INVESTOR SENTIMENT AND STOCK RETURNS OF INDIVIDUAL INVESTORS: A CRITICAL REVIEW OF LITERATURE

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Abstract

Investor sentiment refers to the commonly held beliefs about objectively priced assets that influence investment decisions. Investor sentiment is part of a bigger field of study namely Behavioural Finance which was developed in an attempt to explain the decision making process of investors who rely on subjective and irrational criteria. Investors exhibit irrationality in making investment decisions by relying on beliefs and rumours that are not related to the objective value of assets. Therefore, it is argued in behavioural finance that sentiments, beliefs and instinct have an impact on the movement of asset prices and returns. This phenomenon is a fairly complex field to investigate because sentiments are volatile and intangible. Investor sentiment has attracted the interest of researchers because it seems to be a possible explanation for market crashes and also because classical finance has so far not managed to explain the bubbles and bursts happening in security exchanges around the world. The objective of this study was to establish the effect of investor sentiment, on stock returns of individual investors through a critical review of literature. Stock returns are a reflection of market trends and therefore, they are appropriate in analysing the

predicting power of investor sentiments. The theoretical gap found in the review of literature was that the relationship between investor sentiment and stock returns of individual investors is not clearly defined. In addition, there were many proxies that were used to estimate investor sentiment which could have contributed to the varied results among the reviewed studies. The review also revealed contextual gaps since most of the studies on investor sentiment were conducted in developed markets which are quite different from the Nairobi Securities Exchange. A question is thus raised about the applicability of the findings of these studies to developing markets. Methodological gaps were also identified in that the papers reviewed used different models of analysis and therefore obtained varied results of the relationship. Further research could contribute to resolving the lack of consensus in literature.

Keywords: Investor Sentiment, Individual investors, Stock Returns

1.0 Introduction

The reality of the stock market contradicts the view held by traditional finance about the rationality of investors who strive to maximize profits and avoid losses. This is because there are irrational investors in the market who rely on subjective criteria and not on facts and figures. The trading activity of the irrational investors pushes prices away from their fundamental value (Nyamute, Lishenga, & Oloko, 2015). Thus the fluctuation of prices which is observable in exchanges confirms the existence of irrational traders in the market. Brown and Cliff (2005a) found that investor sentiment could be the reason behind the poor correlation between stock fundamentals and market prices. This implies that prices are predicted by subjective factors such as investor sentiment other than the objective data of assets.

Shefrin (2008) defined investor sentiment as the subjective beliefs which investors hold about a stock that is objectively valued or priced. It can be deduced from this that the investor determines the value of an asset based on rumours and not on fact. According to Zhang (2008) sentiments are the subjective beliefs and expectations of investors which replace fundamentals. Investors therefore ignore the fundamental data about an asset and chose to be guided by subjective criteria like feelings and beliefs. Baker and Wugler (2007) state that sentiments are expectations about future cash flows that have no objective basis. Thus the rationality argument has been challenged by investors relying on hearsay instead of objective data. Hence it is believed that sentiments could determine the stock returns of investors.

Stock returns are a compensation for the risk borne by investors for making an investment and since they are market based they are an appropriate performance measurement (Davis, 2001). This implies that, asset prices are determined by the forces of the market and are not dependent on the firm and because of this they can be applied to measure performance (Smales, 2017). Consequently, it is advantageous to investigate the influence of investor sentiment on stock prices and returns since they can impact performance. The understanding of investor sentiment and the impact it has on returns is important to guide investment decisions. Reliance on subjective information could result in suboptimal decisions and losses.

Barber and Odean (2013) explain that investor behaviour and decision making criteria are varied and that they are not all guided by profit maximisation as proposed by Efficient Market Hypothesis (EMH). Behavioural finance was developed to create a bridge between finance theory and practice (Maina, 2016). This suggests that behavioural finance is not only a theoretical argument but

explains what actually takes place at the trading floor. Behavioural finance views investors as people with not only intelligence but also with sentiment and feelings that impact trading. Nyamute (2016) argued that investor behaviour affects the decision making process. Nevertheless, the study found that it is an area that needs further research because it is quite wide. Behavioural finance deals with intangible aspects of the investor such as sentiments and feelings. Thus measurement of investors' sentiment is important in order to determine the impact on stock returns. Conversely, studying sentiments is complicated by the fact that they are intangible and they cannot be observed directly.

The identification of appropriate proxies of investor sentiment is necessary in order to conduct a proper investigation of its influence on stock returns. The review of literature revealed that investor sentiment has been measured in different ways for example Karabulut (2013) studied the effect of moods in Facebook on performance. The study estimated mood using Gross National Happiness Index (GNH). Further, Smales (2017) used Volatility Index (VIX) computed by Chicago Board of Exchange (CBOE). However, VIX is computed using data from Chicago and hence it is not universally applicable to all security exchanges. Baker and Wurgler (2006) developed an index that requires six inputs among them; trading volume as measured by New York Stock Exchange turnover, the dividend premium, the closed-end fund discount, the number of IPOs, IPOs first-day returns and equity share in new issues. This index is nevertheless limited in its applicability to developing exchanges because these markets do not have readily available many of the required inputs for example IPOs in order to apply it locally. Thus, the selection of an appropriate proxy of investor sentiment is necessary to measure its impact on stock returns.

Markowitz (1952) defines stock returns as the mean of the random earnings from a portfolio within a holding period. The model assumes that an investor sets up a portfolio subject to a certain level of risk with the aim of maximizing returns. Risk is explained as the variance of the portfolio's returns; in other words, it is the likelihood that the investment will not earn the expected gains. Litner (1965) defines the return of a stock as the total of the paid dividends and price changes in the holding period or the sum of the cash dividend received including the change in its market price during the holding period. Returns therefore, are the sum total of the capital gains or losses to shareholders as a result of increase in stock price plus the distribution of dividends. Stock returns and stock prices have gained more importance over time than accounting values because they are an expression of the market expectation of future cash flows (Aduda, Odera, & Onwonga, 2012). This implies that, individual investors seem to rely more on subjective forecasts based on commonly held beliefs instead of fundamental data and which is reflected in the fluctuation of asset prices.

Barber and Odean (2013) define individual investors as persons who buy relatively small quantities of undiversified stocks which are not for retail but for their own personal account. The individual investor tends to be speculative in trading and therefore they could easily create a market bubble. Barberis, Shleifer and Vishny (1998) posit that due to this speculative behaviour the costs and losses of individual investors are higher than those of institutional investors. The tendency to make losses among individual investors could be due to relying on subjective criteria. Kahneman and Tversky (1979) show that individual investors exhibit speculative behaviour through disposition effect and due to this attitude they tend to overvalue recent information and undervalue past data. Individual investors are also affected by representative heuristics or the rule of thumb in decision making because of its easy application. The rule of thumb requires minimal mental effort this however may lead to poor decisions. The amount of research done on the performance of

individual investors is little in comparison to the one done on institutions. Literature review on the impact of investor sentiment would reveal the gaps that still remain to be solved through research.

1.1 Research Problem

Investor Sentiment is being presented as a possible explanation of the fluctuations of assets prices that classical finance has not be able to demystify up to now. This is evidenced by the bursts and bubble that have been witnessed around the world without any rational explanation from classical models (Zhang, 2008). Classical finance argues that investors are rational and thus they invest to seek to maximize profit and avoid losses. However, behavioural finance strongly contests the rationality of investors based the argument that investors are motivated by other subjective factors such as fear or overconfidence (Chang, Yu, Reinstein, & Churyk, 2016). Hence, behavioural finance is gaining importance as a possible answer to volatility which classical finance is grappling with to explain. A conceptual gap is revealed in the conflict between behavioural and classical finance on the reason behind the asset price fluctuations (Maina, 2016). This is due to behavioural finance arguing that investors are irrational in trading and thus push prices away from their true value while classical finance posits that they make decisions based on objective data about assets.

The irrational decisions that investors make may lead to abnormal gains though this may not always be the case (Shefrin, 2008). Therefore, reliance on subjectivity such as sentiment to make decisions may impact stock returns of individual investors. Investor sentiment is a relatively new field of research in finance hence, review of literature is necessary to establish what researchers have found on its impact on stock returns. Therefore, a theoretical gap is identified since no consensus exists on whether investor sentiment has an influence on stock returns. Stock returns are computed from market prices and for this reason they are viewed as an appropriate estimation of performance. Consequently, the review of existing literature on the role of investor sentiment on stock returns would be beneficial to filling the theoretical gap on this relationship as it is not yet clearly defined (Sreenu & Naik, 2021).

The studies conducted locally at NSE thus far, have been on behavioural biases and heuristics and not on investor sentiment thus revealing a theoretical gap in the local market. For example, Aroni (2014) conducted a study on the effect of dividends pay-out on investor decisions. Nyamute et al. (2015) investigated behavioural factors that influence investor choices and decisions at the NSE. Aduda, Odera and Onwonga, (2012) examined behaviour and performance of individual investors trading shares at NSE and examined the effect of overconfidence and herding on performance of investors. Onsomu (2014) conducted a research on the relationship between gender and behavioural biases of individual investors from Mombasa County at the NSE. The study focused on the biases of different genders but it did not establish the impact on trading of investor sentiment. Nyamute (2015) studied investor behaviour and performance of individual investors at NSE. The study focused on biases such as overconfidence, anchoring and herding thus revealing a gap on the impact of investor sentiment on stock returns.

In the review of literature gaps were identified, in behavioural theories on the effect of sentiment on stock returns. Prospect theory by Kahneman and Tversky (1979) posits that investors prefer certainty in returns to probabilistic gains and are therefore risk averse in the likelihood of profits. Prospect theory relies on the tenets of utility which are efficient market argument and thus, weaken its behavioural argument. Thus complementary irrationality arguments are needed to support prospect theory to investigate investor sentiment. Heuristics theory by Tversky and Kahneman (1974) argues that investors do not use logic but the rule of thumb because it is a quick way to

make decisions. Nevertheless, this theory is simplistic in its explanation of a complex process of asset selection (Barberis et al., 2015). Thus it does not fully define investors' decision making as they do not only rely on guesswork as the theory proposes. Fama and French (1996) in opposing behavioural finance theories posits that the anomalies in the market could be explained by a three factor model; company size, value stocks and market risk. However, in catering for anomalies in a rationality argument Fama and French acknowledge that irrationality does exist in the market. Conversely, the acknowledgement of irrationality introduces confusion to the three factor theory. Therefore, a knowledge gap is revealed in existing behavioural theories since they fail to fully explain irrationality without relying on rationality arguments and assumptions.

The analysis methods that have been used vary from one study to the next which makes generalisability difficult. Thus a methodological gap was found in the analysis of the relationship between sentiment and stock returns in the various studies that were reviewed. Olweny, Namusonge and Onyago (2013) used ANOVA and logistic regression to examine the interaction of financial attributes on risk tolerance. The investigation of continuous data was done using ANOVA while logistic regression was applied in analysing discrete data. In this study Omnibus tests which is applied in discrete data would have been more appropriate and as they would have given the analysis consistency more than ANOVA. Albert and Gamal (2019) applied Fuzzy Analytic Hierarchical Regression (FAHR) in examining the interaction of demographics and risk attitude. The downside of this method is that the steps to be covered increases with the number of variables in the study. Therefore, this method may not be ideal in a study with many variables because the more steps to be covered the higher the likelihood of errors in the analysis. Islam, Mumtaz and Hanif (2020) examined investor behaviour and market anomalies using Structural Equation Modelling (SEM) and partial regression. SEM assumes linear links among variables which is not always the case and hence the method may not be appropriate if terms have a non-linear relationship. Fang et al. (2021) estimated investor sentiment using Web Crawler they also used an internet text miner to collect data. These tools are highly sophisticated, inaccessible and costly a simpler method of collecting and analysing data would be more recommendable.

A contextual gap was found in that most of the studies conducted so far were carried out in the developed markets. For example, Karabulut (2013) studied whether Facebook could predict stock returns using a happiness index called GNH in the United States of America. In addition, Wenzhao, Su and Duxbury (2021) using Consumer Consumption Index (CCI) studied on sentiment and stock returns in 50 global markets from both developed and developing countries. The contextual limitation arises because the findings of the reviewed studies cannot be applied to developing markets due to the difference in infrastructure and technology. Hence review of literature reveals a gap on the influence of investor sentiment on stock returns of individual investors. The research answers the question; what is the documented relationship between investor sentiment and stock returns.

1.3 Research Objectives

The objective of this study was to establish through a critical review of literature the effect of investor sentiment on the stock returns of individual investors.

2.0 Theoretical Review

Prospect theory by Kahneman and Tversky (1979) states that decision makers prefer certainty in outcomes to probable gains; a tendency known as the certainty effect. Prospect theory was developed as an alternative to expected utility theory because of how investors were affected by certainty effect in the market. The certainty effect causes the investor to be more risk averse when there is a prospect of gain and to be risk seeking in view of loss. Implying that, investors resort to irrational behaviour by relying on instinct instead of objective information to make decisions and to mitigate risk. Nyamute (2016) in support of prospect theory argues that it is a decision making model in uncertainty thus, to avoid risk investors act irrationally by holding losing stocks and selling rising securities. Alghalith, Floros and Dukharan (2012) critiquing prospect theory explains that it still relies on the risk minimisation assumption which is a rationality argument and thus it is confusing. Prospect theory through its argument that investors feel more pain in a loss than the joy for the same amount of gain, highlights a relationship between irrationality and stock prices. The decision to hold or to sell assets is based on the sentimental value attached to a gain or a loss instead of its objective value (Aduda, Odera, & Onwonga, 2012). Hence, this scenario creates disequilibrium in the market and fluctuation of asset prices. Prospect theory is appropriate for this study because it shows how irrationality influences investment decisions. However, prospect theory needs to be complemented by other irrationality arguments such as noise trader theory which considers other aspects of investor bias.

Noise trader theory by Trueman (1988) states that limited arbitrage and investor sentiment play a role in the determination of asset prices. The theory argues that limited arbitrage influenced by sentiments as opposed to perfect arbitrage which EMH relies on, is a more reasonable explanation for the pricing of risky asset. This theory argues that noise traders are likely to be in a worse off position than if they were rational, since they tend to increase asset risk. The theory assumes that investors are irrational and that they rely on sentiments and rumours to make decisions. Implying that, investors do not rely on fundamentals and their trading activity drives prices away from their objective value. Shleifer and Summers (1990) argue that rational investors cannot eliminate the effect of noise traders and therefore their arbitrage is limited by irrationality in the market. Malkiel (2003) opposes the noise trader approach in support of market efficiency attesting that markets do not allow traders to earn above average returns without accepting higher risks. Furthermore, that asset over or under valuation is eventually corrected by availability of information as argued by EMH due to the mean reverting tendency of prices.

Efficient Market Hypothesis (EMH) by Fama (1970) is a fair game theory which assumes that there is information symmetry in the market. The theory posits that market prices fully reflect all the available information about a security and that the risk of the asset is equal to its expected return. EMH is founded on the availability of information to all market participants who receive it at the same time. The three market forms in EMH are the weak form, semi-strong form and the strong form. EMH assumes that there is large number of rational, wealth maximising and risk averse investors and securities in the market. Long et al. (1990) opposing EMH explained that it is impossible to incorporate all the information about a security in its price. Moreover, EMH argues that information is available to all market participants at the same time which is not easy to achieve. It is also difficult for an investor to process all the available information about an asset and hence, investors rely on noise. Shleifer and Summers (1990) contended EMH by explaining that there are noise traders who by relying on rumours can cause fluctuation in prices and create disequilibrium. Malkiel (2003) in support of EMH argues that prices reflect available information and that they

follow a random walk and therefore revert back to the mean value. Since prices adjust quickly to information it is difficult to forecast the market and make abnormal gains. Smales (2017) attests that stock prices have a mean reverting tendency implying that, the rational arbitrageurs eventually make more gains than noise traders. Nevertheless, while prices are inflated the noise traders could make abnormal returns.

Barberis et al. (2015) combine both the rationality assumption and the influence of investor sentiment to come up with a model called extrapolation CAPM (XCAPM). With XCAPM the study shows that uniting both arguments of rationality and irrationality can give better results of future returns if combined. Thus, XCAPM is based on the existence of both rational and irrational investors arguing that these two positions should be factored into asset pricing models. EMH posits that once information becomes available in the market stock prices adjust to it and therefore irrationality is eliminated (Fama, 1970). The XCAPM theory is limited by relying on rational assumptions and trying to blend in irrationality because this combination compromises the clarity of the model.

Herding effect model developed by Banerjee (1992) argues that investors observe and imitate the investment decisions made by others who seem more experienced because they assume that they are better informed. Filip et al. (2015) in support of the existence of herding behaviour explains that it is the tendency of investors to copy successful investors. Thus, herding behaviour among investors means there are more buyers than sellers and due to excess demand this could create a speculative bubble and lead to a market crash. Malkiel (2003) against herding theory posits that contrarian investors have much higher returns because they rely on objective information about assets. The contrarian investor goes against the herd that is flocking behind investors who seems more experienced than the rest. A contrarian investor therefore does not overreact to news or rumours from others since this is what fuels herding behaviour and impacts stock returns (Aduda, Odera, & Onwonga, 2012).

Barberis, Shleifer and Vishny (1998) developed a model of how investors form their beliefs. An investor overreacts when positive earnings are followed by more positive earnings, by thinking that he is in the trending state and so trades excessively. When positive earnings are followed by negative earnings the investor tends to be conservative in trading due to fear that the asset prices will drop further this process is called the mean reverting state. This therefore, shows that the investor forms beliefs with two states one that is driven by fear of loses and another that is driven by gains which results in under and over trading thus impacting returns. Thus in this argument investor sentiment is determined by performance. Baker and Wurgler (2006) argue that when investor sentiments are low the returns are high for young, volatile and small stocks. While vulnerable stocks have low gains when sentiments are high. The study shows that the influence of investor sentiments on returns is dependent on stock size with the smaller ones being more sensitive.

Fama and French (1996) opposed behavioural finance theories by explaining that the anomalies in the market can be explained by the three factor model, results of which are consistent with Intertemporal CAPM (ICAPM) and (Arbitrage Pricing Theory) APT. The three factors are the excess return, which is the market return above the risk free rate; the difference between the return of a small stock and a large stock portfolio (SMB, small minus big) and the return difference between high book-to-market stock and low-book-to-market stocks (HML, high minus low). According to Fama and French (1996) SMB and HML absorb the risk factors and anomalies not captured by CAPM. This model rejects any relationship between investor sentiment and stock

returns. Investor sentiment is growing in importance in explaining the poor correlation between asset fundamentals and their stock returns (Chang et al., 2016). This means that traditional finance theories up to now have not fully explained the fluctuation of asset prices. Consequently, further research is needed to test the rationality and irrationality assertions.

2.1 Empirical Review

Aroni et al. (2014) investigated the influence of dividend pay-out on investment in shares at the NSE which was done by collecting data from 311 investors in 2013. The study found that dividend pay-out had a significant impact on the decision of whether or not to invest in a certain share. This showed that investors were influenced to invest in shares that were known to pay out dividends and not on objective data on the asset. The study therefore, reveals a possible relationship between investor irrationality and investment decision making. The gap in this study is that, it focussed on the way the investor makes decisions but it did not go further to show the impact of the decisions on returns. Thus, the study only examined the irrationality process of decision making but not the impact it had on returns.

Nyamute et al. (2015) investigated the effect of investor behaviour on portfolio performance of individuals at the NSE. Data was collected from 385 individual investors at the NSE and it was analysed using regression. The conclusion of the study was that, at the NSE, investor confidence was significantly and negatively related to portfolio performance. Therefore, a relationship was revealed between irrationality and stock returns. However, a gap in the study was that since 2015 advancements have been made at the NSE such as online platforms for trading. In addition, recent digital networks and mobile technology developments have made information more accessible. Due to technology the minimum amount needed to invest in stocks at the NSE is lower than previous years. Thus, with these changes, the relationships among the study variables may be different if the research was to be replicated.

Islam, Mumtaz and Hanif (2020) investigated how market anomalies were affected by investor behaviour in a developing country. The research relied on heuristics theory to develop the hypotheses and conceptual framework. Data was collected from individual investors at Pakistan Stock Market who numbered 324. The study applied SEM and Partial Least Squares. The results of the study were that heuristics of mental accounting and decision framework were significantly associated with technical and fundamental anomalies. Anchoring was found not to be significantly related to technical anomalies while overconfidence was found to be positively and significantly associated with anomalies in the calendar. it would be difficult to generalize these results because it was done in Pakistan which is culturally different from many other countries

Wenzhao, Su and Duxbury (2021) examined how stock returns in 50 international markets were affected by investor sentiment which was measured using Consumer Confidence Index (CCI) as a proxy. The study established that returns were negatively related to sentiment. The study separated the developed markets from the developing markets although this did not alter the negative impact of the two variables. After the separation of the two types of markets, the emerging ones were found to be more affected by investor sentiment than their more developed counterparts. The study suggests that investors can get negative returns as a result of relying on sentiments. However, the investor sentiment index applied is not readily available especially in the emerging markets thus making it difficult to generalize the research.

Fang et al. (2021) used fintech technologies to investigate the influence of optimism and pessimism on stock returns in Taiwan. Web crawler and digitally distributed architecture were used to select messages from the internet. Investor sentiment variables were created using a dictionary-based linguistic text mining programme. There was more precision in the variables created from these technologies than those from ordinary messages. The study found that firms with optimistic investor sentiments have high returns while organisations with pessimistic investor sentiment had low outcomes. Further, negative sentiments had a larger influence on stock returns than the same level of optimistic emotions. High optimism is more significantly related to stock return volatility than ordinary sentiments. Furthermore, pessimism was also more significantly related to volatility than general emotions. Nevertheless, the research only included the individuals who are connected to digital platforms while in other countries many investors may not be connected as in Taiwan where the study was carried out.

Lansing, LeRoy and Ma (2022) undertook a research to show that the cause of abnormal returns was either the random volatility of key variables or because of investor irrationality. The study employed a consumption pricing model and the Federal Reserve Bank Treasury bill curve data from 1990 to 2017 to measure irrationality. The study found that controlling of key variables like macroeconomic factors, irrationality of investors could predict abnormal returns. However, the predictability was dependent on the period because the significance of the relationship ceased when the COVID pandemic struck the market. The study showed that the relationship between irrationality and abnormal low returns only existed before the pandemic. The limitation of this study is that the Treasury yield index is a complex way of estimating investor sentiment and is not easily applicable. Further, the study is localized to San Francisco where it was conducted and so generalization to other markets would be difficult because of the difference in financial development.

2.2 Conclusions from Literature Review

The objective of this study was to establish the documented effect of investor sentiment on stock returns of individual investors. This study was based on prospect theory which argues the case for irrationality among investors by proposing that they sell rising stocks to lock profits and hold on to the ones that are dropping to avoid losses (Kahneman & Tversky, 1979). Consequently, the investor prefers low and certain gains rather than high but risky returns. Thus the investor measures losses using decision weights that are determined by emotions. The study relied on noise trader theory which attests that investors depend on rumours and hearsay to make their decisions (Trueman, 1988). The effect of rumours is that the investor becomes overconfident and hence is over active in the market. The risk in being overconfident and trading excessively is making hasty and suboptimal decisions which result in poor returns.

Most of the studies reviewed revealed that investor sentiment has a varied impact on stock returns which could be positive, negative or make no difference. The impact is positive when the returns increase with increased investor sentiments. Nevertheless, this was found to be the case only in the short run because high investor sentiments increase demand and inflate prices which drop suddenly to revert to their true value (Islam, Mumtaz & Hanif, 2020). Investor sentiment was also negatively related to stock returns because high sentiments led to suboptimal decisions and consequently low returns (Smales, 2017). The rationality argument is that investor sentiment has no effect on stock returns due to the tendency of prices to revert to their true value when

information about an asset becomes available (Barberis, Greenwood, Jin, & Shleifer, 2015). Thus, further investigation is needed to resolve this lack of consensus.

The review of literature revealed that irrationality can be noticed through trading habits and it is a reality that cannot be wished away. The findings show that the classical models like CAPM, are too sophisticated for individual investors and therefore they turn to quick decision making tools like sentiments, instinct, heuristics and rumours instead of fundamental data (Nyamute, 2015). Thus, rational arbitrageurs have to take cognisance of the existence of irrational noise traders because their trading activity affects prices (Barberis, Shleifer, & Vishny, 1998). The activity of noise traders drives prices away from their fundamental value and therefore the rational investors should take this into account when making decisions in order not to follow trends blindly and suffer losses. The behaviour of irrational investors is not a tangible reality and thus it is important to select appropriate proxies to measure it.

Investor sentiment is a phenomenon that is not tangible and therefore it can only be measured using proxies. Thus selecting an appropriate proxy to estimate investor sentiment is essential in order to conduct an investigation on its impact in the market. Literature review showed that studies used varied proxies to estimate investor sentiment. Some studies used secondary data while others relied on primary data for example Lansing, LeRoy and Ma (2022) use Federal Reserve Bank Treasury Yield to proxy investor sentiment, Wenzhao, Su and Duxbury (2021) used CCI as the index for investor sentiment while Fang et al. (2021) used digital technologies Webcrawler to select internet messages that reflected the mood of investors. The use of varied proxies and indices could also contribute to the varied outcome of the relationship between investor sentiment and stock returns.

2.3 Knowledge Gaps Identified

Most studies that have been conducted on investor sentiment have been done in developed markets which highlights a contextual gap. The upcoming markets have many challenges with infrastructure, technology and unstable economic-political climates. The markets in developing countries do not have buffers to absorb shocks coming from volatility in economics and politics or other natural disasters like floods. The profile of the investors in the developed market is also different from the ones in the developing countries meaning that the impact of sentiments might not be similar. Thus, the cultural and infrastructural differences make results of the studies in developed markets ungeneralizable.

Investor sentiment is a phenomenon that exists in the market however it cannot be observed directly but only through the trading activity of investors. Hence this has complicated research on the impact of investor sentiments on returns in the market since the first step requires the identification of appropriate proxies. Thus a conceptual gap was identified in literature on an appropriate universal proxy for investor sentiment because the review of literature showed that varied indices were used to measure investor sentiment. Furthermore, the outcome of the reviewed studied was varied which could be attributed to the application of different proxies.

A methodological gap was identified in the reviewed literature whereby studies used different models to analyse data. The methods adopted ranged from ANOVA, Structural Equation Model, hierarchical regression, and Fuzzy Analytics Hierarchical Regression. The application of different analysis models could explain the lack of consensus on the relationship between investor sentiment and stock returns.

3.0 Recommendations for Further Research

A study could be conducted on establishing the most appropriate investor sentiment proxy as it would facilitate investigation. The review of literature revealed that there are far too many indices but many of them are country specific. A research is therefore needed that could come up with a universal measure of sentiments.

A digital decision making application could be developed to assist the investor in asset selection. The digital application could be personalised to help the investor arrive a decision after being help to go through critical steps of analysis before the acquisition or disposal of an asset. The application would assist in reducing poor decisions and reliance on subjectivity.

A comparative study on the effect of investor sentiment on stock returns could be conducted between a developing and an underdeveloped market. The findings of such a study would be especially useful in contributing to the advancement of upcoming markets.

The current review of literature showed that there are no studies on the dominant investor sentiments that affect investors and impact stock prices in developing market. A study could therefore be conducted on dominant investor sentiments affecting financial performance in developing markets. This knowledge of which sentiments affect the market the most would facilitate understanding the market and making appropriate investment decisions.

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