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Active versus Passive Investment Management Strategies: An Assessment of the Efficiency of the Capital Market in Zambia

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ABSTRACT

This study investigates the efficiency of the equity capital market at the Lusaka Securities Exchange Plc. (LuSE) in Zambia, focusing on the perceived degree of market efficiency and the influence of fundamental and technical analysis. Grounded in the Efficient Market Hypothesis (EMH), a communication-based approach and bivariate regression analysis were employed to assess these relationships. The results indicated that 59% of respondents viewed the capital markets as inefficient. Market efficiency exhibited a stronger negative correlation with technical analysis than with fundamental analysis, suggesting the presence of weak-form inefficiency. Technical analysis was found to account for more variability in market efficiency, implying limited predictive value of publicly available financial information. In response to these findings, the study recommends that the LuSE enhance the dissemination and timeliness of market-related information. Improving transparency and access to data may strengthen investor confidence and foster more efficient market conditions within Zambia's emerging financial landscape.

1.0 Introduction

Efficient capital markets are those where security prices fully reflect all available information, meaning future price changes depend solely on new, unpredictable data. This challenges efforts to analyze business cycles for recurring patterns in stock movements. However, technicians argue that trends can be exploited during price adjustments, while fundamentalists study earnings and dividends to identify mispriced stocks. A key implication of the efficient market hypothesis (EMH) is the debate between active and passive investment strategies, with EMH proponents believing active management rarely achieves above-normal returns. Zambia's securities market saw significant development with the establishment of the Lusaka Securities Exchange Plc. (LuSE) in 1994. As such, this study aims to assess the efficiency of Zambia's capital market, evaluating the validity of technical and fundamental analysis in predicting stock movements and understanding the broader implications for investment strategies in Zambia.

An efficient capital market rapidly incorporates new information into security prices, ensuring that all known data is fully reflected in current stock values (Pernagallo, 2025). This concept supports the idea that stock prices follow a random walk, meaning price changes are unpredictable. As such, given that rational investors aim to maximize profits, they seize opportunities as they arise, leading to nearly instantaneous price adjustments (Ali & Mustafa, 2014). The swift movement to a new equilibrium upon receiving information underscores the efficiency of capital markets, where prices consistently reflect all available data. This dynamic ensures that profit-maximizing investor behavior drives securities to accurately represent their true market value. In their seminal work, Fama (1970) defined efficient markets and distinguished between weak, semi-strong, and strong forms of efficiency. This work, based on the random walk hypothesis, suggests that stock price changes are unpredictable. As such, an efficient market consists of rational profit-maximizers actively competing, with near-universal access to relevant information (Titan, 2015). This reinforces the argument that stock prices shift only in response to new, unpredictable information. Ali and Mustafa (2014) also argue that asset prices equate to their net present value, ensuring returns align with equilibrium risk levels. Therefore, if a market is truly efficient, no known information can be exploited for a positive net present value investment. This implies that stock price changes occur due to shifts in economic, industry, or company-specific conditions, with new data immediately adjusting stock values accordingly.

However, the assumptions of technical and fundamental analysis directly oppose the notion of efficient markets. Lyle et al. (2022) argue that technicians believe information dissemination occurs in stages, benefiting informed professionals first. Fundamental analysts contend that securities have intrinsic values based on economic factors such as earnings, cash flows, interest rates, and risk. Therefore, the EMH has also fuelled a debate between active and passive investment strategies. Active investors seek to outperform indices by identifying mispriced securities, while passive investors rely on diversified portfolios without extensive analysis. Jones and Wermer (2011) highlight the strong arguments on both sides, though Elton et al. (2019) support passive investing, asserting that market prices already reflect all available information, rendering stock-picking ineffective. They argue frequent trading incurs high costs without improving performance. Consequently, EMH proponents believe active management is largely futile, as market prices efficiently adjust to reflect new data.

However, despite the EMH asserting that asset prices fully reflect available information, anomalies in empirical evidence continue to drive efforts to identify mispriced securities. Accordingly, active management seeks to improve performance by either pinpointing undervalued stocks or timing broad asset class movements. This hands-on approach requires deep expertise, as investors aim to outperform market averages and capitalize on short-term fluctuations (Konak & Seker, 2014). The EMH, originating in the 1960s, suggests that no strategy relying on historical or current data can consistently generate extraordinary profits. However, empirical studies present mixed findings - some confirm market efficiency, while others highlight persistent anomalies (Titan, 2015). For instance, Chadha (2017) investigates the presence of day-of-the-week effects in the Indian stock market, a type of calendar anomaly that challenges the EMH. Using empirical analysis of daily equity returns from the National Stock Exchange, the study finds negative returns on Mondays and positive returns on Thursdays, suggesting that stock performance varies systematically across trading days. On the other hand, Katoch (2018)

examines two calendar anomalies, day-of-the-week effect and month-of-the-year effect, in the Indian stock market using data from the Nifty 500 Index between 2012 and 2017. The findings reveal no statistically significant anomalies, suggesting that the Indian market during this period was efficient, with no predictable patterns that investors could exploit for abnormal returns. In addition, Enow (2023) examines markets including JSE, Nasdaq, CAC 40, DAX, BIST 100, and Nikkei 225 before and during COVID-19, and finds sporadic evidence of turn-of-the-month effects, particularly in JSE and Nasdaq, though not consistently exploitable.

Therefore, this study investigates the efficiency of Zambia's equity capital markets, focusing on the LuSE, which started trading in 1994 and currently has 28 listed companies. Existing research on capital markets in emerging economies, particularly in Africa, has yielded mixed results - while some conform to the efficient market hypothesis, many do not. Factors such as economic instability, low GDP growth, high unemployment and interest rates, illiquidity, high transaction costs, corruption, poor corporate governance, exchange rate volatility, and inadequate information technology contribute to market fragmentation. As such, this study aims to assess the degree of informational efficiency at LuSE, analyzing whether stock prices incorporate and reflect all available information. Since developing markets exhibit considerable price correlation, non-random walk behavior, and informational inefficiency, where market data remains accessible only to a privileged few, understanding market efficiency is crucial for investors, fund managers, and policymakers. The findings from this research will help improve investment management strategies and contribute to the broader knowledge of capital market dynamics in emerging economies.

2.0 Literature Review

2.1 Organization of The Securities Market

Securities markets consist of two primary segments: primary markets, where new securities are issued, and secondary markets, where previously issued securities are traded. Primary markets include seasoned equity issues, which involve new shares from firms with existing stock, and initial public offerings (IPOs), where companies sell common stock to the public for the first time. Secondary markets provide liquidity to investors by enabling the trading of securities initially sold in the primary market. These markets play a crucial role in price discovery, determining the prevailing market price of securities (Petacchi, 2015). Additionally, they influence market efficiency and price efficiency (Edelen et al.,2016). Secondary equity markets worldwide, including in the United States, are divided into national stock exchanges, regional stock exchanges, and over-the-counter (OTC) markets, where securities are traded outside formal exchanges.

2.2 Primary Listing Markets

Primary listing markets are official exchanges where corporate stocks are formally listed and traded. In the U.S., these include the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX) - two traditional national exchanges with established regulatory frameworks and liquidity. Additionally, the NASDAQ market, once categorized as an over-the-counter (OTC) trading platform, is now recognized as an equity market, distinct in its electronic trading system and decentralized structure. A primary listing signifies a company's main trading

venue, ensuring adherence to regulatory and disclosure requirements. These exchanges provide transparency, investor protections, and efficient price discovery. Companies may also pursue dual or secondary listings on other exchanges to expand market accessibility and attract a broader investor base. The evolution of primary listing markets, particularly the transition of NASDAQ into a mainstream equity exchange, reflects the dynamic nature of global financial systems and the increasing role of technology in securities trading.

2.2.1 The New York Stock Exchange

The New York Stock Exchange (NYSE) is the largest and most established securities market in the United States. Originally founded in 1817 as the New York Stock and Exchange Board, its origins trace back to the signing of the Buttonwood Agreement in May 1792 by 24 brokers, which laid the foundation for structured securities trading (Garg, 2024). The name was formally changed to the New York Stock Exchange in 1863, reflecting its growing prominence in financial markets. As of the most recent data, the New York Stock Exchange (NYSE) hosts approximately 2,282 listed companies, with a combined market capitalization of $43.98 trillion. Its role as a hub for global finance is reinforced by its high trading volume, averaging 1.20 billion shares per day, with a daily trading value around $174 billion. The NYSE continues to be a cornerstone of financial markets, setting benchmarks for liquidity, price discovery, and investor confidence worldwide.

2.2.2 The American Stock Exchange

The American Stock Exchange (AMEX) originated from a group of traders dealing in unlisted shares at the corner of Wall and Hanover Streets in New York. In 1910, it formalized trading rules and became the New York Curb Market Association, continuing to trade unlisted stocks until 1946, when listed stock volumes surpassed unlisted ones. In 1953, it adopted the name American Stock Exchange (AMEX) and evolved into a major stock options exchange by 1975, later expanding to options on interest rates and stock indexes. AMEX merged with NASDAQ in 1998, but NASDAQ sold it back to its members in 2005. In 2007, the New York Stock Exchange (NYSE) acquired AMEX, integrating it into its operations as NYSE American, focusing on small-cap stocks and exchange-traded funds (ETFs). Today, NYSE American continues to serve as a vital marketplace for emerging companies, offering a platform for growth-oriented businesses and specialized investment products.

2.2.3 The NASDAQ Market

The NASDAQ (National Association of Securities Dealers Automated Quotations) was historically known as an over-the-counter (OTC) market, trading stocks not formally listed on major exchanges like the New York Stock Exchange (NYSE) and American Stock Exchange (AMEX). Established in 1971 by the National Association of Securities Dealers (NASD), NASDAQ became the world's first electronic stock market, revolutionizing securities trading with its automated system. Today, NASDAQ is headquartered in Times Square, New York City, and lists over 4,000 companies, making it one of the largest stock exchanges globally. Unlike traditional exchanges, NASDAQ operates entirely through electronic trading, eliminating the need for a physical trading floor. It processes an average of over 11.3 billion trades per day, surpassing other U.S. exchanges in trading volume. Despite having the highest number of listed companies, NASDAQ's total market capitalization is approximately

$27.65 trillion, compared to the NYSE's $43.98 trillion. While NASDAQ is known for its technology-focused listings, including giants like Apple, Microsoft, and Tesla, the NYSE remains dominant in overall trading value. The evolution of NASDAQ highlights the increasing role of digital platforms in modern financial markets.

2.2.4   The Lusaka Securities Exchange

The Lusaka Securities Exchange (LuSE) was established in 1993 through the Securities Act Cap 354 of the Laws of Zambia, creating a formal capital market regulated by the Securities and Exchange Commission (SEC). Since its inception, LuSE has grown significantly, expanding from 2 listed companies in 1994 to 28 listings in 2024. LuSE has also seen substantial growth in market capitalization, rising from $436 million in 1994 to over K216 billion (approximately $9.5 billion) by the end of 2024, marking a 144% increase from the previous year. The exchange conducts an average of 316 trades per day, reflecting increased market activity. LuSE's strong performance has positioned it among Africa's top five best-performing stock markets in 2024, driven by resilience and investor confidence. As Zambia's primary securities exchange, LuSE continues to play a vital role in capital market development, offering investment opportunities and fostering economic growth.

2.3 Overview of Stock Market Efficiency

Since Fama's seminal work in 1970, the EMH has become a cornerstone of modern finance theory, shaping investment strategies and academic discourse. The hypothesis asserts that security prices fully reflect all available information, making it impossible to consistently achieve above-normal returns through analysis or market timing. The extensive body of research surrounding EMH underscores its profound impact on investment theory and financial decision-making. However, while EMH has been rigorously tested in advanced markets such as the U.S. and Europe, studies on emerging markets, particularly in Africa, remain limited (Sarpong & Sibanda, 2014). Emerging markets often face challenges such as low liquidity, high transaction costs, limited access to information, regulatory inefficiencies, and economic volatility, all of which can contribute to market inefficiencies. Understanding how EMH applies to African capital markets is crucial for policymakers, investors, and scholars seeking to enhance market transparency, improve investment strategies, and foster financial development in these economies.

Malhotra et al. (2023) analyzed financial sector mutual funds over a 23-year period and found that fund alphas were not statistically different from zero, and managers lacked consistent market timing or security selection ability. Similarly, using Sharpe, Treynor, and Jensen's alpha, Nihal and Reddy (2024) found that most mutual funds underperform benchmarks after adjusting for risk, reinforcing the notion that active management rarely delivers persistent excess returns. This suggests that active returns, when adjusted for risk and expenses, tend to average close to zero over time across managers. This aligns with expectations in an efficient market, where intense competition among active managers drives net active risk-adjusted returns toward equilibrium. Despite this, active management remains essential for maintaining market efficiency, as it ensures rational capital allocation, fostering economic growth and wealth creation in capitalist economies. Elton et al. (2019) examined mutual fund performance post-expenses, concluding that active mutual funds generally underperform relative to the models used for evaluation. This has led many investors to transition from active funds to passive funds,

favoring cost efficiency and market-based returns. However, Elton et al. (2019) argue that existing models used for fund evaluation often do not represent viable investable strategies. Their research explored whether investors could identify a small set of passive funds, specifically Exchange-Traded Funds (ETFs), that would consistently outperform active funds over time. Since ETFs allow both long and short positions, they provide flexibility in portfolio management, making them a preferred choice for passive investing. This ongoing debate between active and passive investment strategies underscores the challenges of achieving consistent outperformance and reinforces the significance of market efficiency in shaping investment decisions.

Konak and Seker (2014) investigated weak-form efficiency in the FTSE 100 from January 2001 to November 2009, applying unit root tests to determine market behavior. Their findings confirmed that the UK stock market is non-stationary, validating the random walk hypothesis, which suggests that stock price changes are unpredictable. Using the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model, they established that market prices consistently followed a random walk, supporting the existence of weak-form market efficiency in developed markets such as the FTSE 100. These results reinforce the notion that technical analysis is unlikely to generate sustained excess returns in mature financial markets. Likewise, Bessembinder (2023) finds that a small fraction of stocks account for most market gains, reinforcing the difficulty of successful stock picking. The concentration of returns among large-cap stocks discourages active selection, especially in developed markets. This is supported by Cheffins and Reddy (2023) whose study discusses the decline in UK equity market dynamism, noting reduced active trading and stock picking, particularly among large-cap firms. Regulatory shifts and market structure changes have contributed to this trend. These studies collectively affirm that active stock picking has declined across developed markets, particularly among large-cap stocks, and that this trend mirrors global patterns in developed economies.

Finally, recent scholarship continues to affirm and extend Bhattacharya and Galpin's (2009) seminal findings on global stock picking behavior and the rise of indexing. Their metric, based on share volume and shares outstanding, revealed that active stock selection is more prevalent in emerging markets than in developed ones. This pattern remains evident in contemporary research. For instance, Elgayar and Bagha (2024) demonstrate that investor behavior in Egypt still reflects dominant active selection, with limited adoption of indexing strategies. Similarly, Munetsi and Brijlal (2021) find persistent herding and discretionary trading among fund managers on the Johannesburg Stock Exchange (JSE), reinforcing the prevalence of stock picking in emerging contexts. In contrast, developed markets show a marked shift toward passive investing. Wang and Petajisto (2022) provide global evidence of increasing mutual fund flows into indexed products, particularly in mature economies. Bessembinder (2023) further supports this trend by showing that a small subset of stocks drive long-term returns, making indexing more attractive and efficient. Gözlügöl (2025) adds a regulatory dimension, noting that structural and legal changes in the UK have contributed to the decline of active stock picking. Collectively, these studies validate Bhattacharya and Galpin's framework and underscore the evolving dynamics of market efficiency and investment strategy across different economic landscapes.

2.3.1 Emerging and Developing Markets

Phiri (2015) highlights the extensive empirical research conducted on stock market efficiency across both industrialized and emerging economies. Most contemporary studies continue to examine the weak-form EMH, which equates market efficiency with the random walk behavior of stock returns. While findings generally support weak-form efficiency in developed and mature stock exchanges, evidence from emerging markets, including South Africa, India, and Latin America, remains inconclusive. Several market inefficiencies stem from factors such as transaction costs, market frictions, interactions among heterogeneous agents, and diverse investor beliefs (Aktan et al., 2019). For instance, Lee et al. (2025) reveal persistent mispricing and efficiency fluctuations across BRICS markets during crisis periods, with South Africa and Brazil exhibiting notable deviations from random walk behavior. Similarly, Monga et al. (2024) demonstrate that the Indian equity market exhibits both efficient and inefficient phases, suggesting that the Adaptive Market Hypothesis (AMH) may better capture its evolving dynamics. El-Diftar (2023) suggests that while some emerging markets like Turkey and Indonesia show signs of improving efficiency, others, including Egypt and Pakistan, remain predictably inefficient. These inconsistencies are often attributed to structural market frictions, transaction costs, and behavioral factors. Hansen et al. (2024) further emphasize the role of heterogeneous agents and long-run uncertainty in distorting asset pricing and valuation dynamics, while Lenoir et al. (2023) highlight how search frictions and asymmetric information impede optimal resource allocation in international markets.

Recent studies continue to explore weak-form market efficiency and seasonal anomalies across African stock exchanges. Obalade and Muzindutsi (2020) provide a comprehensive review of calendar anomalies and weak-form efficiency in African markets, concluding that many exhibit adaptive rather than consistent efficiency, with non-linear models better capturing market behavior. Their findings align with earlier evidence of day-of-the-week effects, including negative Monday and positive Friday returns, which persist in several North African markets. Mlambo et al. (2021) reaffirm these patterns using updated parametric and non-parametric tests, showing that Egypt, Morocco, and Tunisia remain weak-form inefficient, while South Africa demonstrates random walk characteristics. In support of this, Elgayar and Bagha (2024) confirm that Egypt's EGX30 index exhibits serial correlation and stationarity, rejecting the random walk hypothesis. Conversely, recent studies on the Johannesburg Stock Exchange (JSE) continue to validate its efficiency. Munetsi and Brijlal (2021) find no significant autocorrelation in JSE returns, and variance ratio tests fail to reject the random walk hypothesis. These findings are further supported by El-Diftar (2023), who highlights the JSE's relative maturity and responsiveness to public information, reinforcing its classification as a weak-form efficient market.

Further, Eze and Johnny (2019) conducted a comprehensive analysis of daily, weekly, and monthly returns on the Nigerian Stock Exchange (NSE) using unit root tests, Jarque-Bera normality tests, and graphical methods. Their findings suggest that price movements exhibit characteristics consistent with a random walk, thereby supporting weak-form efficiency. In contrast, Ogbonna and Ejem (2020), employing a range of parametric tools, found that NSE price series deviate from random walk behavior and exhibit abnormal distributions. Their causality analysis revealed significant dependencies in daily price series, though none were observed at the

annual level, leading to the conclusion that the NSE is not efficient in the weak form and, by extension, lacks broader efficiency. In the Egyptian context, Elgayar (2025) applied a multi-method approach, including Durbin-Watson, KPSS unit root, Runs, and Variance Ratio tests, to assess the EGX30 index. The presence of serial correlation and stationarity led to a rejection of the random walk hypothesis, confirming weak-form inefficiency. Complementing this, Elroukh (2024) employed an event study methodology to examine the EGX30's response to currency devaluations, identifying abnormal returns both before and after such events, further evidence of informational inefficiency.

Collectively, these studies affirm that while Nigeria's market exhibits partial signs of weak-form efficiency, Egypt's equity market continues to display inefficiencies, particularly in its responsiveness to historical price patterns and public information. South Africa's JSE, by contrast, demonstrates stronger adherence to random walk behavior and informational responsiveness, aligning more closely with developed market standards. Across the broader BRICS bloc, Brazil, Russia, India, China, and South Africa, efficiency patterns remain heterogeneous, with markets like India and Brazil showing episodic deviations from weak-form efficiency, often influenced by macroeconomic shocks, regulatory shifts, and behavioral biases. Similarly, other emerging markets in Africa, Asia, and Latin America continue to exhibit mixed efficiency profiles, shaped by structural frictions, transaction costs, and the interplay of diverse investor beliefs. These variations underscore the importance of context-specific analysis when evaluating market behavior and designing investment strategies in developing economies.

2.4 Fundamental Analysis and Market Efficiency

Several studies reaffirm that markets are generally efficient in processing public information, and anomalies are either data-mining artifacts or short-lived. They argue that while some anomalies exist, they do not invalidate EMH and, therefore, most investors are better off using passive strategies. For instance, Cornell (2018) critiques behavioral models for lacking predictive power and being overly flexible and suggests that EMH remains a more robust framework. Akwarandu and Ayunku (2020) while acknowledging criticisms, conclude their review by stating that EMH remains foundational and widely supported in empirical finance. In addition, Biondi and Righi (2023) argue that proponents of EMH maintain that excessive profits cannot be consistently earned from publicly available information, thereby implying that all buy-and-hold strategies are equally effective. This perspective leaves limited scope for entrepreneurial activity in financial markets, as it assumes homogeneity among investors, immediate incorporation of information, and rational decision-making. However, Biondi and Righi highlight that market efficiency is better understood as a dynamic and multidisciplinary concept, shaped by behavioral, institutional, and informational factors. Their analysis opens space for entrepreneurial strategies that exploit temporary inefficiencies, structural shifts, and informational asymmetries, especially in emerging or less liquid markets. This implies that all buy-and-hold strategies are equally effective, leaving little room for entrepreneurial activity in financial markets.

However, scholarship continues to challenge the foundational assumptions of the EMH. For instance, Campanella et al. (2016) empirically tested fundamental analysis as a predictor of abnormal returns following dividend announcements in European financial markets. Using a sample of 1,708 manufacturing and services businesses,

their study found that fundamental analysis can predict abnormal returns, suggesting that market efficiency in Europe is not semi-strong efficient. They further concluded that their prediction model is minimally affected by the broader economic cycle, indicating that some inefficiencies persist in European stock markets, allowing investors to capitalize on select opportunities. Recently, Lyle et al. (2022) explored whether portfolios constructed using traditional fundamental signals can generate significant abnormal returns. The authors integrate fundamental analysis with portfolio optimization techniques and find that portfolios based on signals such as changes in inventories, accounts receivable, gross margins, capital expenditures, and effective tax rates produce substantial out-of-sample alphas and exhibit high Sharpe ratios. Their findings demonstrate that fundamental signals not only provide valuable insights into future stock returns and earnings news but also enhance portfolio performance when applied within a rigorous optimization framework.

In summary, while the EMH remains a foundational concept in financial theory, ongoing scholarly debate highlights both its strengths and limitations. Recognizing these diverse perspectives enriches our understanding of market behavior and informs more nuanced approaches to investment strategy and policy design.

2.5 Technical Analysis and Market Efficiency

Several empirical studies have investigated the interplay between technical analysis and market efficiency, offering insights into how evolving market conditions influence the viability of trading strategies. In their study, Lin et al. (2014) assess the predictability of technical analysis in Taiwan's energy markets, using bootstrap tests to evaluate trade rules. Their results indicate that data snooping, non-synchronous trading, and transaction costs significantly impact the effectiveness of technical analysis. Both the reality check and superior predictive ability tests reject the presence of economically profitable technical trading rules across the thirteen energy market indices examined. The study supports the EMH, concluding that sustained economic profits from technical analysis are unlikely within these markets. Similarly, Nor and Wickremasinghe (2017) explore the relationship between market efficiency and technical trading rules, noting that the acceptance of one typically implies the rejection of the other. Their study examines the Malaysian stock market, focusing on the profitability of variable-length and fixed-length moving averages during different market phases. Over time, the forecasting accuracy of these trading rules diminished, performing poorly in recent subsamples. The findings suggest that the Malaysian stock market is becoming more efficient, attributed to technological advancements and the increasing use of exchange-traded funds (ETFs).

However, recent scholarly research has reaffirmed the relevance and effectiveness of technical analysis in modern financial markets, particularly when integrated with emerging technologies and behavioral insights. For instance, Kumar and Sharma (2021) conduct a systematic review and their findings reinforce the core assumptions of technical analysis, namely that market prices reflect all known information, trends persist, and historical patterns tend to repeat. The review concludes that technical analysis remains a structured and empirically supported method for navigating stock market behavior. Almeida & Vieira (2023) find a growing body of literature supporting technical analysis as a credible approach to investment decision-making. The study identifies key research clusters focused on price forecasting, trading strategies, and portfolio optimization,

suggesting that technical analysis is increasingly recognized within academic and practitioner circles. Further, Agrawal et al. (2024) investigate traditional indicators like moving averages and RSI in high-frequency and AI-driven trading environments. The scholars find that technical analysis remains effective, especially when combined with machine learning, with variations across trader demographics. In addition, Sandhya rani et al. (2024) highlight that technical analysis, especially moving averages and RSI, remains a widely used and empirically supported method across various market conditions. These studies collectively affirm that technical analysis continues to hold empirical and theoretical value, particularly when adapted to evolving market technologies. They find that combining moving averages and RSI with advanced data analytics improves predictive accuracy for both long-term trends and short-term opportunities.

Despite these results, existing literature remains inconclusive regarding stock market efficiency (Metghalchi et al., 2012). Their study, which assessed the profitability of moving average trading rules in European stock markets, found that while some multi-indicator models showed limited profitability, these gains were largely negated when accounting for interest earnings outside the stock market, ultimately supporting the weak form of market efficiency. However, the broader debate continues. Accordingly, Sturm (2013) suggests that while market efficiency is widely accepted in academic circles, it does not fully capture the complexities of real-world financial behavior. Sturm emphasizes that technical analysis can measure shifts in investor sentiment and beliefs, particularly when viewed through the lens of behavioral finance. This suggests that technical analysis and market efficiency are not necessarily mutually exclusive but may coexist under certain conditions. These findings highlight the ongoing debate between proponents of technical analysis and supporters of the EMH in assessing market predictability and investment strategy effectiveness.
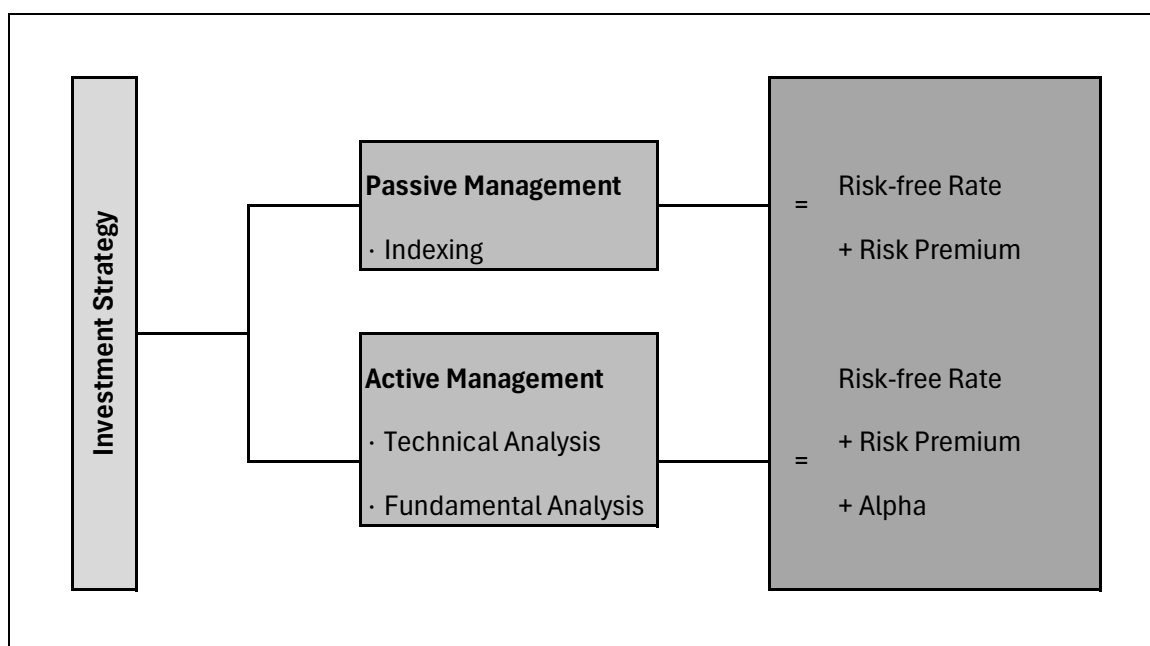
2.6 Conceptual Framework

Conventional capital market theory asserts that equity markets are efficient, yet the EMH remains controversial among portfolio managers, as it challenges the value of security analysis and the search for undervalued stocks. Critics argue that this approach limits active management, implying that efforts to identify mispriced securities may be ineffective and costly (Titan, 2015). Despite ongoing debate, Konak and Seker (2014) suggest that market efficiency relies on investors deviating from passive strategies, as they seek mispriced securities to achieve abnormal returns, profits that exceed market expectations over a given period. These abnormal returns, also referred to as alpha or excess return (Figure 2.1), represent the portion of a portfolio's performance unexplained by market movements (Malhotra et al., 2023). As such, this framework underscores the continuing tension between passive and active investment strategies, shaping financial markets worldwide.

2.6.1 Passive Portfolio Management

Passive investment management, as described by Konak and Seker (2014), emphasizes minimal buying and selling, making it a cost-efficient strategy. It avoids direct or indirect security analysis, relying on a long-term, low-maintenance approach that resists reacting to short-term market fluctuations. Recent scholarship continues to affirm the growing dominance of passive investing, with asset managers increasingly creating index funds across diverse market categories to facilitate broad, diversified exposure. For instance, Wang and Petajisto (2022)

document a global surge in mutual fund flows toward passive vehicles, particularly in developed markets, driven by cost efficiency and benchmark outperformance. Liu and Zhang (2024) explore the behavioral and structural drivers behind this trend, noting that technological innovation and increased transparency have accelerated passive fund adoption across both retail and institutional segments. Central to passive investing is the buy-and-hold strategy, where investors remain committed to their assets despite short-term volatility (Dichtl, 2020). This approach aligns with the belief that long-term returns remain stable, making passive management a preferred method for steady, low-cost portfolio growth.

Figure 2.1: *Conceptual framework guided by capital investment management strategies and the generation of Alpha.*

Source: Author's compilation (2024).

Passive investment management often involves index funds, which replicate the performance of broad-based stock indices such as the Vanguard 500 Index, holding stocks in proportion to their weight in the S&P 500. Garleanu and Pedersen (2018) highlight the rise of delegated asset management, particularly the growth of passive investing over the past decade. Their study finds that micro-efficiency has improved due to advancements in information technology, reducing information costs. Additionally, the declining cost of passive management has contributed to its expansion, often at the expense of self-directed and active investment. However, this shift has also led to macro inefficiencies, allowing active managers to perform better, as their fees decrease at a slower rate than passive fees. These findings align with Cremers et al. (2016), who observed that lower-cost index funds drive greater passive management adoption, leading to higher average alpha for active managers, lower fees for active management, and a widening fee gap between active and passive strategies. This ongoing trend underscores the evolving dynamics of financial markets, where passive investing continues to reshape market efficiency and investment strategies.

2.6.2 Active Portfolio Management

Active management seeks to generate returns that exceed those of a passive benchmark portfolio on a risk-adjusted basis, after accounting for transaction costs. Fund managers employing an active investment approach aim to outperform the broader market, often represented by an index, or to achieve a specific investment objective. This strategy relies on managers' market expertise and analytical skills to identify undervalued equities with growth potential, either through price appreciation or higher dividend payouts over time. This process, known as stock-picking, involves strategic investment decisions based on detailed assessments of financial performance, economic trends, and company fundamentals (Bessembinder, 2023). Active management contrasts with passive strategies, which focus on long-term market tracking rather than attempting to capitalize on short-term inefficiencies.

2.6.2.1 Technical Analysis

Technical analysis seeks to exploit recurring and predictable stock price patterns to enhance investment performance. Technical analysts recognize the relevance of fundamental information but argue that asset prices adjust gradually to intrinsic values, creating exploitable patterns for informed trading. Unlike fundamental analysts, who rely on macroeconomic indicators, earnings reports, and valuation models, technical analysts focus on market-derived data, such as historical prices, volume trends, and momentum indicators, to forecast future movements. For instance, Zhu et al. (2023) demonstrate that technical indicators like moving averages and RSI can generate statistically significant abnormal returns in emerging markets, especially during periods of volatility. Kumar and Singh (2022) find that technical trading strategies outperform fundamental models in short-term forecasting across Indian equity indices, suggesting that price-based signals capture investor sentiment more effectively. Meanwhile, Al-Khazali and Mirzaei (2021) show that technical analysis remains robust in predicting turning points in Middle Eastern markets, even when controlling for macroeconomic shocks. These findings reinforce the view that technical analysis offers a complementary lens to fundamental approaches, particularly in markets where information asymmetry and behavioral biases are prevalent.

Drakopoulou (2015) identifies three fundamental assumptions underpinning technical analysis: (1) the market discounts all available information, meaning stock prices inherently reflect all known data, (2) stock prices move in identifiable trends, which implies that past price movements influence future trajectories, and (3) history tends to repeat itself in financial markets, allowing patterns and cycles to be observed over time. Therefore, moving averages, one of the most recognized technical indicators, are widely used to identify trends, measure stock momentum, and determine potential support and resistance levels. As such, active managers frequently develop equity portfolios based on historical stock price trends by assuming either that past price movements will continue in the same direction or reverse. This concept forms the basis of contrarian investment strategy, which suggests that the optimal time to buy a stock is when most investors are bearish about it, and the best time to sell is when they are excessively bullish. Sarpong and Sibanda (2014), demonstrated the potential of structuring active portfolios around this notion. Their study indicates that investing based on an overreaction hypothesis, where stocks revert to their risk-adjusted expected returns, can consistently yield superior results.

Additionally, recent research continues to validate the disposition effect as a persistent behavioral bias influencing investor decision-making and market dynamics. Investors often hold onto losing stocks longer than warranted, creating momentum in asset prices even when fundamental values follow a random walk. This behavioral tendency introduces inefficiencies that technical and contrarian traders can exploit. For instance, Chen et al. (2023) find that the disposition effect remains prevalent across global equity markets, particularly during periods of heightened volatility, contributing to short-term momentum and delayed price correction. Kumar and Goyal (2022) demonstrate that retail investors in emerging markets exhibit strong disposition-driven behavior, which amplifies mispricing and creates opportunities for contrarian strategies. Meanwhile, Fang and Wang (2024) show that the disposition effect interacts with anchoring and regret aversion, reinforcing non-random price patterns and challenging the assumptions of market efficiency. These findings affirm that investor psychology and behavioral biases continue to shape price trajectories, offering exploitable signals for informed trading.

At the other extreme, a price momentum strategy operates on the principle that stocks with strong past performance ("hot stocks") will continue to rise, while underperforming stocks ("cold stocks") will remain weak. Recent empirical studies continue to validate this approach across global markets. For instance, Fang et al. (2023) demonstrate that momentum portfolios constructed using six-month return windows consistently outperform across U.S. and international equities, with abnormal returns unexplained by traditional asset pricing models. Similarly, Chen and Li (2022) find that momentum effects persist in Asian markets, particularly in China and South Korea, where behavioral biases and delayed information diffusion amplify trend-following behavior. In the Australian context, Nguyen and Pham (2021) confirm that momentum strategies yield significant excess returns, especially in small-cap and illiquid stocks. These findings reinforce the limitations of the Capital Asset Pricing Model (CAPM) and the Fama-French three-factor model in fully capturing momentum profitability. As Zhang and Zhao (2024) argue, momentum returns are better explained by investor overreaction, anchoring, and disposition effects, suggesting that price momentum reflects not only market inefficiencies but also persistent behavioral patterns that influence asset pricing across regions. Collectively, the evidence supports technical analysis as a valid and complementary tool to fundamental approaches, especially in markets characterized by delayed information diffusion, heterogeneous investor behavior, and structural frictions.

2.6.2.2 Fundamental Analysis

Fundamental analysis is based on the premise that every stock has an intrinsic value, which fluctuates due to market conditions, creating opportunities for buying undervalued securities and selling overvalued ones. According to Drakopoulou (2015), the core of fundamental analysis involves examining financial statements and conducting quantitative evaluations of revenue, expenses, assets, and liabilities to forecast a company's future performance. Studies continue to affirm the relevance of two primary stock valuation approaches: the top-down Economy-Industry-Company (EIC) framework and the bottom-up stock-picking method. The EIC approach integrates macroeconomic analysis, sectoral evaluation, and firm-level fundamentals to assess how broader economic conditions influence individual securities. For instance, Kumar and Sharma (2023) emphasize the

importance of macroeconomic indicators, such as GDP growth, interest rates, and inflation, in shaping sectoral performance and guiding equity valuation. Alam and Uddin (2022) apply the EIC model to emerging markets, demonstrating its effectiveness in identifying undervalued stocks by aligning economic trends with industry cycles and company-specific metrics. Conversely, the bottom-up approach focuses on intrinsic company value regardless of macro conditions, often favored by value investors and contrarian strategists. Singh and Mehta (2024) highlight that bottom-up stock selection, driven by financial ratios and qualitative assessments, can outperform market benchmarks in volatile environments. Rahman and Chowdhury (2023) further validate this method by showing that firm-level fundamentals, such as earnings quality, cash flow stability, and governance, are strong predictors of long-term equity performance, especially in fragmented or inefficient markets.

Industry analysis plays a crucial role in evaluating how different sectors adapt to changing economic conditions. Porter (2008) introduced the competitive strategy framework, which assesses five key factors: (1) threats from new entrants, (2) competitive rivalry within the industry, (3) threats posed by substitute products, (4) bargaining power of buyers, and (5) bargaining power of suppliers. Fundamental analysts use industry analysis to identify investment opportunities with strong return-risk characteristics. However, Alam and Uddin (2022) caution that industry returns fluctuate over time, meaning past performance cannot be simply projected into the future. Additionally, since companies within an industry exhibit varying levels of return, a firm-specific analysis is a necessary complement to industry-wide evaluation. Company analysis seeks to determine the best-performing firms in a sector and their intrinsic stock value (Drakopoulou, 2015). Fundamental analysts compare firms relative to their industry using financial ratios, cash flow data, and valuation models. One common method for estimating a stock's intrinsic value is the Dividend Discount Model (DDM), which considers expected future dividend payments and their present value. This approach helps investors assess whether a stock is undervalued or overvalued, guiding informed investment decisions.

In summary:

If Estimated Intrinsic Value > Market Price: *Buy or Hold it if You Own It*

If Estimated Intrinsic Value < Market Price: *Do not Buy or Sell it if You Own It*

Fundamental analysis employs relative valuation techniques, estimating a stock's worth based on its current price relative to key financial variables such as earnings, cash flow, book value, and sales. According to Drakopoulou (2015), two crucial factors influencing stock valuation are firm size, measured by the total market capitalization of outstanding equity, and financial position, reflected through metrics like price-to-earnings (P/E) ratio and price-to-book value (P/BV) ratio. Historical data suggests that smaller market capitalization firms tend to generate higher risk-adjusted returns compared to their larger counterparts. Similarly, companies with lower P/E and P/BV ratios often outperform those with higher ratios, reinforcing the principle that valuation discounts may present attractive investment opportunities. These insights highlight the significance of firm-specific metrics in guiding stock selection and portfolio strategies.

2.7 The Efficient Market Hypothesis

The concept of market efficiency has evolved from early theoretical foundations to robust empirical validation. While early thinkers like Bachelier and Cowles laid the groundwork by suggesting that asset prices behave randomly and are difficult to consistently outperform, recent research has reinforced and refined these insights. Fama and French (2023) revisit decades of financial data and reaffirm that publicly available information is rapidly incorporated into asset prices, making persistent outperformance through timing or selection statistically improbable. Since Fama's (1970) seminal work, the EMH has become a central pillar in finance theory. The scholar presented market efficiency through a fair game model, asserting that investors can be confident that stock prices fully reflect all available information, ensuring expected returns are aligned with risk. The hypothesis implies that no investor can consistently outperform the market, as stocks trade at their intrinsic value. Fama (1970) further divided the EMH into three distinct forms based on the information set involved: Weak-form EMH, semi-strong, and strong-form EMH. These classifications remain fundamental to modern financial research, shaping investment strategies and market analysis.

2.7.1 The Weak-form EMH

Fama (1970) weak-form EMH states that stock prices fully incorporate all information derived from market trading data, including historical prices, trading volumes, and short-term interest. As a result, trend analysis becomes ineffective, since past price data is publicly accessible and cost-free to obtain. This sub-hypothesis asserts that investors cannot gain a consistent advantage using technical trading rules that rely on past returns or security data to predict future price movements. In an efficiently functioning market, all historical information is already reflected in stock prices, meaning that purely technical strategies, such as chart patterns or moving averages, offer little to no opportunity for earning abnormal returns. Weak-form EMH challenges the effectiveness of technical analysis, suggesting that investment strategies should instead focus on fundamental or macroeconomic factors to identify profitable opportunities.

2.7.2 The Semi-strong form EMH

Fama (1970) proposes that the semi-strong EMH asserts that stock prices fully incorporate all publicly available information about a firm's prospects. In addition to historical price data, as outlined in the weak-form EMH, this includes fundamental financial metrics, such as product line details, management quality, balance sheet composition, patents, earnings forecasts, and accounting practices. Other macroeconomic factors, including interest rates, annual returns, and dividend announcements, are also reflected in market valuations. The semi-strong EMH suggests that if investors can access this information from public sources, stock prices should rapidly adjust to incorporate new data, eliminating opportunities for excess returns through fundamental analysis. As a result, strategies based on publicly available financial information would be unlikely to consistently outperform the market, reinforcing the efficiency of stock pricing mechanisms.

2.7.3 The Strong-form EMH

Finally, Fama (1970) introduces the strong-form Efficient Market Hypothesis (EMH), which asserts that stock prices incorporate all available information, including private, insider knowledge. This comprehensive model encompasses both the weak-form and semi-strong EMH, implying that no investor group has exclusive access to information that could systematically influence stock pricing. As a result, the hypothesis suggests that no group of investors can consistently achieve above-average returns, as markets efficiently integrate all relevant data. However, this version of the EMH remains highly debated. While it theoretically eliminates informational advantages, few dispute that corporate officers and insiders often have early access to critical company information, allowing them to potentially profit before public disclosures. Due to these concerns, regulatory bodies such as the U.S. Securities and Exchange Commission (SEC) actively enforce insider trading restrictions, aiming to prevent the misuse of privileged information and uphold market integrity. Despite its theoretical appeal, strong-form EMH faces practical challenges, as complete informational parity among investors remains difficult to achieve.

2.8 The Behavioral Finance Critique

Behavioral finance continues to challenge traditional financial theory by emphasizing the psychological and cognitive factors that influence investor decision-making. Unlike classical models that assume rational agents and efficient markets, behavioral finance posits that investors frequently misprocess information and make systematically suboptimal choices. Recent studies affirm this view. For instance, Fang and Wang (2024) demonstrate that investors often misestimate probabilities due to anchoring and regret aversion, leading to persistent mispricing and momentum effects. Chen, Kim, and Lee (2023) provide global evidence of behavioral biases such as overconfidence and loss aversion, which distort asset allocation and reduce portfolio efficiency. Herding behavior remains a prominent bias, as shown by Kumar and Goyal (2022), who find that retail investors in emerging markets tend to follow crowd behavior rather than independent analysis, exacerbating volatility and speculative bubbles. In contrast, contrarian strategies, where investors deliberately trade against prevailing market sentiment, have been shown to yield abnormal returns in inefficient markets, as evidenced by Zhang and Zhao (2024). These insights underscore the limitations of traditional models and highlight the importance of incorporating behavioral dynamics into financial analysis and investment strategy.

2.9 Age, Gender and Risk

Recent research continues to affirm the influence of psychological traits and demographic factors on financial decision-making, particularly in relation to overconfidence and risk tolerance. Chen et al. (2023) provide updated evidence that men, especially younger and single men, exhibit significantly higher trading frequency and risk-taking behavior than women, consistent with longstanding findings in behavioral finance. Their study confirms that gender-based overconfidence remains a robust predictor of excessive trading and suboptimal portfolio performance. Regarding age and financial risk tolerance, Lusardi and Mitchell (2022) highlight that risk aversion tends to increase with age, driven by declining cognitive flexibility and shorter investment horizons. Similarly, Klapper et al. (2023) find that younger investors are more likely to engage in high-risk financial activities, while

older individuals prefer conservative strategies, particularly in retirement planning contexts. Almenberg and Säve-Söderbergh (2021) further demonstrate that age-related differences in financial literacy and confidence levels contribute to varying risk preferences, with younger cohorts displaying greater optimism and tolerance for volatility. These findings reinforce the view that age and gender significantly shape investment behavior, with younger men being the most prone to overconfidence and risk-seeking strategies.

3.0 Methodology

To assess market efficiency at the LuSE, the study examined investment strategies used by fund managers through a structured survey using questionnaires. This method enabled the collection of primary data by asking carefully designed and consistent questions to participants. Surveys, as noted by Eggleston, J. (2024), are cost-effective, easy to administer, allow for the study of various variables, and support generalization of findings. As such, the study employed a communication-based research design, where data was gathered through self-administered questionnaires, some distributed via email. Measurement involved developing appropriate scales for each variable, considering reliability, validity, and practicality. Data analysis was conducted using IBM SPSS Statistics version 26, which provided descriptive statistics and bivariate Pearson correlation coefficients to interpret relationships between variables.

3.1 Study Site

The LuSE, established in 1993 with support from the IFC and World Bank, began operations on 21st February 1994. It currently has 28 listed companies and aims to provide an equitable, efficient, and transparent platform for wealth creation in Zambia. There are six registered brokerage firms operating on the exchange. The study's target population was drawn from the Capital Markets Association of Zambia (CMAZ), a non-profit, non-political body representing capital market participants under the Securities Act of 2016. The equity capital markets at the LuSE operate from 2nd Floor, MAMCo House, Plot 316B, Independence Avenue, Lusaka, Zambia. LuSE is located at exactly 15º25'36" S and 28º36'44" E in Lusaka, the capital city of Zambia.

3.2 Target Population and Sample Size

According to Holtom et al. (2022) the target population includes individuals or sources that hold the necessary information to answer research questions. Clearly defining this population is essential for evaluating the sample's credibility and the research results. In this study, the target population consisted of 56 investment managers and analysts involved in market analysis and stock trading, all registered with the Capital Markets Association of Zambia. The study was conducted within the context of the LuSE. When studying an entire population is impractical but the population size is known, a smaller representative sample can be selected using random sampling. Adam (2020) suggests that Slovin's formula is a useful tool for determining an appropriate sample size with a specified level of accuracy. In this study, Slovin's formula was applied to calculate the sample size, using a 95% confidence level and a 0.05 margin of error, which was considered sufficiently accurate. The formula is expressed as:

$$n = \frac{N}{1+Ne^2} \tag{3.1}$$

$$n = \frac{56}{1 + 56 \times (0.05)^2}$$

$$n = 49.12$$

Where:

n is the estimated sample size

N is the total population

e is the margin of error

The sample size was rounded off to 49 and these constitute investment managers that are active at the LuSE.

3.3 Data Analysis

The study adopted a quantitative research method, utilizing statistical techniques to examine the variables, their effects, interrelationships, and patterns of interaction within the capital market context. The use of computer software significantly streamlined the process of statistical computation and data interpretation, enhancing both accuracy and efficiency. Data analysis was conducted using IBM SPSS Statistics version 26, which facilitated the application of various descriptive and inferential statistical tools. Descriptive analysis included the use of frequency distributions, tables, bar charts, and histograms to summarize and visually represent the data, providing clear insights into the characteristics of the variables under study. To assess the strength and direction of relationships between pairs of variables, the study employed the bivariate Pearson correlation coefficient. This measure of association is particularly useful in identifying linear relationships, making it well-suited for analyzing the investment strategies and market behaviors observed among investment managers participating at LuSE.

4.0 Results and Discussion

4.1 Demographic Profile of Respondents

To contextualize the perceptions of market efficiency, it was essential to examine the age and gender composition of the survey participants. Prior research in behavioural finance and economics indicates that risk tolerance is significantly influenced by demographic factors such as age and gender (Chen et al., 2023), which may, in turn, shape individual perspectives on market efficiency. As shown in Table 4.1, the age distribution of the respondents revealed that the majority (53%) were between 45 and 49 years old. The second largest group (35%) fell within the 50–54 age range, while the smallest proportion (12%) comprised individuals aged 40 to 44. Regarding gender, thirty-one respondents (63%) were male and 18 (37%) were female, indicating a modest gender imbalance in the sample. This demographic profile suggests that the sample was composed of mid-career professionals, whose investment decisions may be shaped by accumulated experience and a moderate risk

appetite. Such characteristics are likely to influence their interpretation of market signals and their confidence in the efficiency or inefficiency of financial markets.

Table 4.1: *Gender and age distribution of the respondents*

Gender

		Frequency	Valid %	Cumulative %
Valid	Male	31.0	63.3	63.3
	Female	18.0	36.7	100.0
	Total	49.0	100.0	

Age (Years)

		Frequency	Valid %	Cumulative %
Valid	40 - 44	6.0	12.2	12.2
	45 - 49	26.0	53.1	65.3
	50 - 54	17.0	34.7	100.0
		49.0	100.0	

Source: Study Results (2024)

4.1.1 Association Between Demographic Factors and Investment Management Strategies

To explore the relationship between demographic attributes and investment behaviour, the study assessed the associations between age, work experience, and investment management strategies. The results revealed a statistically significant positive correlation between age (in years) and passive investment management, $r(47) = 0.202$, $p < 0.01$. The passive management construct was evaluated by examining respondents' tendencies to employ buy-and-hold strategies, indexing and index tracking, avoidance of excessive transaction costs, and the belief that such costs serve as deterrents to active management. These findings align with those of Lusardi and Mitchell (2022), which suggest a decline in risk tolerance as individuals age. Similarly, a mild positive association was found between work experience and passive investment behaviour, $r(47) = 0.154$, $p < 0.01$.

In contrast, age was negatively correlated with active investment management, $r(47) = -0.237$, $p < 0.01$, indicating that the inclination toward active stock selection and the pursuit of market outperformance tends to diminish with age. Active management was assessed by evaluating the respondents' use of technical and fundamental analysis techniques aimed at identifying mispriced securities and achieving above-average returns. Furthermore, a negative correlation was also observed between work experience and active management strategy, $r(47) = -0.199$, $p < 0.01$, suggesting a similar decline in preference for active management among more experienced

investors. These patterns suggest that as investors age and accumulate professional experience, they increasingly favor strategies that emphasize stability, cost-efficiency, and long-term value preservation. This behavioral shift may reflect a growing awareness of market unpredictability and a preference for minimizing exposure to speculative risks.

Table 4.2: *Correlation between age, work experience and the investment management strategies*

		Passive Management	Active Management	Age	Work Experience
Passive Management	Pearson Correlation	1	-.706**	.202**	.154**
	Sig. (2-tailed)		.000	.008	.001
	N		49	49	49
Active Management	Pearson Correlation		1	-.237**	.119**
	Sig. (2-tailed)			.001	.003
	N			49	49
Age	Pearson Correlation			1	.756**
	Sig. (2-tailed)				.000
	N				49
Work Experience	Pearson Correlation				1
	Sig. (2-tailed)				
	N				

**. Correlation is significant at the 0.01 level (2tailed).

Source: Study Results (2024)

4.2 Fund Managers' Perception of Market Efficiency

One of the key objectives of the study was to assess the degree of market efficiency as perceived by fund managers operating within the capital markets. The results indicated that most respondents (59%) perceived the markets as inefficient, while 35% believed the markets were efficient and 3% expressed neutrality on the matter.

Further analysis of this variable, as presented in Table 4.3, revealed a statistically significant positive correlation between age and perceived market efficiency, $r(47) = 0.269$, $p < 0.01$. These findings suggest a stronger belief in market inefficiency among younger analysts and fund managers. This aligns with the observed tendency among younger professionals to engage in stock picking and pursue above-average returns. In contrast, more experienced managers demonstrated a preference for passive investment approaches, driven by the view that transaction costs undermine the viability of active management strategies. These behavioural patterns are consistent with the findings of Malhotra et al. (2023), who concluded that actively managed portfolios tend to yield returns close to zero once adjusted for risk, fees, and expenses.   Moreover, the study identified a strong positive correlation between passive investment management and perceived market efficiency, $r(47) = 0.818$, p

< 0.01. This relationship reinforces the central tenet of the EMH, which asserts that asset prices incorporate all publicly available information, thereby eliminating consistent opportunities for excess returns through active strategies such as market timing or stock selection.

This finding suggests that fund managers who subscribe to the view that markets are informationally efficient are more inclined to adopt passive strategies, such as index tracking, buy-and-hold investing, and minimizing transaction costs. These strategies reflect the belief that attempting to outperform the market is both costly and statistically improbable over the long term. Such alignment between perceived efficiency and investment style highlights the role of cognitive framing in shaping portfolio decisions. It also suggests that belief systems about market behavior may serve as heuristics that guide strategic choices, particularly in environments where empirical validation of active strategies remains elusive. The strength of the correlation further implies a conceptual alignment between market efficiency and rational investor behaviour among fund managers, as those who perceive the market to be efficient recognize the limited value of active management in producing superior risk-adjusted returns.

Table 4.3: *Correlation between age, market efficiency and passive management*

		Age	Market Efficiency	Passive Management
Age	Pearson Correlation	1	.269**	.202**
	Sig. (2-tailed)		.002	.004
	N		49	49
Market Efficiency	Pearson Correlation		1	.818**
	Sig. (2-tailed)			.000
	N			49
Passive Management	Pearson Correlation			1
	Sig. (2-tailed)			
	N			

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Study Results (2024)

By demonstrating such a robust association, the findings underscore the extent to which perceptions of market efficiency influence investment philosophy and portfolio construction decisions, particularly among experienced fund managers operating in emerging markets such as the LuSE.

4.3 Regression Analysis of Market Efficiency and Investment Strategy Metrics

To examine the relationship between analytical strategies and perceived market efficiency, a model summary and coefficient analysis were conducted using bivariate regression techniques. The study revealed that market

efficiency was more strongly negatively correlated with technical analysis, $r(47) = 0.854$, $p < 0.01$, than with fundamental analysis, $r(47) = 0.335$, $p < 0.01$, indicating that technical analysis accounted for a greater proportion of the variation in market efficiency.

Table 4.4: *Model summary and coefficients for the regression equation for predicting the market efficiency from technical analysis.*

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std Error of the Estimate	Durbin-Watson
1	.854[a]	0.729	0.723	0.53936	2.161

a. Predictors: (Constant), Technical Analysis

b. Dependent Variable: Market Efficiency

Coefficients[a]

Model	Unstandardized Coefficients		t	Sig.	95% Confidence Interval for B	
	B	Std Error			Lower Bound	Upper Bound
(Constant)	5.188	0.242	21.407	0.000	4.701	5.676
Technical Analysis	-0.787	0.070	-11.232	0.000	-0.929	-0.646

a. Dependent Variable: Market Efficiency

Source: Study Results (2024)

To further assess this relationship, a bivariate regression was performed to determine the predictive power of technical analysis in explaining market efficiency. The regression equation was defined as $\hat{y} = 5.19 – 0.79x$, where x represents the level of technical analysis employed. The model yielded an R Square (r^2) value of 0.729, as shown in Table 4.4, implying that 72.9% of the variance in market efficiency could be explained using technical analysis. Bootstrapped estimates produced a 95% confidence interval for the slope ranging from -0.929 to -0.646, suggesting that each unit increase in technical analysis activity corresponds to a decrease in market efficiency by 0.65 to 0.93 points. These findings affirm a pronounced inverse relationship between technical analysis and market efficiency, providing evidence of weak-form inefficiency in the Zambian capital markets. This result is consistent with the findings of Mlambo et al. (2021), who reported that, except for South Africa, most African emerging markets exhibited departures from the random walk hypothesis, indicative of weak-form inefficiencies. The implication for investment practice is that technical indicators may be disproportionately relied upon in markets where pricing anomalies persist, thereby undermining the assumptions underpinning the EMH. This underscores the practical relevance of technical analysis in environments where informational asymmetries and

behavioral biases distort price formation. In such contexts, traders may exploit short-term patterns and momentum signals that would otherwise be arbitraged away in more efficient markets. Consequently, the persistence of technical trading strategies may reflect adaptive behavior among market participants responding to structural inefficiencies and limited transparency.

Table 4.5: *Model summary and coefficients for the regression equation for predicting the market efficiency from fundamental analysis.*

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std Error of the Estimate	Durbin-Watson
1	.335[a]	0.113	0.094	0.97531	1.432

a. Predictors: (Constant), Fundamental Analysis
b. Dependent Variable: Market Efficiency

Coefficients[a]

Model	Unstandardized Coefficients		t	Sig.	95% Confidence Interval for B	
	B	Std Error			Lower Bound	Upper Bound
(Constant)	4.408	0.751	5.872	0.000	2.897	5.918
Technical Analysis	-0.569	0.233	-2.441	0.008	-1.038	-0.100

a. Dependent Variable: Market Efficiency
Source: Study Results (2024)

A bivariate regression was conducted to evaluate the extent to which fundamental analysis predicts perceived market efficiency. The resulting regression equation was $\hat{y}$ = 4.41 – 0.57x, where x denotes the level of fundamental analysis undertaken. The model yielded an R Square (r^2) value of 0.113 (Table 4.5), indicating that fundamental analysis explains only 11.3% of the variance in market efficiency. The modest effect size suggests that, while there is a mild inverse relationship between market efficiency and reliance on fundamental analysis, the predictive power is limited. This is consistent with the EMH, which posits that publicly available information, such as financial statements, industry trends, and macroeconomic indicators, is already reflected in asset prices, thereby minimizing the potential for abnormal returns through fundamental evaluation alone. These results imply that while both technical and fundamental analysis are actively employed by market participants, their effectiveness in predicting market efficiency varies significantly. The stronger inverse relationship observed with technical analysis suggests that behavioral factors and price anomalies may play a more prominent role in shaping perceptions of inefficiency within the Zambian capital markets. This divergence in explanatory power highlights the nuanced interplay between analytical approaches and market structure. In environments where

informational asymmetries and investor sentiment dominate, technical analysis may offer more actionable insights than traditional valuation metrics. Consequently, the limited predictive strength of fundamental analysis reinforces the need for multi-dimensional frameworks that integrate behavioral and informational dynamics when assessing market efficiency.

These findings provide empirical support for the presence of semi-strong form efficiency in Zambia's capital markets. In such a setting, the use of publicly accessible data contributes minimally to outperforming the market, reinforcing the notion that information transparency and rapid dissemination have diluted the advantage traditionally associated with fundamental strategies.

5.0 Conclusion

This study examined market efficiency at the Lusaka Securities Exchange Plc. with a particular focus on fund managers' perceptions and the predictive influence of technical and fundamental analysis. The findings revealed a dominant belief among participants that the market is inefficient, particularly among younger and less experienced fund managers who exhibited a stronger inclination toward active investment strategies. Technical analysis showed a substantial inverse relationship with market efficiency, accounting for 72.9% of its variance, an indication of weak-form inefficiency consistent with prior studies on African capital markets. By contrast, fundamental analysis contributed minimally to explaining market efficiency, aligning with the semi-strong form of the EMH, which posits that publicly available information is already incorporated into asset prices.

These outcomes underscore the need for improved information dissemination and transparency within the LuSE. Enhancing the timeliness and accessibility of market data may foster more rational investment behaviour, strengthen investor confidence, and ultimately contribute to the evolution of a more efficient capital market in Zambia.

Implications of the Study

The study identifies two practical implications and areas of focus: Enhanced Market Transparency and Strengthening Investor Education.

1) *Enhanced Market Transparency.* The significant reliance on technical analysis suggests that investors may lack confidence in the quality and timeliness of publicly available financial data. Market regulators and listed companies should prioritize standardized, timely, and accessible reporting of financial and operational information. Further, integrating digital platforms for real-time disclosures could promote better-informed decision-making and gradually improve perceived market efficiency.

2) *Strengthening Investor Education.* The correlation between investor experience and efficiency perceptions indicates a potential gap in understanding market dynamics. Targeted programs that demystify financial analysis techniques and promote critical appraisal of investment strategies could reduce speculative behavior. Collaboration between academia, regulatory bodies, and financial institutions can foster sustained professional development and elevate market maturity.

The study also suggests two policy implications and areas of focus: Strengthen Regulatory Framework for Disclosure Standards and Foster Investor Participation through Institutional Reform

1) *Strengthen Regulatory Framework for Disclosure Standards*. The limited role of fundamental analysis in predicting market efficiency indicates possible deficiencies in the availability and reliability of publicly disclosed information. Policymakers should implement stricter requirements for periodic reporting by listed entities, ensuring accuracy, frequency, and comparability across firms. Encouraging integrated reporting frameworks - combining financial, environmental, and governance data - can enhance transparency and support investor decision-making.

2) *Foster Investor Participation through Institutional Reform*. The perception of inefficiency among younger and less experienced fund managers reflects structural barriers to inclusive market participation. Regulatory bodies may consider initiatives that promote broader access to capital markets, such as reduced transaction costs, simplified onboarding procedures, and investment education mandates. Creating incentives for institutional research and data-sharing partnerships with academia could also enrich the information ecosystem and support efficient pricing.

The findings of this study highlight key areas for market development at the Lusaka Securities Exchange. Practically, there is a need to improve data accessibility and enhance investor education to support more informed decision-making and reduce speculative tendencies. At a policy level, strengthening disclosure standards and fostering inclusive participation through regulatory reform are essential to building a more transparent and efficient market. Together, these implications provide actionable pathways for stakeholders aiming to bridge informational gaps and nurture sustainable capital market growth in Zambia.

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