Social Sciences Spectrum
A Double-Blind, Peer-Reviewed, HEC recognized Y-category Research Journal
E-ISSN: 3006-0427 **P-ISSN:** 3006-0419
Volume 05, **Issue** 01, 2026
Web link:https://sss.org.pk/index.php/sss

Beyond Rationality: A Pragmatist Review of Behavioral Finance and Individual Investment Decision-Making

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Article Information [YY-MM-DD]

Received 2025-12-02 **Revised** 2025-12-29 **Accepted** 2026-01-26

Citation (APA):

Thepdawala, M, M & Siddiqui, A, A (2026). Beyond rationality: A pragmatist review of behavioral finance and individual investment decision-making. *Social Sciences Spectrum*, *5*(1), 67-78. https://doi.org/10.71085/sss.05.01.461

Abstract

This review examines how the Pragmatist philosophical approach provides a dynamic and in-depth framework to understand financial decision-making and investors' behavior. The traditional financial model utilized in studies just explains how behavioral anomalies deviate from rationality, but the pragmatist approach reframes such behaviors as part of the adaptive learning process led by uncertainty, experiences, and environmental changes. Incorporating thoughts from behavioral finance and pragmatist thought, this review highlights the evolution of investor behavior according to the change in market conditions. This review addresses the gaps in the literature and specifies the area that can be explored, like empirical research by applying a pragmatist approach, and technological advancements in the financial world can be studied as adaptive behavior of investors. The paper influences the attention to investor behavior formation through evolution by experience, concluding by proposing future studies by integrating cross-disciplinary approaches such as philosophy, behavioral economics, and data science to build more rigorous and dynamic models to explain financial decision-making.

Keywords: Pragmatism, Behavioral Finance, Investment Decision, Philosophy, Traditional Finance.

Introduction

Pragmatism

The core idea of traditional finance is based on the thought that investors act rationally; they intake and process all available market information logically to make their decisions. This view has been followed for a long time and is embedded in models like the Efficient Market Hypothesis (EMH) (Fama, 1970) Suggest that financial markets are perfectly efficient, which means the information available in the market will be reflected in the prices of the assets. That eventually claims that it is not possible to achieve excessive returns. Expected Utility Theory (EUT) (von Neumann, & Morgenstern, 1944) proposes that individuals make investment decisions of managing risk based on assigning utilities to expected outcomes of the investment, and choose the option that has the highest expected utility.

The thing that is identical in both of these theories is the investor being rational, consistent, objective-driven, and being 100% resistant to emotional impacts. This ideal condition doesn't meet when we closely look at the real world. In the world of imperfections and experiences, investors most of the time make decisions under uncertain conditions and an emotionally hyped environment, where decisions are mostly made based on prior experiences, intuitive capacity, and contextual cues of an individual. This is the area where Pragmatism, a popular philosophical tradition rooted in (Peirce, 1878), (James, 1907), and (Dewey, 1938) offers a counterpoints that help us extract a meaningful lens to look at relatable scenarios. This practical-based philosophy pragmatism emphasizes the interesting point that helps us connect with the real-world ways of looking at things, instead of just standard ways that are barely implied, it suggests a learning by doing strategy where individuals learn while being practically involved and revise their theoretical understanding by experiencing. Moreover, it indicates that the valuation of ideas should be based on their practical consequences. In a nutshell, it proposes that truth is inconsistent and varies by situations, it isn't static or universal at all, an individual keeps evolving by experience, and what works in solving real-life problems.

Behavioral finance

The rational model in finance has limitations in capturing human behavioral actions that lead to the emergence of the behavioral finance concept. This methodology emphasizes the psychological aspects of human beings in finance-related decision-making. The well-known Prospect theory was introduced by (Kahneman & Tversky, 1979) Suggest that individuals evaluate the gains and losses in the investments from the reference point; they often have a mindset of seeking risk aversion in gains and risk seeking in the case of losses. The founder of this theory has conducted research earlier on heuristics and biases. (Tversky & Kahneman, 1974) This gives us the foundation for understanding how individuals make investment decisions based on mental shortcuts, which include availability, representativeness, and anchoring. These findings do challenge the rational investor paradigm and help the new concept of investor behavior to emerge. Recent past studies like (Kartini & Nahda, 2021) and (Almansour, Elkrghli, & Almansour, 2023) have provided empirical evidence of such investor behavior biases across diverse investment settings.

Shared concerns

The behavioral finance concept and the pragmatist philosophical lens emerge from the inadequate capacity and limitations of classical rationalism. Behavioral finance denounces the unrealistic expectations from investors' cognitive abilities and emotional stance while, pragmatism challenges the blur fact of detaching human reasoning from lived experiences, emphasizing that human beings are not perfect in terms of logic and reasoning they are influence by mental shortcuts and emotion driven approach (Simon, 1955) and (Kartini & Nahda, 2021) both shared similar findings. On the other hand, pragmatism emphasizes that practical experience shapes human reasoning, and both of them cannot be separated, proposing that human thoughts are shaped by actions, habits, and practical experiences with real-world phenomena (James, 1907)

Literature gap

Behavioral finance is a popular concept that has been studied globally, especially in today's uncertain economic era, where investor behavior is highly correlated with information absorption. The deep empirical evidences cover the dispersion from rational decision procedures but overlooks the deeper philosophical understanding of why such behavioral biases occur and how they mold the individual investing decision process. (Thaler, 2016). There is a requirement for a concrete framework in this domain, not just to explain or rationalize this concept, but to give an insightful interpretation as a broader cognitive and practical system. On this ground, pragmatism provides a powerful and distinctive lens to look at these biases beyond just accounting for them as irrational flaws and consider them as adaptive responses that timely evolve from experience and engagement with an uncertain environment. (Dewey, 1938). The traditional behavioral finance theories often label it as a human error; this lens will help us to explore it as investors learning process by trial and error, and real-world consequences, not just some mistake due to human limitations.

Purpose of Review

This review paper has an objective to bridge traditional behavioral finance concepts with the pragmatist philosophical approach to interpret investor behavior not just as irrational but context-driven and based on the experience of the individual. Introduced in (James, 1907), the review will further explore deeply into what behavioral finance considers irrational and mistakes, which may reflect the practical adoption under uncertain circumstances, the decision that has been made by learning from prior events. This lens will help tools like nudging to emerge, which guide individuals by respecting choices without evaluating them on some rational standards (Sunstein, 2014). This paper will enhance the horizon of behavioral finance by embedding it with a philosophical approach

Structure of the Review

This literature review has a comprehensive coverage of the concept consists of five parts, including an introductory explanation of the concept.

- Section 2 investigates the theoretical background of pragmatism and behavioral finance, highlighting historical evolution, which will help to explain how this philosophy emerges
- Section 3 is a critical analysis of the alignment and dynamics of both frameworks, including philosophical foundations and conceptual contradictions, that highlights the importance of a pragmatist approach in this area
- Section 4 is a detailed examination of the practical implications of integrating the pragmatist approach in traditional behavioral finance, which further enhances the theory to look deep into investor behavior

- Section 5 is a conclusion that summarizes key insights of the concept, highlighting existing literature gaps, and recommendations for future research that hopefully help policy makers to shape the market dynamics according to investor behavior

The fusion of traditional behavioral finance and the pragmatist approach will enable us to investigate deeper into the investment behavior of individuals by treating them as evolving beings, not machines that calculate and estimate the consequences on a rational basis, and it considers the uncertainty and the imperfections of the real world that cyclically lead us back to the human decision-making capabilities in understanding investment behavior.

Theoretical Background and Historical Development

Origin and Evolution of Pragmatism

Pragmatism is a popular and distinct American philosophical tradition that was introduced in the late 19^{th} century. This philosophy boldly challenged abstract rationalism and metaphysical idealism. The origin of this philosophy is globally credited to Charles Sanders Pierce, in his essay; How to Make our Ideas Clear, discusses this philosophy in depth and argues that any concept isn't meaningful until it is backed by consequences. (Peirce, 1878). This principle is widely known as "Pragmatic Maxim," which gives the basis for a new way of thinking that prefers actions, experimentation, and constant evolution of truth, varying from situation, instead of believing in conceptual standards found on the basis of ideas in the air.

Likewise, William James contributed to expanding the scope of pragmatism by practically applying it in human psychology, religious context, and ethical ideas. In (James, 1907) He argued that the truth is not absolute and presented the idea of truth that works in a practical environment. Life is a riddle, every human being is trying to solve riddles come in their way as an obstacle, where they are bound to make decisions to sail smooth in the ocean of uncertainty, those decisions are shaped according to their usefulness in navigating the righteous way, this concept is highly relevant to the investment decisions in today's uncertain economic environment and behavior of individual under ambiguity.

After William, the most vibrant figure in this philosophical concept is John Dewey, who further refined this philosophy by looking at it through the lens of inquiry and learning. In (Dewey, 1938) he argued that knowledge is a product based on ongoing interaction between the person and the environment he/she live in. he further argued that the decision-making process of the individual is hypothesis testing, not based on some standard principles; new experiences and consequences continuously amend the beliefs of a person. This dynamic view of the thoughts of individuals and their actions can be a concrete reason behind the adoption of change in market conditions and evolving their strategies by using trial and error based on the outcomes.

After reviewing all three dimensions of these popular thinkers, I extract the core idea that suggests "Human cognition is adopted," which is molded and reshaped by experience, social context involvement, and learning through continuous interaction. Instead of assuming perfect rationality in this imperfect world, pragmatism gives the context of view decision making as based on uncertainty and its aim is to achieve the solutions that work in real life, not just in theoretical ideas.

Emergence of Behavioral Finance

The investor has been idealized in traditional finance concepts, and it was perceived that they absorb all the available knowledge perfectly and make decisions on the basis of that, but in contrast, behavioral finance provides a refined lens that the real-world financial decisions deviate from the rational expectations. The roots of those decisions are in the imperfect insights of psychology and economics. This concept challenges the assumptions of Expected Utility Theory. (von Neumann, & Morgenstern, 1944) and the Efficient Market Hypothesis (Fama, 1970), both of these theories suggest that investors are rational and utility-maximizing agents who make decisions based on all the available information accurately

Then, the foundational breakthrough theory named Prospect Theory was introduced by (Kahneman & Tversky, 1979) Argued that investors make decisions based on the outcome of wealth that is relative to the reference point of their investment. It also suggests that investors are loss averse, they prefer equivalent gains over losses, as it is less painful. This theory has completely directed a new way to look at how economists and theorists viewed the risk preferences of individuals.

There are earlier studies available that focused on heuristics and biases by (Tversky & Kahneman, 1974) Identify the mental shortcuts utilized by investors under the uncertain environment that includes overconfidence, availability of choices, anchoring, and representativeness. These rules work effectively but often lead to systematic errors, especially in a volatile and stuffed by information environment of financial markets.

Behavioral finance has become a quite attractive dimension to understand investor response against market conditions and has been studied in a robust empirical manner on a wider scale globally. Many scholars, like Richard Thaler, conduct studies that extend their application in the key areas of individual finance, such as saving, market anomalies, and policy design impacts. His work is highly admirable in this context, and one of his Nobel-winning studies emphasized the fact that human decisions are influenced by inertia, framing effects, social pressure, and context that are usually ignored by classical finance and its theories. (Thaler, 2016)

Recent studies' findings validate the results of prior research, one of which is (Almansour, Elkrghli, & Almansour, 2023) found that investors consistently represent biases in financial decisions, such as herding and incorrect perception regarding risk, particularly when markets are volatile and under certain stress. These results indicate that behavioral deviations aren't random but can be seen as predictable patterns shaped by cognitive abilities and emotional responses against markets.

In a nutshell, behavioral finance has significantly shifted the paradigm from standard models of rationality in investors to a psychologically grounded understanding. However, it indicates or highlights the deviation of investors from rationality but lacks a philosophical framework to justify that behavior and how it has been adopted in such situations. This point paves the path for pragmatism to light the way to understand this with a unique lens and explore the empirical concept with a philosophical map.

Critical Analysis: Bridging Pragmatism and Behavioral Finance

Comparison of Philosophical Foundations

The common ground between the concept of behavioral finance and the philosophy of pragmatism is fundamental dissatisfaction with the classical model of rationalism, while behavioral finance uses robust empirical models to challenge the notion of rational actors, pragmatism shows clear criticism on the abstract assumptions like how human beings "Should" reason for the event and how they navigate the solution under uncertain circumstances or environment.

The core idea that distinguishes them from each other is “On what they emphasize”; if we look at the empirical findings of behavioral finance, it highlights the cognitive systematic errors that deviate from standard practices in theories, while pragmatism focuses on individual experience-based knowledge in real-world problems. The individual’s behavior heuristics regarding loss aversions and anchoring (Tversky & Kahneman, 1974) seem less like a deviation from rationales and indicate the practical habits if we look at this through the pragmatic thinker's lens (James, 1907) (Dewey, 1938)

Finally, a recent study gives us the connection that will unfold the relation between the key theory and the philosophical framework of our study. (Garcés, 2022) That explicitly makes a connection by positioning pragmatism as a philosophical ally of the concept of behavioral finance, the research suggests that it is the one that offers conceptual grounding to investor psychology, which is still under-explained. Furthermore, rather than treating deviation from standards as irrational, the philosophy of pragmatism views them as the function of evolved responses through complex situations.

How Pragmatism Strengthens Behavioral Finance

Pragmatism is the philosophical view that doesn’t just separate behavioral impacts empirically but helps to insightfully interpret them and extend them for better understanding. If we take an example, it would help to make it clearer how this philosophy works; Investors usually behave conservatively during volatile markets, and this act is often seen as biased. On the other hand, studies confirm that it plays a protective role; this notion is supported by pragmatism that highlights the practical outcomes instead of just labelling the behavior. (Almansour, Elkrghli, & Almansour, 2023)

Pragmatism can be widely applicable in this context, as it also smoothly aligns with the current behavioral finance trends towards learning-based models, where the investor behavior is shaped by constructive feedback. (Zik-Rullahi, Jide, & Onuh, 2023). Dewey’s idea of iterative inquiry and reflection endorses the concept by focusing on error correction while growing.

This relation can be further explained by educating investors and designing smart policies, as (Kartini & Nahda, 2021) Suggests biases (deviation from rationales) can be moderated by improved risk perception, which indicates a practical solution that mirrors pragmatism’s view of knowledge through interaction with an uncertain environment. By molding the external environment, we can moderate the choices of individuals instead of trying to change the internal thought process of people. Pragmatism focuses on adapting to evolving experiences. (Sunstein, 2014)

Conclusively, from a research design perspective, pragmatist philosophy justifies the growing use of mixed methods in finance to explore the facts, along with explaining them with empirical evidence. By integrating the qualitative data collection tools, like interviews, observations, and quantitative like statistical data. Prior studies, such as (Dewasiri, Weerakoon, & Azeez, 2018) and (Dawadi, Shrestha, & Giri, 2021) suggest that mixed methods not only provide quantitative robustness but also qualitative depth, helping researchers not only find what choices investors make but also why they make them.

Critiques and Debates

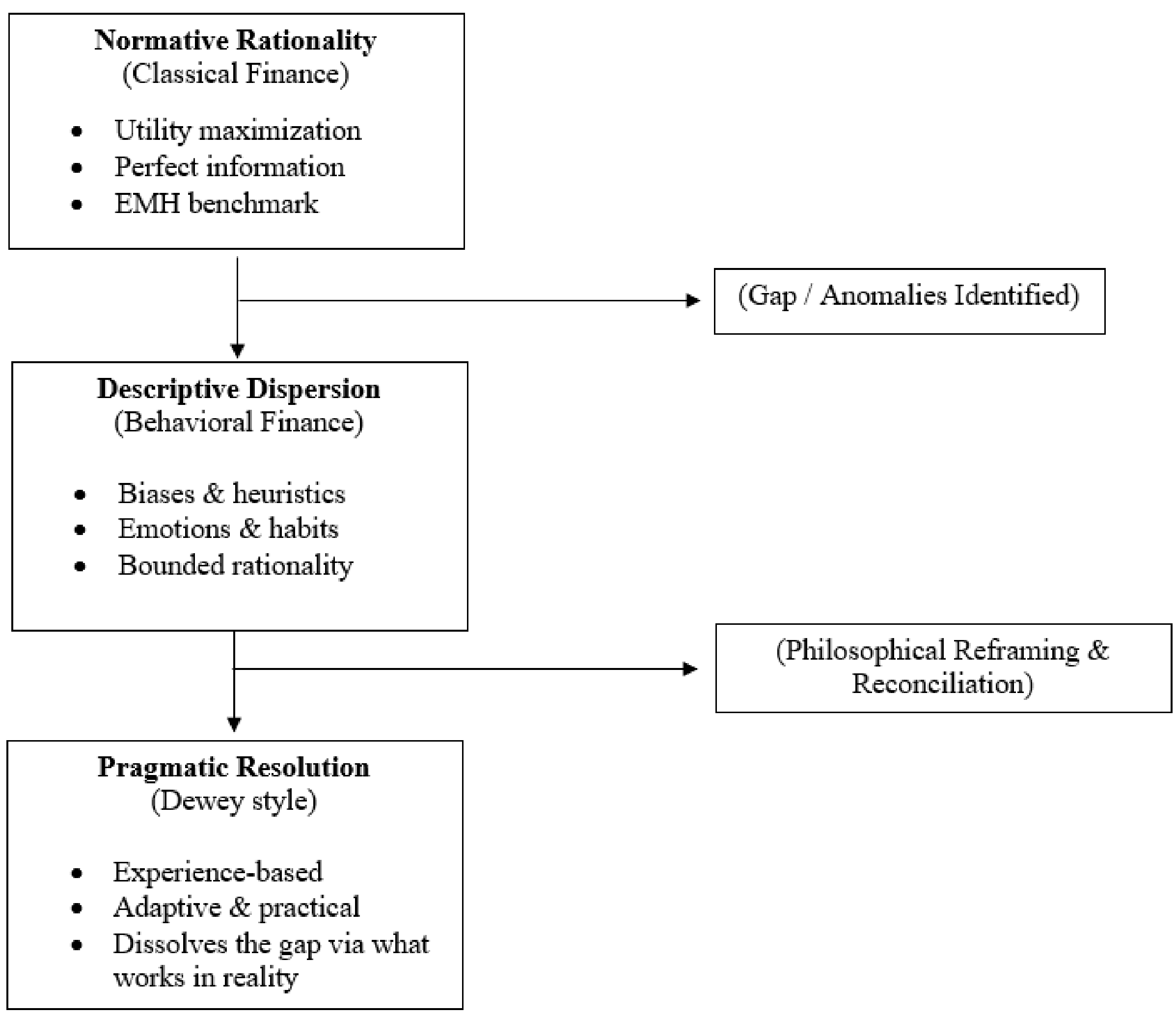
Interpreting behavioral finance with the help of pragmatism can add significant value in studying investor behavior, but it can’t be done without friction.

First, some scholars criticize pragmatism for risking moral relativism, in that it justifies every behavior that works, while (Garcés, 2022) argued that the pragmatist reasoning still demands being consistent, socially accepted outcomes, not just the convenience of what works.

Second, empirical evidence using pragmatism in financial behavior and modeling is still not present, although it has a strong conceptual foundation, and the predictive framework is still emerging. (Mahmood, Arshad, & Khan, 2024) Found that in volatile markets, adaptive learning (considered a core theme of pragmatism) can reduce dispersion from reasoning and decision errors effectively

Third, the commonly emerging criticism of the pragmatist approach is whether it supports normative standards in the finance domain. But the core concept of this philosophy is to evolve through lived experiences instead of evaluating based on standards built up by rationales. (Thaler, 2016) (Sunstein, 2014).

Figure 1: *"Conceptual/Theoretical Synthesis," "Integrative Framework," or "Bridging Rationality, Behavioral Insights, and Pragmatism"*



Pragmatist Implications for Behavioral Finance and Investment Behavior

Investor Behavior and Decision-Making

Pragmatism can enrich the exploration of investor behavior towards markets far beyond the traditional analytical models and emotional decision-making that make them irrational; it lets us dive deep into the contextual knowledge and learning from lived events in uncertain conditions. (Dewey, 1938). Current research provides us with multiple angles of heuristic-driven investors' behavior and responses, like anchoring to the instant available knowledge of their investment or reacting to the fresh/latest information they process, but these reactions are often connected to prior successful experiences or social learning conclusions. (Almansour, Elkrghli, & Almansour, 2023)

If we hypothetically integrate a pragmatist approach in this regard, it boldly suggests that heuristics can be redefined, improved, and enriched through the process of structured reflection. Like (Mahmood, Arshad, & Khan, 2024) found that higher financial literacy can result in more adaptive anchoring strategies in investors' behavior, which means overlooking the noisy elements and adopting the ongoing trends. This proposes that investors who persistently reflect on their behavior make decisions by being more resilient.

Investors can reshape their behavior and mold it as situational adoption, not just relying on emotional influence. Pragmatism encourages researchers to work on tools that focus on contextual learning is that, training investors to learn from their experience and historical decision making instead of following some pre-determined framework, disregarding its implications in certain situations.

Financial Education and Training

The traditional theories often classically educate investors and give generalized ideas, but in the practical world, markets are highly sensitive to the internal and external factors that significantly influence them. Market reactions can be fundamental or based on rumors; classical theories cannot capture the environmental aspects, and investors' decision-making probably deviates from fundamental reactions against available information. The pragmatist emphasizes experimental learning, which refers to education based on real-life simulations, or we can call it scenario-based problem solving. (Suleiman, 2024)

Understanding Market Behavior and Volatility

Financial markets are complex institutions based on dynamic characteristics and sentiments; it is impacted by both rational reasons and the collective behavior of stakeholders that sometimes are based on behaviors. The popular theory, named the Adaptive Market Hypothesis (AMH) (Lo, 2004) suggests that markets aren't efficient but irrational; it's relatable to a biological system that operates by adopting changes in the environment or surroundings. Recent studies have examined the relation between investors' psychology and market volatility, finding that behavioral biases by investors, such as overconfidence, loss aversion, herding, and anchoring, do influence market dynamics, specifically in extreme market conditions (Dixit, 2024). To reduce systematic risk in the market, the regulators are required to understand these behavioral patterns and accept the evolving nature of investor behavior to design policies to facilitate adaptive learning and the reduction of risk perception (Farid, A. 2023).

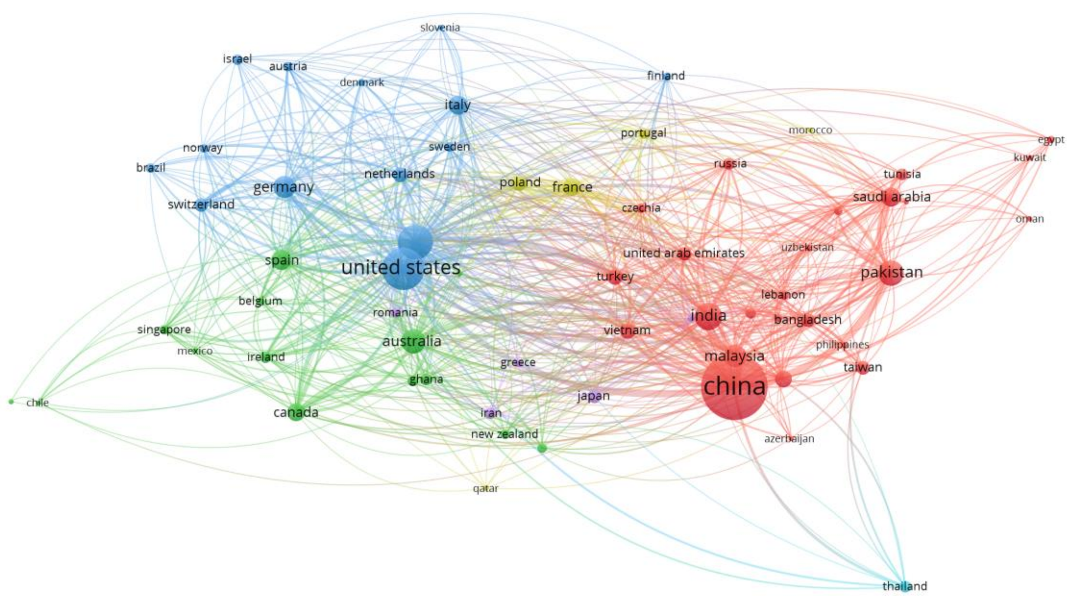
Public Policy and Behavioral Nudges

Pragmatism has a significant influence on public policy through the concept of nudging, which refers to the modification of choices to enable better decision-making abilities without restricting freedom of choice. In this way, intervention to guide better choices can be done without eliminating the autonomy of decision-making. (Sunstein, 2014). Recent research also supports the nudging in future policies, and recommends ethical consideration and robust testing of nudging interventions. (Banerjee & John, 2022). These strategies align with the pragmatist approach to autonomous and informed decision-making.

Financial Research and Modeling

Pragmatism guides researchers to adapt mixed-methods approaches, such as incorporating both quantitative data and qualitative approaches along with contextual analysis. The recent study from Pakistan can be taken as an example from Pakistan that collects from surveys, qualitative behavioral assessment, and interviews to provide a comprehensive understanding of the investment behavior of individuals. The approach justifies the model of inquiry by (Dewey, 1938), where theories are evolved by continuous practical evaluation and constructive feedback that align with human nature, not being rigid assumptions.

Figure 2 *Country-level co-authorship network in the literature on investment behavior and behavioral finance.*



Conclusion and Future Directions

Summary of Key Insights

The paper argues that pragmatism provides an innovative view for understanding financial decision-making and market behavior in-depth. Apart from dealing with behavioral biases as cognitive flaws, pragmatism gives a new perspective on viewing it as an adaptive and continuous learning process. In markets, investors navigate uncertain circumstances at a relative pace by experiencing necessary adjustments. This particular concept is highly related to the popular theory of Adaptive Market Hypothesis (AMH) that suggests the non-rational nature of market structure and how it is sensitive to investor experiences, environmental development, and the surrounding environment. Pragmatism plays an important role in bridging the gap between two key approaches in finance, such as rigid rationality and behavioral financial aspects, by emphasizing the consistent influence of human behavior and evolution through experiences on markets.

Identified Literature Gaps

Despite the theoretical richness pragmatism offers, there is still an underexplored area of empirically applying this approach in financial markets; most of the behavioral finance studies still treat biases as the deviation from standard rational practices, not as an adaptive response of investors. The key tools in pragmatist-inspired policy, like nudges, are underexplored in the financial context, especially in emerging nations and digital finance globally. There is a lack of studies in the area of Algorithmic trading and cryptocurrency incorporation in conventional finance, and the adaptive farmwork in this regard through the lens of a pragmatist approach.

Recommendations for Future Research

The future research should unveil the practical implications of pragmatism in finance-related decision-making and capture the adaptive behavior over time by developing empirical models, specifically in multiple market regulatory environments. More studies can be conducted on investors' learning by an adaptive approach during uncertainty, policy shifts, risk perception fluctuation, crisis, and technological advances on the macro-level, such as dynamic models, which will create an in-depth understanding of investors' behavior. The core area of nudges and behavioral intervention should be investigated in future work, with the pragmatist approach incorporated, and how it impacts long-term decision making, not just instant influence. Lastly, cross-disciplinary approaches such as behavioral economics, data science, and philosophy can enhance the scope of financial research in modern markets that are highly volatile compared to previous times and responsive to every new piece of information, even if it's out of thin air.

Conflict of Interest

The authors showed no conflict of interest.

Funding

The authors did not mention any funding for this research.

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