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Stock Market Investment Performance: The Role of Risk Management Practices, Portfolio Diversification, And Market Timing Ability

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ABSTRACT: This research explores the combined influence of risk management techniques, portfolio diversification, and market timing skills on stock market investment success among individual investors in the United States. Drawing on Modern Portfolio Theory, the Efficient Market Hypothesis, and insights from behavioral finance, it frames strong performance as a risk-adjusted result stemming from consistent and thoughtful strategic decisions, rather than mere pursuit of high returns. Data were gathered through a structured questionnaire completed by 385 active investors, with responses captured on a 5-point Likert scale; the analysis employed SPSS for reliability checks, exploratory factor analysis, and multiple regression to evaluate the hypothesized links. The findings reveal three key drivers with significant positive effects: risk management practices (β = 0.648), diversification (β = 0.683), and timing ability (β = 0.696), highlighting that better results emerge from the coordinated use of careful risk oversight, broad asset spreading, and selective timing adjustments, not from any one approach alone. By integrating traditional finance principles with adaptive and psychological viewpoints, the study fills a notable void in prior work that often treated these elements separately. Ultimately, it provides actionable advice for investors and financial advisors aiming to develop robust strategies suited to the challenges of fast-evolving and unpredictable markets.

KEYWORDS: Stock market investment performance; Risk management practices; Portfolio diversification; Market timing ability.

1. INTRODUCTION

Stock market investment performance has long served as a central measure in financial economics, revealing how skillfully investors convert information, money, and risk into actual returns. Traditional finance theory ties it closely to the idea of efficient markets and asset pricing models, where expected returns simply reflect the systematic compensation for bearing risk (Fama, 1970). From this angle, strong performance emerges as the natural result of rational choices in highly competitive settings. Modern portfolio theory then shifts the focus toward building better portfolios, showing that thoughtful diversification can deliver higher returns without taking on extra risk (Markowitz, 1952). Later work brings in a more realistic, time-varying picture, recognizing that investors continually adapt their strategies as markets and risk outlooks evolve (Merton, 1973). Meanwhile, behavioral finance adds another important layer by showing how human emotions, biases, and imperfect information processing often influence the returns people actually achieve (Barberis et al., 1998). Taken together, these perspectives paint investment performance as a rich, multi-dimensional outcome shaped by the fundamental tension between risk and reward, smart portfolio choices, and the dynamic ways people respond to an ever-changing market environment.

Both past and recent research frame stock market investment performance largely as the outcome of how well investors handle risk, spread their exposures across assets, and try to time market movements. Studies consistently find that diversification tends to produce better risk-adjusted returns, yet sophisticated, model-driven “optimal” portfolios often disappoint in real-world, out-of-sample tests, mainly because parameter estimation errors and shifting correlations undermine their edge (DeMiguel et al., 2009). On the timing front, the evidence is more divided: while some conditional and liquidity-sensitive approaches uncover genuine timing ability among a narrow group of managers, the typical investor’s timing contribution is either negligible or negative once transaction costs are taken into account (Yin et al., 2024a; Yin et al., 2024b). At the same time, other work points to a stubborn disconnect between elegant portfolio theory and actual risk management in practice, where institutional constraints, mandates, and everyday implementation frictions exert far greater influence on outcomes than standard optimization models would suggest (Lee & Eid Junior, 2018). These different lines of inquiry reveal important shortcomings in earlier research, including the tendency

to examine risk management, diversification, and timing in isolation, the heavy dependence of results on the specific evaluation method (conditional versus unconditional), and the limited attention paid to real-world frictions. This study seeks to close that gap by modeling risk management practices, the quality of diversification, and timing skill together as interconnected drivers of performance, allowing a single, coherent empirical framework to assess their individual and joint contributions (DeMiguel et al., 2009; Lee & Eid Junior, 2018).

This study sets out to address three closely related questions: (1) How much do deliberate risk management practices shape stock market investment performance? (2) In what ways does the quality of portfolio diversification influence risk-adjusted returns? (3) To what extent does the ability to time market conditions meaningfully enhance performance? At its core, the research investigates how investors' strategic choices across these three dimensions—risk management, diversification, and market timing—drive differences in achieved performance. It first examines whether structured approaches to controlling risk can effectively limit losses while preserving consistent returns. It then assesses how well-diversified portfolios improve the balance between risk and reward across various asset mixes. Finally, it evaluates whether the skill of adjusting exposure in response to changing market signals adds real value beyond simply holding a fixed allocation. What makes this work distinctive is its integrated approach: rather than studying these factors in isolation, as much of the prior literature has done, the study brings them together to provide a more complete picture of what actually determines investment outcomes. In doing so, it offers both a richer theoretical understanding of performance drivers and practical guidance for investors, portfolio managers, and advisors seeking to build more robust, effective strategies in today's unpredictable and fast-moving markets.

2. LITERATURE REVIEW

2.1. Stock Market Investment Performance

Stock market investment performance captures how well investors' choices in equities translate into returns that fairly reflect the risks they have taken over a specific period. In the academic literature, it is typically measured through a combination of raw returns and risk-adjusted metrics—such as Jensen's alpha, the Sharpe ratio, and the Treynor ratio—that together reveal both profitability and efficiency in handling risk (Sharpe, 1966; Jensen, 1968). Under the lens of market efficiency, strong performance signals an investor's skill in interpreting available information and generating returns that match or surpass what the market deems appropriate for the level of risk assumed (Fama, 1970). At its heart, then, this concept serves as the key yardstick for judging the real-world effectiveness of any investment approach.

Theoretically, stock market investment performance holds a pivotal place in modern finance because it brings together the results of risk control, asset allocation decisions, and strategic judgment. Modern Portfolio Theory emphasizes that true performance should be judged not just by how much money is made, but by how successfully risk is tamed through diversification (Markowitz, 1952). Asset pricing models, from the Capital Asset Pricing Model to later multifactor frameworks, further frame performance as the degree to which returns properly reward exposure to systematic risks (Fama & French, 2015). In this light, investment performance becomes far more than a simple financial result—it acts as a revealing measure of decision-making quality, discipline, and the practical application of financial principles amid uncertainty.

Empirical work consistently shows that performance differs widely across investors and tends to be unstable over time. Numerous studies find that the large majority of individual investors, and even many professional managers, struggle to beat market benchmarks on a risk-adjusted basis after accounting for costs (Barber & Odean, 2000; Fama & French, 2010). These patterns highlight that realized outcomes depend not only on broader market conditions but also on investors' behavioral patterns, portfolio management ability, and the strength of their risk controls. Ultimately, stock market investment performance stands as a vital sign of both how well financial markets channel capital and how capably investors manage to operate within an inherently complex and unpredictable environment.

2.2. Critical Analysis of Theoretical Frameworks

2.2.1. Modern Portfolio Theory

Modern Portfolio Theory, pioneered by Markowitz in 1952, remains a cornerstone for understanding stock market investment performance, offering a clear framework that ties together risk management, diversification, and expected returns. At its core, MPT views superior performance as the result of thoughtful portfolio building, where rational, risk-averse investors aim to achieve the highest possible return for any given level of risk by spreading investments across assets whose returns do not move in lockstep. Rather than treating risk as the ups and downs of single securities, the theory focuses on how assets covary, turning diversification into a powerful tool for eliminating unnecessary (unsystematic) risk without sacrificing potential gains. In this way, strong performance flows directly from an investor's skill in allocating capital efficiently across imperfectly correlated holdings.

Later developments have strengthened this perspective by treating variance as a concrete, measurable stand-in for risk and highlighting the value of systematic risk evaluation and regular portfolio rebalancing (Fabozzi et al., 2010). Consequently, MPT provides a solid theoretical foundation for why well-structured risk management and meaningful diversification tend to deliver better risk-adjusted outcomes, while also serving as the bedrock for modern asset pricing models and performance benchmarks that connect portfolio efficiency to real-world results (Fama & French, 2015).

The theory rests on the assumptions that investors act rationally, dislike risk, rely on expected returns and variance to gauge risk, expect asset returns to follow a normal distribution, trust in stable correlations, and operate in markets free of trading frictions or information barriers—conditions that together allow the construction of truly efficient portfolios and meaningful risk–return comparisons (Markowitz, 1952; Elton & Gruber, 1997).

2.2.2. Social Semiotic Theory of Color

The Efficient Market Hypothesis (EMH) provides a powerful complementary lens for understanding stock market investment performance, placing information processing and market timing at the center of the discussion. According to EMH, asset prices quickly and fully incorporate all available information, which means that consistently beating the market is extremely difficult unless an investor possesses superior information or genuine skill (Fama, 1970). In this view, investment performance becomes a practical test of how well investors interpret, respond to, or even anticipate the information already reflected—or about to be reflected—in prices. Market timing, therefore, holds theoretical value only to the extent that an investor can adjust portfolio exposure before new information triggers price changes.

From a performance standpoint, EMH sets a clear benchmark for judging active strategies: if markets are truly efficient, returns should primarily reflect exposure to systematic risk rather than any consistent edge in timing or stock selection (Fama, 1991). At the same time, the hypothesis leaves room for meaningful performance differences under conditional efficiency, where investors can respond to shifting risk premia and macroeconomic indicators (Ferson & Schadt, 1996). Here, market timing emerges as a dynamic skill that allows investors to adapt their exposure to evolving conditions. Overall, EMH frames stock market investment performance as the outcome of effective information assimilation, timely and disciplined responsiveness, and sound risk management in the face of uncertainty, rather than the repeated exploitation of mispricing. The theory rests on the assumptions that market participants process information rationally, that new information is rapidly and accurately reflected in prices, and that competitive markets with low trading costs and unrestricted arbitrage keep any mispricing brief and fleeting (Fama, 1970; Fama, 1991). Under these conditions, performance is best explained by systematic risk exposure and the quality of information handling, rather than by persistent abnormal returns.

2.3. The Impact of Risk Management Practices

Risk management practices refer to the systematic and intentional steps investors take to identify, measure, track, and mitigate financial risks, with the goal of steadying returns and safeguarding capital. These practices include well-established techniques such as spreading investments across assets, using hedging instruments, setting limits on potential losses, and applying quantitative models to keep risk and reward in balance (Jorion, 1997; Dionne, 2013).

From the standpoint of neoclassical economics and expected utility theory, risk management is indispensable: investors are seen as naturally risk-averse, seeking to maximize utility rather than simply chasing the highest possible return. Modern Portfolio Theory builds directly on this idea, demonstrating that even strong expected returns lose appeal if they come with excessive, unmanaged volatility (Markowitz, 1952). In this light, stock market investment performance is fundamentally a risk-adjusted result, and skillful risk management improves it by steering actual outcomes toward the most efficient trade-off between risk and return (Elton & Gruber, 1997). Asset pricing theory, particularly through the Capital Asset Pricing Model and later multifactor frameworks, reinforces the point by showing that markets compensate only for systematic risk in equilibrium; exposure to avoidable idiosyncratic or downside risks simply drags performance down without adding reward (Fama & French, 2015). Taken together, effective risk management practices act as the critical bridge that keeps a portfolio's risk profile aligned with the factors that are genuinely priced, thereby fostering more consistent and sustainable investment performance over time.

Behavioral finance, building on Prospect Theory, adds a vital human dimension to our understanding of risk management by showing how deeply ingrained psychological biases—overconfidence, loss aversion, and the tendency to sell in panic—regularly erode investment performance (Kahneman & Tversky, 2013; Barberis, 2013). In this light, well-designed risk management practices serve as practical safeguards against emotional impulses: by enforcing clear rules, stop-loss thresholds, and disciplined procedures, they help investors stay steady when markets turn volatile, thereby protecting and often improving overall outcomes. From the standpoint of decision theory and bounded rationality, these same practices embody instrumental reason, functioning as analytical tools that extend human judgment, reduce inconsistencies, and limit costly mistakes under uncertainty (Simon, 1978). Yet systemic

risk and institutional perspectives offer an important counterpoint, warning that when many investors rely on similar quantitative models, the resulting herd behavior can amplify market swings and create endogenous risks that undermine individual performance gains during crises (Danielsson & Shin, 2003; Danielsson et al., 2018). Bringing these strands together—neoclassical foundations, behavioral insights, decision-making philosophy, and systemic considerations—risk management practices reveal themselves as a rich, multifaceted tool. When applied thoughtfully and flexibly rather than rigidly, they strengthen stock market investment performance by smoothing return patterns, countering psychological pitfalls, and keeping risk exposure aligned with factors the market actually rewards. This study therefore proposes the following hypothesis:

H1: Risk Management Practices have a positive impact on Stock Market Investment Performance.

2.4. The Impact of Portfolio Diversification

Portfolio diversification involves spreading investments across a range of assets or asset classes whose returns do not move in perfect unison, with the aim of lowering overall portfolio risk while keeping expected returns as high as possible. Modern Portfolio Theory treats this as a cornerstone of sound investing: by carefully choosing assets with low or negative correlations, investors can eliminate much of the unique, asset-specific risk that offers no extra reward, thereby moving the portfolio closer to the efficient frontier where risk is minimized for any desired level of return (Markowitz, 1952). Later work has solidified diversification's status as an essential element of rational portfolio building and a standard yardstick for judging risk-adjusted performance (Elton & Gruber, 1997). In today's markets, the principle is deeply embedded in everyday practice through index funds, ETFs, and multi-asset strategies, making broad diversification the default recommendation for most investors. Yet research continues to show that many people still fall short, often holding overly concentrated positions due to behavioral habits like home-country bias or overconfidence in familiar stocks (Goetzmann & Kumar, 2008).

From a theoretical perspective, the link between diversification and superior stock market investment performance is straightforward and compelling. Neoclassical economics and expected utility theory assume investors dislike risk and aim to maximize utility rather than raw returns; in this view, diversification boosts performance simply by cutting portfolio volatility, which raises utility even if expected returns stay the same (Markowitz, 1952). Asset pricing models take the argument further, asserting that markets compensate only systematic risk, leaving unsystematic risk unrewarded. Investors who fail to diversify therefore bear unnecessary volatility that drags down risk-adjusted results (Fama & French, 2015). When diversification is done thoughtfully—through wide asset coverage, balanced sector exposure, and attention to correlation patterns—stock market investment performance tends to improve noticeably, especially when measured on volatility-adjusted or risk-controlled benchmarks.

Although the theoretical case for diversification is robust, empirical research reveals a lively and sometimes conflicting picture of just how much—and how reliably—it improves stock market investment performance. One body of evidence strongly supports the idea, showing that individual investors who hold under-diversified portfolios suffer noticeably higher volatility and weaker risk-adjusted returns, while those who spread their holdings more broadly enjoy steadier and often better outcomes (Goetzmann & Kumar, 2008). Studies also highlight diversification's value in bolstering resilience, particularly when portfolios are structured to protect against multiple sources of downside risk during turbulent market episodes (Ang et al., 2006). On the other hand, a different line of work cautions that the benefits can be modest, inconsistent, or highly context-sensitive. Sophisticated optimization-based diversification strategies frequently stumble in real-world tests because small errors in estimating returns or covariances lead to portfolios that perform no better—and sometimes worse—than simple rules such as equal weighting (DeMiguel et al., 2009). During severe market downturns, correlations between assets often rise sharply, eroding diversification's protective power (Longin & Solnik, 2001), and behavioral tendencies push many investors toward naïve approaches like splitting money evenly across holdings, which capture only a fraction of the theoretical gains (Benartzi & Thaler, 2001).

Bringing these findings together, the evidence suggests that diversification tends to support stronger investment performance overall, but the size of the advantage hinges on how thoughtfully it is implemented, the prevailing market environment, and the investor's ability to adapt to changing conditions. When carried out with attention to correlation patterns, downside protection, and shifts in market regimes, diversification creates a solid foundation for meaningful improvements in risk-adjusted returns. This study therefore advances the following hypothesis:

H2: Portfolio Diversification has a positive impact on Stock Market Investment Performance.

2.5 The impact of Market Timing Ability

Market timing ability refers to the skill of an investor or portfolio manager in deliberately adjusting the level of market exposure—whether by changing portfolio beta, shifting between asset classes, or varying cash holdings—in anticipation of future market direction. The aim is straightforward: to increase risk exposure ahead of expected upturns and reduce it before anticipated declines. In the classic finance literature, this ability is understood as the capacity to produce a convex payoff pattern relative to

overall market returns, achieved by raising exposure when conditions look favorable and lowering it when they do not (Treynor & Mazuy, 1966).

The Efficient Market Hypothesis casts doubt on the possibility of consistently profiting from market timing, arguing that prices adjust so swiftly to new information that sustained abnormal gains from timing are rare and difficult to achieve (Fama, 1970; Fama, 1991). Still, more recent views recognize that expected returns and risk premia are not constant; they shift with macroeconomic conditions and other state variables, opening potential opportunities for meaningful timing under conditional asset-pricing models (Ferson & Schadt, 1996). In modern markets—where information spreads almost instantly, algorithms dominate trading, and passive investing is cheap and widespread—many investors attempt to time their exposure, yet solid evidence of reliable skill remains scarce, with most showing little to no net benefit after accounting for costs (Bollen & Busse, 2001). Theoretically, market timing ability holds strong appeal as a driver of stock market investment performance because returns ultimately depend on how dynamically investors adjust their risk exposure. From a neoclassical perspective, timing represents a natural extension of portfolio choice over time: investors can improve risk-adjusted outcomes by increasing exposure when the expected reward for risk is attractive and scaling back when it is not, adapting as the opportunity set changes (Merton, 1973). Conditional asset-pricing models reinforce this logic, suggesting that sensitivity to time-varying risk premia allows for better performance than a fixed allocation strategy (Ferson & Schadt, 1996). Philosophically, effective timing reflects instrumental rationality—using systematic rules, indicators, or models to translate uncertain signals into deliberate "risk-on" or "risk-off" decisions rather than impulsive reactions. Behavioral finance, however, reminds us that timing is also deeply psychological: sentiment, trend extrapolation, and overconfidence often lead to poor decisions, so genuine timing skill, when it exists, should help investors avoid destructive herd behavior and emotional extremes, thereby supporting stronger performance (Barberis, 2013).

When investors deliberately cultivate market timing ability—through sharper information analysis, carefully designed signals, regime-sensitive risk allocation, and strict discipline—it can meaningfully lift stock market investment performance through two primary channels. First, by reducing exposure before significant downturns, skillful timing strengthens downside protection, which preserves capital and boosts long-term compounded returns even when average returns are comparable, since large losses inflict outsized damage on wealth growth. Second, by ramping up exposure during periods when the expected reward for bearing risk is unusually attractive, timing improves upside participation and enhances risk-adjusted metrics, provided these adjustments remain cost-effective and are not executed too frequently (Henriksson & Merton, 1981; Ferson & Schadt, 1996). In this way, market timing ability does not supplant diversification or risk management but works alongside them, determining when it makes sense to carry risk rather than how much risk to carry.

The empirical literature, however, remains divided on how much timing actually matters in practice. Some studies find that a select group of skilled managers display genuine, statistically detectable timing ability, especially when evaluation models allow for time-varying risk exposures and higher-frequency decisions (Bollen & Busse, 2001). This perspective aligns with the Adaptive Markets Hypothesis, which views efficiency as dynamic rather than fixed: timing advantages may emerge in certain market conditions and then diminish as competition, technology, and learning evolve (Lo, 2004). Other research, by contrast, concludes that the average effect is modest or neutral once real-world frictions are considered; in near-efficient markets, the bar for consistent outperformance through timing is extremely high, and trading costs, execution slippage, model uncertainty, and rapidly shifting volatility regimes often erode any gross benefits (Fama, 1991). Synthesizing these views, the theoretical and empirical record suggests that market timing ability holds genuine potential to improve stock market investment performance, but the strength of that contribution hinges on whether it stems from real skill, is applied with rigor and restraint, and withstands practical challenges. On the basis of this integrated understanding, the present study proposes the following hypothesis:

H3: Market Timing Ability has a positive impact on Stock Market Investment Performance.

Building on established theoretical foundations, this study extends existing literature by proposing the following conceptual framework.

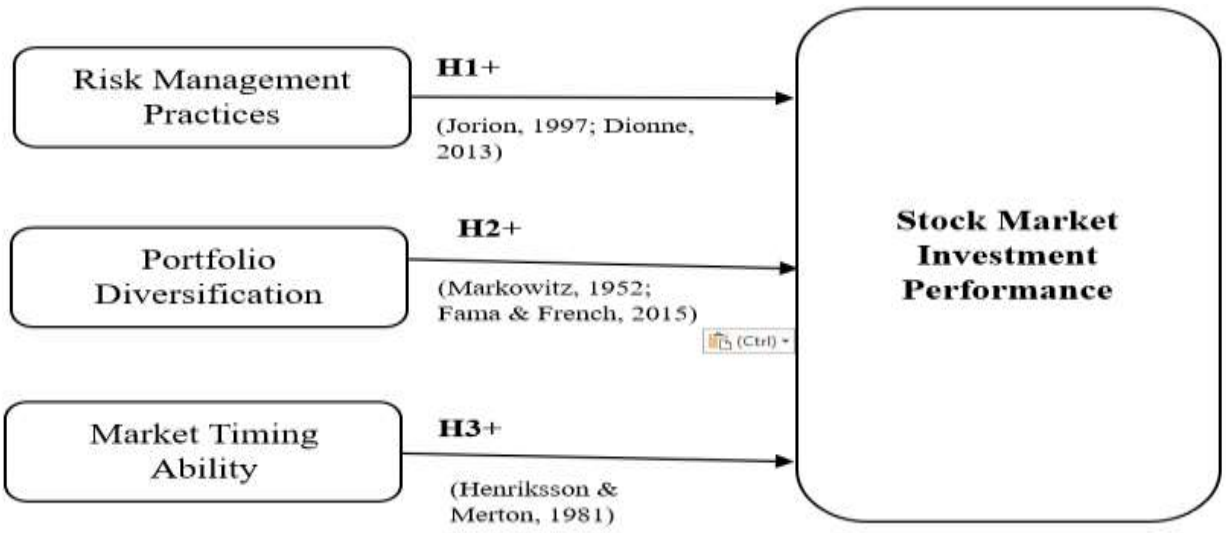

Figure 1: The Paper Conceptual Framework

3. METHODS

3.1. Sampling Strategy

This study employs a quantitative approach to investigate the combined influence of risk management strategies, portfolio diversification, and market timing skills on the investment performance of individual stock market participants in in the United States. In line with established research in financial economics, a survey method was chosen to convert complex investment behaviors and abilities into concrete, quantifiable variables appropriate for statistical analysis. Drawing on Bryman's (2016) recommendations for probability sampling, the study used stratified random sampling to improve the sample's representativeness and minimize bias across varied investor groups. The strata were defined by important attributes, including years of investing experience, frequency of trading, and main types of market involvement (such as stocks only, funds, or diversified holdings). All data were gathered within the United States, in keeping with the research's emphasis on an economy marked by fast-paced financial growth, rising numbers of retail investors, and considerable market fluctuations. Respondents were recruited via brokerage firms, investor associations, online trading forums, and financial learning networks, with the requirement that participants had been actively trading in the in the United States' stock market for a minimum of one year to guarantee meaningful experience with risk control, diversification decisions, and timing practices.

A carefully constructed questionnaire, employing a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), was created by adapting validated instruments from existing studies on investment outcomes, portfolio diversification, and market timing proficiency. The survey aimed to measure investors' disciplined methods for managing risk, the extent and equilibrium of their asset allocations, and their proficiency in shifting positions amid evolving market signals. Following a thorough data cleaning process that eliminated partial or contradictory submissions, the study secured 385 usable responses. This number meets standard guidelines for conducting multivariate statistical procedures and delivers sufficient power for reliable hypothesis testing, supporting findings that can be confidently applied to individual investors in the United States' stock market.

3.2. Data Analysis

The survey responses were processed through SPSS software to maintain clarity, precision, and alignment with established research practices. The analytical procedure started with descriptive summaries that outlined participants' backgrounds, trading profiles, and preliminary trends in the core variables. Next, internal consistency was evaluated via Cronbach's alpha coefficients, with every scale surpassing the conventional benchmark of 0.70, confirming high reliability and sound measurement quality across the constructs (Hair et al., 2009).

To confirm the dimensional structure of the key constructs, the study conducted exploratory factor analysis (EFA) applying principal component extraction and varimax rotation. Any items showing factor loadings under 0.50 or notable cross-loadings were excluded to achieve greater clarity, convergent validity, and alignment with theoretical expectations (Hair et al., 2009). The refinement process yielded a clear and distinct factor pattern that accurately reflected the four core elements: risk management practices, portfolio diversification, market timing ability, and overall stock market investment performance. Once reliability and validity were satisfactorily confirmed, multiple linear regression was utilized to examine the study's hypotheses. Individual regression models were run to assess the direct impacts of risk management practices (H1), portfolio diversification (H2), and

market timing ability (H3) on investment performance (Shrestha, 2020), with all results interpreted at the $p < 0.05$ level of significance. This approach was selected intentionally, as it offers a straightforward evaluation of each strategy's unique role in driving performance, while preserving ease of interpretation and consistency with prevailing empirical approaches in finance—especially those focused on dynamic markets like the US.

4. RESULTS

4.1. Descriptive Statistical Analysis

Table 1. Cross-Tabulation of Respondent Characteristics

Characteristic	Category	Percentage (%)
Recruitment Channel	Securities company / brokerage firm	28%
	Investment club / investor association	18%
	Online trading / investment community	36%
	Financial education / training network	14%
	Other	4%
Investment Experience	Less than 1 year	13%
	1 to less than 3 years	33%
	3 to less than 5 years	26%
	More than 5 years	24%
	Other	4%
Trading Frequency	Less than once per month	22%
	1–3 times per month	23%
	1–2 times per week	30%
	More than 2 times per week	25%
Portfolio Structure	Mainly individual stocks	22%
	Stocks combined with funds / ETFs	28%
	Mainly funds / ETFs	11%
	Diversified portfolio (stocks, funds, cash, etc.)	35%
	Other	4%

Source: (The authors, 2025)

The results in table 1 display a varied and evenly distributed profile of participants, reflecting differences in how they were recruited, their years of investing, trading activity levels, and the makeup of their portfolios. When it comes to recruitment sources, the biggest portion of respondents came from online trading platforms and investment forums (36%), with brokerage firms and securities companies close behind (28%). Investment clubs and associations made up 18% of the sample, whereas financial training programs and educational networks supplied 14%. Only a minor segment (4%) chose the "Other" category, suggesting they were reached through less common or combined channels not listed in the questionnaire. As for investment experience, most participants had considerable time in the in the United States' stock market: the largest group reported between one and three years (33%), followed by three to five years (26%), and over five years (24%). Those with under one year of experience comprised 13%, while 4% indicated "Other," likely pointing to atypical or sporadic involvement in investing.

Respondents showed notable differences in trading frequency, and unlike some other items, this question did not offer an "Other" option. Around 30% indicated that they adjusted or traded in their portfolios one to two times per week, while 25% reported doing so more than twice weekly, together highlighting a sizable group of relatively active traders. In contrast, 23% engaged in trading one to three times per month, and 22% did so less than once a month, reflecting a preference for more patient, buy-and-hold styles among these participants. As for portfolio composition, the results pointed to generally solid diversification practices. The most common setup was a broad mix that included stocks alongside funds, cash, or additional asset types (35%), followed by holdings that combined individual stocks with funds or exchange-traded funds (28%). Pure equity portfolios focused mainly on individual stocks comprised 22% of the sample, while those centered primarily on funds or ETFs accounted for 11%; a small share (4%) chose "Other," likely indicating unconventional or specialized allocations.

4.2. Reliability analysis

Table 2. Reliability analysis of "Stock Market Investment Performance".

Reliability Statistics

Cronbach's Alpha	N of Items
.803	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SMIP1	6.833	3.691	.703	.717
SMIP2	7.090	6.029	.749	.751
SMIP3	6.900	7.311	.745	.768
SMIP4	7.655	8.058	.771	.782

Source: (The authors, 2025)

Where the survey items denoted as SMIP1–SMIP4 were directly aligned with Questions 1 to 4, which were intentionally designed to operationalize the construct of stock market investment performance.

As reported in Table 2, all observed indicators of the dependent variable recorded corrected item–total correlation coefficients exceeding the minimum threshold of 0.30. The overall internal consistency of the scale was confirmed by a Cronbach's alpha value of 0.803, surpassing the widely accepted cutoff of 0.70, and the exclusion of any individual item resulted in a reduction of this coefficient (Hair et al., 2009). In addition, the alpha-if-item-deleted values for all four indicators remained higher than their corresponding corrected item–total correlations, indicating that each item made a meaningful contribution to the reliability of the scale (Tavakol & Dennick, 2011). Accordingly, all items were retained for subsequent analyses, and comparable levels of reliability were also identified across the remaining constructs examined in this study.

4.3. Exploratory factor analysis (EFA)

Table 3. Factor Loading Matrix.

Rotated Component Matrix[a]			
Component with loading factors			
1	2	3	4
SMIP1 .598	RMP1 .685	PD1 .654	MTA1 .701
SMIP2 .676	RMP2 .650	PD2 .712	MTA2 .586
SMIP3 .580	RMP3 .640	PD3 .812	MTA3 .594
SMIP4 .682	RMP4 .609	PD4 .623	MTA4 .710
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 7 iterations.			

Source: (The authors, 2025)

Where the items labeled RMP1-RMP4, PD1–PD4, and MTA1–MTA4 were deliberately developed to measure the three independent variables, with each construct operationalized through four specific indicators.

As presented in Table 3, the exploratory factor analysis successfully identified four distinct factors corresponding precisely to the hypothesized dependent variable, two independent variables, and the moderator. All 16 observed items demonstrated factor loadings above the recommended threshold of 0.50 (Hair et al., 2009), indicating strong convergence within their respective constructs. Consequently, no items were eliminated, and the results provide robust support for the construct validity of all measured variables.

4.4. Multiple linear regression model

Table 4. Coefficients[a].

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.619	.778		22.072	.000		
RMP	.709	.922	.648	14.039	.000	.186	1.861
PD	.712	.730	.683	14.615	.000	.206	1.792
MTA	.752	.561	.696	11.630	.000	.231	1.116

a. Dependent Variable: SMIP

Source: (The authors, 2025)

Where **SMIP**: Mean of SMIP 1 - SMIP 4; **RMP**: Mean of RMP1-RMP4; **PD:** Mean of PD1–PD4; **MTA**: Mean of MTA1–MTA4

As shown in Table 4, all three predictor variables produced significance values of p = .000, substantially below the conventional α = 0.05 threshold. These results indicate that each independent variable exerts a statistically significant effect on the dependent variable. Consequently, all three hypotheses were fully supported by the empirical findings, with none rejected.

5. DISCUSSION

5.1. Result Summary

Risk management practices, portfolio diversification, and market timing ability were found to exert statistically significant influences on stock market investment performance, with standardized coefficients of 0.648, 0.683, and 0.696, respectively. These results therefore offer strong empirical support for all three research questions.

5.2. Theoretical Implications

The results reveal a robust positive link between effective risk management approaches and stock market investment success (β = 0.648), providing clear empirical backing for the central ideas in Modern Portfolio Theory and Expected Utility Theory, which view strong performance as fundamentally tied to managing risk rather than simply chasing higher returns (Markowitz, 1952; Elton & Gruber, 1997). This finding aligns closely with earlier research highlighting how careful risk oversight promotes steadier returns and better protects capital, ultimately boosting outcomes over the long run (Jorion, 1997; Fama & French, 2015). Yet it also prompts thoughtful consideration of opposing views that caution against over-reliance on conventional risk frameworks, as these could heighten overall market fragility in times of crisis (Danielsson & Shin, 2003). In contrast to such worries, the sizable coefficient found in this study indicates that, for individual investors, consistent risk discipline tends to enhance rather than hinder performance. Furthermore, the evidence lends support to insights from behavioral finance, showing that structured risk practices serve as a valuable anchor, enabling investors to counteract psychological tendencies that frequently erode results amid market turbulence (Kahneman & Tversky, 2013; Barberis, 2013).

In the model, portfolio diversification stands out as the most powerful driver of stock market investment performance, with a standardized coefficient of β = 0.683. This outcome provides strong backing for the core idea of Modern Portfolio Theory, which holds that spreading investments across a wide range of assets cuts down on unnecessary idiosyncratic risk and improves risk-adjusted returns (Markowitz, 1952). The result also matches earlier studies showing that concentrated portfolios often face greater swings and weaker results (Goetzmann & Kumar, 2008). Still, it calls for careful consideration amid continuing discussions about how dependable diversification really is in practice, where issues like estimation mistakes, shifting correlations, and contagion during crises can erode its advantages (DeMiguel et al., 2009; Longin & Solnik, 2001). The sizable coefficient here points to the value of straightforward approaches—focusing on breadth and balance without intricate optimization—that still yield tangible benefits for investors. In this light, diversification appears as a reliable, practical foundation for better performance rather than just an abstract ideal.

Meanwhile, market timing ability shows an even stronger positive impact, registering β = 0.696, and adds weight to a long-standing controversy in finance. This evidence pushes back against a rigid reading of the Efficient Market Hypothesis, which argues that reliably profiting from timing is improbable in markets that quickly incorporate information (Fama, 1970; Fama, 1991). It aligns better with models of intertemporal choice and conditional pricing that highlight changing risk premiums and flexible adjustments (Merton, 1973; Ferson & Schadt, 1996). At the same time, the study acknowledges persistent doubts rooted in market efficiency, proposing instead that timing gains depend on real skill and steady discipline—an idea echoed in the Adaptive Markets Hypothesis, which sees efficiency as dynamic (Lo, 2004). From a behavioral angle, successful timing can counteract herd mentality and emotional impulses that often harm returns (Barberis, 2013). Overall, the results favor a balanced perspective: market timing can enhance performance when grounded in ability, rather than offering blanket approval or dismissal.

5.3. Practical Implications

The results from this study offer valuable practical guidance for investors, portfolio managers, and financial advisors aiming to boost stock market performance through thoughtful strategies. Above all, the substantial positive impact of risk management practices (β = 0.648) underscores the real-world need for systematic and proactive risk controls instead of ad-hoc responses. In everyday terms, this means investors would benefit from shifting away from gut feelings toward formal approaches, such as setting clear stop-loss rules, establishing diversification targets, and conducting ongoing risk assessments. These steps echo prior work showing that unchecked volatility can quietly undermine long-term results, even if short-term gains look promising (Jorion, 1997; Fama & French, 2015). Crucially, the evidence positions risk management not just as a safeguard for tough times, but as an ongoing practice that actively strengthens performance by weaving discipline into routine decisions. By curbing impulsive responses to market swings, well-designed risk protocols enable investors to stay aligned with their plans and steer clear of expensive errors driven by emotion (Kahneman & Tversky, 2013).

Next, the pronounced influence of portfolio diversification (β = 0.683) underscores its position as a reliable bedrock for successful investing. In practical terms, this means that investors and managers can more readily improve performance by pursuing wide-ranging and evenly distributed holdings across various asset classes and industries, rather than placing heavy stakes on just a handful of stocks. Although advanced optimization techniques often take center stage in professional discussions, the evidence here indicates that straightforward diversification methods remain highly effective, especially in minimizing unnecessary company-specific risks (Markowitz, 1952; Goetzmann & Kumar, 2008). That said, advisors and investors alike should avoid overconfidence in diversification as an absolute shield across every scenario. Instead, the results advocate a sensible mindset: regularly reviewing how assets move together and steering clear of blind trust in past patterns, particularly in turbulent markets where correlations frequently tighten (Longin & Solnik, 2001).

Third, the notable influence of market timing skill (β = 0.696) brings layered practical insights. Although the evidence shows that timing can meaningfully lift performance, it stops short of endorsing frequent trading or bold market guesses as a go-to approach for everyone. Rather, the results point to timing delivering real advantages mainly through careful, evidence-based adjustments and occasional shifts in exposure, not endless tweaking of positions. This view fits well with adaptive strategies that react to evolving economic signals or changing risk rewards (Merton, 1973; Ferson & Schadt, 1996). In everyday practice, this encourages investors and advisors to target major regime shifts—like scaling back risk in prolonged downturns or leaning in during clear uptrends—instead of chasing daily price swings, which rarely beat the market after fees (Fama, 1991). Taken together, these insights highlight that stronger investment results tend to come from thoughtfully combining solid risk controls, broad diversification, and judicious timing, rather than leaning heavily on any one element alone.

5.4. Limitations

That said, the study has clear limitations worth noting: reliance on survey responses risks self-assessment bias, where participants might overstate their actual proficiency in risk management, diversification, or timing; the snapshot cross-sectional approach hinders firm conclusions about causality across time, especially for timing that likely performs differently in varying market environments; the model leaves out key real-world factors like trading costs, taxes, or regulatory hurdles that can significantly shape net outcomes; and finally, by treating all investors similarly, it may overlook meaningful differences between retail individuals and seasoned professionals.

5.5. Future Research Directions

Future investigations could fruitfully build on this work in a number of directions. Adopting longitudinal approaches would enable researchers to track how the contributions of risk management, diversification, and market timing shift across varying market phases. Pairing self-reported data with actual performance records could bolster causal claims and help mitigate biases

stemming from personal perceptions. Further studies might also investigate how factors like institutional rules, digital tools, or regulatory settings influence the success of these approaches. Delving into psychological characteristics—such as excessive confidence or reluctance to realize losses—as potential links between strategic choices and outcomes could yield richer insights. Additionally, cross-market comparisons between mature and developing economies might clarify how differing market features affect the weight of diversification versus timing.

5.6. Conclusion

Overall, this research offers cohesive empirical support for the idea that disciplined risk management, thoughtful portfolio diversification, and skilled market timing together drive stock market success. By placing these elements within a unified model, it transcends piecemeal examinations and paints a truer portrait of how investors turn plans into tangible results. The evidence reaffirms the lasting value of Modern Portfolio Theory while embracing adaptive and behavioral lenses that better capture practical realities. Crucially, it illustrates that strong performance arises not from standalone techniques but from the careful integration of risk oversight, balanced allocation, and well-timed adjustments, thereby providing both conceptual refinement and actionable advice for navigating today's increasingly unpredictable and data-saturated financial landscapes.

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APPENDIX: Survey

Table 5. Survey Questionnaire

Background information

1. Through which channel did you primarily learn about or participate in this survey?	Securities company or brokerage firm	Investment club or investor association	Online trading or investment community	Financial education or training network	Other (Please specify): _____
2. Which description best represents the structure of your current investment portfolio?	Mainly individual stocks	Stocks combined with funds/ETFs	Mainly funds/ETFs	Diversified portfolio including stocks, funds, cash, or other assets	Other (Please specify): _____
3. How long have you been actively investing in the in the United States' stock market?	Less than 1 year	1 to less than 3 years	3 to less than 5 years	More than 5 years	

4. On average, how frequently do you trade or rebalance your stock investments?	Less than once per month	1–3 times per month	1–2 times per week	More than 2 times per week	Other (Please specify): _____

No.	Variables	Coded Observed Variables	Content
1.	Stock Market Investment Performance (Dependent Variable)	SMIP1	My stock market investments have generated returns that appropriately compensate for the level of risk I have taken. *(Sharpe, 1966; Jensen, 1968; Fama, 1970)*
		SMIP2	Overall, my investment performance compares favorably with general market benchmarks after considering risk. *(Fama, 1970; Fama & French, 2010)*
		SMIP3	My portfolio performance reflects disciplined decision-making rather than random market movements. *(Markowitz, 1952; Fama & French, 2015)*
		SMIP4	I am satisfied with my long-term stock market performance given market volatility and uncertainty. *(Barber & Odean, 2000; Fama & French, 2010)*
2.	Risk Management Practices (Independent Variable 1)	RMP1	I systematically identify and monitor the risks associated with my stock market investments. *(Jorion, 1997; Dionne, 2013)*
		RMP2	I apply specific strategies (e.g., limits, rules, or controls) to reduce potential losses in my portfolio. *(Markowitz, 1952; Elton & Gruber, 1997)*
		RMP3	My investment decisions aim to balance expected returns with acceptable levels of risk. *(Markowitz, 1952; Fama & French, 2015)*
		RMP4	Having structured risk management practices helps me avoid emotionally driven investment mistakes. *(Kahneman & Tversky, 2013; Barberis, 2013)*
3.	Portfolio Diversification (Independent Variable 2)	PD1	I diversify my investments across different assets or sectors to reduce overall portfolio risk. *(Markowitz, 1952; Elton & Gruber, 1997)*
		PD2	My portfolio is structured to minimize unsystematic risk through diversification. *(Markowitz, 1952; Fama & French, 2015)*
		PD3	Diversification improves the stability of my investment returns over time. *(Goetzmann & Kumar, 2008; Ang et al., 2006)*
		PD4	I regularly review and adjust my portfolio diversification as market conditions change. *(Fabozzi et al., 2010; DeMiguel et al., 2009)*
4.	Market Timing Ability (Independent Variable 3)	MTA1	I adjust my level of market exposure based on expectations about future market conditions. *(Treynor & Mazuy, 1966; Merton, 1973)*
		MTA2	I reduce my investment exposure when I anticipate unfavorable market movements. *(Henriksson & Merton, 1981; Ferson & Schadt, 1996)*
		MTA3	I increase my exposure to the stock market when expected returns appear more attractive. *(Merton, 1973; Ferson & Schadt, 1996)*

		MTA4	My timing decisions are based on analysis and discipline rather than short-term market emotions. *(Fama, 1991; Barberis, 2013)*

Survey link:
https://docs.google.com/forms/d/e/1FAIpQLSdYoHdCeqMFytNIsq1U2utVzmfhkBG1PUq8X3zZGE8Nvkaarw/viewform?usp=header