possible to measure the influence level of the selected factors based on their mean, it did not help explore the data. Therefore, a factor analysis was done for this purpose.

4.3. Factor analysis

The principal factor analysis considered the KMO and Bartlett's anti-image correlation matrix, commonalities, variance explained, eigenvalues, the component matrix and the rotated component matrix.

Insert table 3 about here

Insert table 4 about here

The KMO measure helps verify the adequacy of the sampling for the analysis. According to Hutcheson and Sofroniou (1999) KMO equal to 0.712 is considered good as it is not less than 0.7. For individual items, all KMO values (as highlighted in green in Table 4) are greater than 0.530 therefore being above the acceptable limit of 0.5 as suggested by Field (2009). According to Bartlett's test of sphericity, $X^2(231) = 17,653.23$ and $p < 0.001$ indicate that relations between the items were sufficiently large for the principal component analysis.

Insert table 5 about here

In Table 5, the total variance explained by each factor is indicated by a corresponding eigenvalue. All the 22 variables or factors considered accounted for a total variance of 22.00 which equals to 100 per cent. The variable with the highest variance of 4.752 represents 21.600 per cent of the total variance calculated as $(4.752 * 100) / 22$. The second variable with the highest variance of 3.113 represents 14.148 per cent of the total variance calculated as $(3.113 * 100) / 22$. These two variables alone accounted for 35.748 per cent of the total variance. The factor with the lowest variance of 0.133 represents 0.604 per cent calculated as $(0.133 * 100) / 22$. In addition, Table 5 also indicates six factors with variance greater than 1.00. These factors are considered in Table 6 so as to understand both their extraction and rotation sums of squared loadings.

Insert table 6 about here

From Table 6 it can be noted that the extraction sums of squared loadings show that the first six factors accounted for 64.739 per cent of the cumulative variance. It is worth noting that retained here are only factors with eigenvalues greater than 1.0. The model does not include other factors. The table also shows the rotation sums of the squared loadings for the extracted components. The rotation helps optimize the factor structure and therefore helps equalize the relative importance of the six factors. It can be observed that before rotation, factor 1 accounted for notably more variance (21.6 per cent) than the remaining five. Yet, with the help of rotation it accounted for 16.065 per cent of the variance. Table 7 highlights the major aspects of factor analysis.

All the variables in Table 7 have separate levels of variance explaining power. For instance, the first variable - accounting information- explains 68.7 per cent (as indicated in the extraction column) of the total variance via its contribution to six different

components. This implies that the remaining 31.3 per cent is not explained by the indicated variable. This unexplained percentage is known as specific variance. Other variables can be interpreted in the same way.

Insert table 7 about here

The information in Table 7 reveals that variables reflected in the initial questionnaire is composed of six sub-constructs reflecting factors influencing investment decisions in RSE. One sub-construct might include seven variables loading highly on component one. Another sub-construct might have two variables loading highly on component two. Variables loading highly on component four and five might be classified into their own sub-constructs. Variable six does not need to be considered since according to Tabachnick and Fidell (2007), a factor requires at least three variables unless it has fewer variables which are highly correlated with each other ($r > .7$). This implies that the initial classification of variables by Mohammad (2014) into economic, psychological, social and demographic needs to be revised once examined by a factor analysis.

Therefore, based on Mohammad (2014) and Ariful et al., (2015) the following classification can be suggested: socio-demographic factors, psychological factors, internal and economic factors, internal-external and economic factors and demographic factors for the retained first five components in ascending order.

5. Conclusion and recommendations

This study identified the determinants of investment decisions in RSE considering common factors classified into economic, psychological, social and demographic factors. It also indicated the most influential determinants with regard to investment decisions in RSE. The research findings presented in this study reveal that various factors affected investment decisions in RSE. It found that the ten most important determinants of investment decisions were economic and psychological factors. These factors, ranked in order of importance, include expected corporate earnings, cognitive bias-good/bad news, irrational thinking, get-rich-quick, ownership structure, risk factors, bonus payments, cognitive bias-profit maximization, dividends and over or under-confidence. Social and demographic factors had little influence on investment decisions in RSE. By identifying the most significant determinants of investment decisions in RSE, the study sheds light on the components that listed companies and RSE should focus on when attracting investors for capital market development.

Through a factor analysis, the KMO measure helped verify the sampling and prove that the sampling adequacy was good. It also helped confirm the acceptability of individual items and the sufficiency of relations between individual items for PCA. The first six factors extracted through the factor analysis explained 64.74 per cent of the cumulative variance. Further, this analysis helped in identifying such new clusters of factors as socio-demographic, psychological, internal and economic, internal-external and economic, demographic and news-induced psychological factors for the six components in ascending order. The findings led to a classification different from the classification that our study is based on though there are some similarities.

As information play a significant role in investment decisions in RSE, the stock exchange's authorities should ensure that RSE related information is relevant enough and is made available to existing and potential investors through appropriate communication

channels. Care should be taken by investors to base their decisions on good or bad current news and after considering long term horizons since the current news may not favor their long term interests. Thus, investors in RSE should rely more on fundamental information and avoid basing their investment decisions on rumors. Potential investors who think they are not knowledgeable enough to invest in RSE should not consider that as an ultimate limitation but should instead seek advice from specialized brokers. Consequently, RSE's authorities should make sure that the brokers operating in RSE meet all the requirements to service investors who may seek their advice. As females are less inclined to invest in RSE compared to males, sensitization targeting this group should be done to help meet the objectives of women's empowerment. Other categories of people that policymakers should give particular attention to are indicated in the respondent profiles.

Since the study considered only active investors, further research can be conducted to include passive investors and find out the reasons why they are less attracted by investments in RSE. Moreover, as the study was limited to common factors, other studies may also include uncommon factors. Further, a comparative study analysis can be carried out to involve more than one stock exchange in the sub-region.

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Table 1: Profile of the respondents

Profile	Item	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	132	70.6	70.6	70.6
	Female	55	29.4	29.4	100
Age	18-25	2	1.1	1.1	1.1
	26-35	75	40.1	40.1	41.2
	36-45	43	23.0	23.0	64.2
	46-55	33	17.6	17.6	81.8
	Over 55	34	18.2	18.2	100
Level of education	Secondary school	9	4.8	4.8	4.8
	Undergraduate certificate	10	5.3	5.3	10.2
	Bachelor Degree	48	25.7	25.7	35.8
	Master's	102	54.5	54.5	90.4
	PhD	18	9.6	9.6	100
Monthly Income	300,001 - 600,000	21	11.2	11.2	11.2
	600,001 - 900,000	9	4.8	4.8	16.0
	900,001 - 1,200,000	40	21.4	21.4	37.4
	More than 1,200,000	117	62.6	62.6	100
Employment sector	Public sector	50	26.7	26.7	26.7
	Private sector	59	31.6	31.6	58.3
	NGOs	21	11.2	11.2	69.5
	Other	57	30.5	30.5	100
Duration of investment	Less than 1 year	10	5.3	5.3	5.3
	1-2 years	47	25.1	25.1	30.5
	2-3 years	27	14.4	14.4	44.9
	3-4 years	41	21.9	21.9	66.8
	4-5 years	10	5.3	5.3	72.2
	Over 5 years	52	27.8	27.8	100
Frequency of checking prices	Daily	94	50.3	50.3	50.3
	Weekly	47	25.1	25.1	75.4
	Monthly	28	15.0	15.0	90.4
	Quarterly	1	0.5	0.5	90.9
	Semi-annually	17	9.1	9.1	100
Frequency of buying or selling stocks	1 - 2	67	35.8	35.8	35.8
	3 - 4	91	48.7	48.7	84.5
	5 - 6	10	5.3	5.3	89.8
	More than 6	19	10.2	10.2	100

Source: Primary data.

Table 2: Descriptive statistics

Factors	N	Minimum	Maximum	Mean	Std. Deviation	Ranking of Mean
Economic factors						
Accounting information	187	1	6	3.58	1.355	14
Past performance of the company	187	1	6	3.54	1.237	13
Ownership structure	187	1	6	4.24	1.425	5
Expected corporate earnings	187	1	6	4.51	1.546	1
Dividends	187	1	6	3.89	1.738	9
Bonus payments	187	1	6	4.12	1.430	7
Risk factors	187	1	6	4.16	1.512	6
Psychological factors						
Cognitive bias-good/bad news	187	2	6	4.47	1.170	2
Cognitive bias-profit maximization	187	1	6	3.98	1.182	8
Over- or under-confidence	187	1	6	3.82	1.265	10
Irrational thinking	187	1	6	4.28	1.328	3
Get-rich- quick	187	1	6	4.27	1.476	4
Over-reaction to bad information	187	1	6	3.32	1.384	17
Over-reaction to good information	187	1	6	3.23	1.180	18
Social factors						
Influence of people's opinions	187	2	6	3.65	1.012	11
Herding- friends or family members' decisions	187	1	6	3.34	1.368	16
Herding -experienced investors' decisions	187	1	6	3.63	1.307	12
Demographic factors						
Gender	187	1	6	2.78	1.493	22
Age	187	1	5	2.94	1.256	21
Increase in income	187	1	5	3.51	1.431	15
Decrease in income	187	1	5	3.03	1.309	20
Education	187	1	5	3.07	1.591	19
Valid N (list-wise)	0					

Source: Primary data.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.712
Bartlett's Test of Sphericity	17653.23
Approx. Chi-Square	
df	231
Sig.	.000

Source: Primary data.

Table: 4 Anti-image correlation matrix

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22
V1	.761 ^a	.484	-.062	.001	-.136	-.068	.026	-.053	-.117	-.088	-.045	-.073	-.004	-.138	.007	.075	-.037	-.042	.003	-.009	-.069	-.033
V2	.484	.652 ^a	.223	-.421	-.245	-.130	-.060	.114	-.023	-.082	-.105	-.011	-.083	-.075	.129	.119	-.057	-.140	.008	-.100	.015	-.028
V3	-.062	.223	.639 ^a	.268	-.479	-.435	-.177	.011	-.010	.062	-.001	-.082	-.010	-.098	-.035	.069	-.021	-.146	-.174	-.038	.071	-.155
V4	.001	-.421	.268	.732 ^a	.170	-.269	-.068	-.234	-.038	.097	.110	-.104	-.011	-.012	-.118	-.057	.118	.119	-.160	.101	.081	-.001
V5	-.136	-.245	-.479	.170	.670 ^a	.243	-.051	-.187	-.127	-.159	.046	.002	.062	.130	-.036	-.053	.024	.030	.076	-.013	.066	-.041
V6	-.068	-.130	-.435	-.269	.243	.539 ^a	.559	-.084	-.029	.051	-.009	.086	.055	.094	.062	-.011	-.040	.011	.030	-.052	-.077	.054
V7	.026	-.060	-.177	-.068	-.051	.559	.624 ^a	.016	-.096	.109	.024	.085	.105	-.017	-.077	-.040	-.053	-.008	-.016	.031	.012	.088
V8	-.053	.114	.011	-.234	-.187	-.084	.016	.585 ^a	.332	-.039	-.018	.014	-.184	-.100	.052	-.010	.134	-.045	-.033	-.009	-.077	.102
V9	-.117	-.023	-.010	-.038	-.127	-.029	-.096	.332	.654 ^a	.439	.158	.068	-.124	-.098	-.118	-.033	.118	.109	.062	.069	-.154	.019
V10	.088	-.082	.062	.097	-.159	.051	.109	-.039	.439	.690 ^a	.436	-.065	.084	-.240	-.166	.031	-.040	.057	-.049	.195	-.162	.038
V11	-.045	-.105	-.001	.110	.046	-.009	.024	-.018	.158	.436	.757 ^a	.283	-.117	-.069	.027	.126	.064	.044	.031	.099	-.045	-.174
V12	-.073	-.011	-.082	-.104	.002	.086	.085	.014	.068	-.065	.283	.757 ^a	.221	.245	.129	-.148	-.150	-.051	.050	-.112	.128	-.072
V13	-.004	-.083	-.010	-.011	.062	.055	.105	-.184	-.124	.084	-.117	.221	.747 ^a	.572	-.316	-.193	-.332	-.068	.067	-.014	.111	-.016
V14	-.138	-.075	-.098	-.012	.130	.094	-.017	-.100	-.098	-.240	-.069	.245	.572	.723 ^a	.072	-.380	-.236	.056	.195	-.082	.157	.003
V15	.007	.129	-.035	-.118	-.036	.062	-.077	.052	-.118	-.166	.027	.129	-.316	.072	.832 ^a	.207	-.229	-.064	-.059	-.084	-.034	.200
V16	.075	.119	.069	-.057	-.053	-.011	-.040	-.010	-.033	.031	.126	-.148	-.193	-.380	.207	.768 ^a	.248	-.549	-.114	-.010	.016	.021
V17	-.037	-.057	-.021	.118	.024	-.040	-.053	.134	.118	-.040	.064	-.150	-.332	-.236	-.229	.248	.756 ^a	.098	-.255	.123	.015	.049
V18	-.042	-.140	-.146	.119	.030	.011	-.008	-.045	.109	.057	.044	-.051	-.068	.056	-.064	-.549	.098	.752 ^a	.286	.144	-.133	.103
V19	.003	.008	-.174	-.160	.076	.030	-.016	-.033	.062	-.049	.031	.050	.067	.195	-.059	-.114	-.255	.286	.785 ^a	-.091	-.085	-.063
V20	.009	-.100	-.038	.101	-.013	-.052	.031	-.009	.069	.195	.099	-.112	-.014	-.082	-.084	-.010	.123	.144	-.091	.586 ^a	-.175	-.192
V21	-.069	.015	.071	.081	.066	-.077	.012	-.077	-.154	-.162	-.045	.128	.111	.157	-.034	.016	.015	-.133	-.085	-.175	.532 ^a	-.219
V22	.033	-.028	-.155	-.001	-.041	.054	.088	.102	.019	.038	-.174	-.072	-.016	.003	.200	.021	.049	.103	-.063	-.192	-.219	.674 ^a

Measures of Sampling Adequacy (MSA)

Source: Primary data.

Table 5: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.752	21.600	21.600	4.752	21.600	21.600
2	3.113	14.148	35.748	3.113	14.148	35.748
3	2.158	9.809	45.557	2.158	9.809	45.557
4	1.812	8.235	53.793	1.812	8.235	53.793
5	1.373	6.240	60.032	1.373	6.240	60.032
6	1.035	4.707	64.739	1.035	4.707	64.739
7	.978	4.445	69.184			
8	.923	4.194	73.377			
9	.783	3.559	76.936			
10	.721	3.277	80.213			
11	.672	3.054	83.267			
12	.600	2.726	85.992			
13	.497	2.260	88.253			
14	.466	2.118	90.370			
15	.406	1.848	92.218			
16	.378	1.720	93.938			
17	.320	1.453	95.391			
18	.244	1.109	96.499			
19	.240	1.090	97.589			
20	.207	.940	98.530			
21	.191	.867	99.396			
22	.133	.604	100.000			

Extraction Method: Principal Component Analysis.

Source: Primary data.

Table 6: Factors with eigenvalues greater than 1.0

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.752	21.600	21.600	3.534	16.065	16.065
2	3.113	14.148	35.748	2.908	13.219	29.284
3	2.158	9.809	45.557	2.894	13.155	42.439
4	1.812	8.235	53.793	1.922	8.737	51.176
5	1.373	6.240	60.032	1.776	8.072	59.248
6	1.035	4.707	64.739	1.208	5.491	64.739

Extraction Method: Principal Component Analysis.

Source: Primary data.

Table 7. Rotated Component Matrix^a

	Component					
	1	2	3	4	5	6
Herding -experienced investors' decisions	.807					
Herding- friends or family members' decisions	-.779					
Influence of people's opinions	.734					
Gender	-.704					
Age	.694					
Over-reaction to good information		.487				
Over –or under-confidence		.835				
Irrational thinking		-.716				
Cognitive bias profit maximization		-.658				
Get-rich-quick		.619				
Over-reaction to bad information		-.581				
Past performance of the company			-.847			
Accounting information			.813			
Ownership structure			.762			
Expected corporate earnings			-.754			
Dividends			.495			
Risk factors				.836		
Bonus payments				-.815		
Education					.757	
Increase in income					.719	
Decrease in income					.535	
Cognitive bias- good/bad news						.694

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Source: Primary data.