

Beyond Trust: Critical Evaluation of AI-Generated Financial Advice in Consumer Financial Decision-Making

D. Hymavathi¹, V. Anitha², N. Neeraja³

Assistant Professor, Department of Management Studies^{1,3}

Assistant Professor, Department of Commerce & Management Studies²

Gayatri Vidya Parishad College for Degree and PG Courses (A), Visakhapatnam, India^{1,3}

Samata College, Visakhapatnam, India²

hyma@gvpdpgc.edu.in, anithavatsavaya@gmail.com, drneeraja@gvpdpgc.edu.in

Abstract: Artificial intelligence is increasingly being used to provide personalised financial information and recommendations through robo-advisors, digital financial platforms and generative AI-based systems. Recent research has examined consumer engagement with AI-enabled financial advice through trust, adoption, financial literacy, AI literacy, personalization, explainability and algorithmic reliance. However, these perspectives provide only a partial explanation of what occurs between receiving a specific AI-generated financial recommendation and deciding whether to act upon it. While financial and AI literacy concern knowledge and understanding, explainability relates to the communication of system outputs, trust reflects confidence in AI, and reliance concerns the behavioural decision to follow advice. The recent literature does not clearly establish an integrated conceptual account of the consumer evaluative process through which AI-generated financial advice is scrutinized for its relevance, risk, uncertainty, assumptions and suitability before being accepted, modified, verified or rejected. This issue is particularly significant because increased confidence in AI-enabled financial advice does not necessarily imply improved financial decision quality. Addressing this gap, the present conceptual paper develops a framework explaining how consumers critically evaluate AI-generated financial advice before incorporating it into financial decisions. The proposed framework positions critical evaluation as the process linking advice exposure with subsequent consumer response and distinguishes it from AI literacy, financial literacy, trust, explainability and algorithmic reliance. The study contributes by shifting attention beyond whether consumers trust or adopt AI towards how they assess specific AI-generated recommendations before acting upon them. The framework provides a foundation for future empirical research on consumer evaluation, calibrated reliance and responsible AI-enabled financial decision-making.

Keywords: Artificial Intelligence; AI-Generated Financial Advice; Critical Evaluation; Consumer Financial Decision-Making; Trust in AI; Explainability; Algorithmic Reliance

I. INTRODUCTION

Artificial intelligence (AI) is increasingly being used in financial services to provide automated recommendations, investment guidance and personalised financial information. Robo-advisors and other digital advisory services allow consumers to receive financial guidance without depending entirely on traditional human advisors. This development has increased the accessibility and speed of financial advice and has created new ways for consumers to participate in financial decision-making. (Gan et al. 2021)



However, receiving financial advice from an AI system is different from simply receiving information. Consumers may need to decide whether the recommendation is suitable for their financial situation, whether the information is reliable and whether the risks involved are acceptable. This is particularly important because financial decisions can have direct consequences for savings, investments and household financial wellbeing. Research on robo-advisors has therefore examined factors such as trust, financial literacy, user perceptions, risk and adoption.

Trust has received considerable attention in this area. Research shows that trust can influence consumer acceptance and use of automated financial advice. [2], for example, examined conversational robo-advisors in relation to trust and consumer financial decision-making, while [1] examined factors influencing consumer adoption of financial robo-advisors.

More recent research also shows that trust in AI-based financial services can be influenced by factors such as competence, transparency and the way the advice is presented. [6]

At the same time, trust alone may not be sufficient for sound financial decision-making. Consumers may trust an AI recommendation without checking its assumptions, accuracy or suitability. Research on algorithmic advice more broadly shows that advice accuracy and performance feedback can influence trust and willingness to follow algorithmic recommendations [4]. This suggests that the important issue is not only whether consumers trust AI advice, but also how they assess the advice before deciding whether to follow it.

Recent research has begun to examine this issue more directly. [3] found that information quality, usefulness, trust, explanation quality and decision risk can influence users' adoption of financial recommendations. Their study is particularly relevant because it examines how consumers evaluate and adopt recommendations under different levels of explanation and financial risk.

However, the focus remains mainly on information adoption and intention to follow advice. This leaves scope to examine the broader consumer process of questioning, checking and judging a specific AI-generated financial recommendation before acting on it.

Against this background, this conceptual paper examines critical evaluation of AI-generated financial advice as an important stage between receiving an AI recommendation and deciding whether to act upon it. The paper distinguishes this process from related concepts such as trust, financial literacy, AI literacy, explainability and algorithmic reliance. It proposes a framework that views critical evaluation as involving the assessment of the relevance, risk, uncertainty, assumptions and suitability of AI-generated financial advice before consumers accept, modify, verify or reject it.

II. REVIEW OF LITERATURE

The use of Artificial Intelligence (AI) in financial advisory services has increased research on consumer trust, adoption, explainability and reliance. Earlier research on robo-advisors found that trust, performance expectations, financial knowledge and reliance can influence consumers' intention to use automated financial advice [1], [2]. A systematic review by Zhu et al. (2024), based on 132 articles, further shows that research on AI-enabled financial advisory services remains spread across different areas, including technology, consumer behaviour and financial services.

Trust is particularly important when consumers receive financial advice from AI because financial decisions involve uncertainty and potential financial loss. [6] found that trust in generative AI financial advice is influenced by factors including human oversight, transparency and control, accuracy and usefulness, and ease of use. Their findings also show that the factors affecting trust can differ between specific and vague financial questions. These findings indicate that trust is an established area of research in AI-based financial advice. However, trust does not necessarily show whether consumers have assessed the quality or suitability of a particular recommendation before acting on it.

Explainability has received increasing attention in recent research. [3] examined how explanation quality, advisor type and decision risk influence users' evaluation and adoption of financial recommendations. Their controlled experiment compared human advice with AI advice having different levels of explainability and found that information quality, usefulness and trust influence advice adoption differently depending on explanation clarity and decision risk. This study provides an important basis for understanding consumer evaluation of AI financial advice. However, its focus is on



explanation quality, information adoption and intention to follow advice rather than on a broader process of critically assessing the relevance, risk, uncertainty and suitability of a specific recommendation.

Algorithmic reliance provides another related perspective. Research on robo-advisors and algorithmic advice shows that consumers' willingness to use or follow automated recommendations is influenced by trust, experience, advice accuracy and other contextual factors [1], [2]. Thus, reliance is an important outcome of interaction with AI advice, but it does not fully explain the assessment that may take place before a consumer decides whether to follow a recommendation.

Recent work has also raised ethical concerns about AI-based financial advice. [7] identify human autonomy, explainability, fairness and prevention of harm as important ethical considerations in AI-based financial advice and propose an ethical reflection framework. This strengthens the need to consider the consumer's role in assessing AI-generated advice rather than viewing the consumer only as a user who accepts or rejects an automated recommendation.

III. RESEARCH GAP

Existing studies have examined trust, explainability, financial literacy, AI literacy and reliance in AI-based financial advice. Recent research has also considered how explanation quality and decision risk influence users' evaluation and adoption of financial recommendations [3]. However, the literature remains fragmented in explaining how consumers critically evaluate a specific AI-generated financial recommendation before deciding whether and how to act upon it. This study therefore focuses on the evaluation process involving the relevance, risk, uncertainty and suitability of AI-generated advice before consumers accept, modify, verify or reject it.

IV. CONCEPTUAL FRAMEWORK

The literature shows that consumer interaction with AI-based financial advice has largely been examined through trust, explainability, literacy, adoption and reliance. However, these factors do not fully explain how consumers assess a particular recommendation before acting upon it. Building on the reviewed literature, this paper conceptualises critical evaluation as the consumer process of examining an AI-generated financial recommendation before deciding whether to act on it.

Critical evaluation is proposed as a multidimensional process involving relevance, risk, uncertainty, transparency of assumptions, and personal suitability. These dimensions represent the main questions a consumer may consider when receiving AI-generated financial advice: Is this recommendation relevant to my situation? What risks are involved? How certain is the recommendation? What assumptions support it? Is it suitable for my financial needs and goals?

The framework further proposes that critical evaluation influences the consumer's response to AI advice. Rather than assuming that consumers simply accept or reject AI recommendations, the framework recognises four possible responses: acceptance, modification, verification, and rejection. These responses may subsequently influence the quality of consumer financial decision-making.

Trust, financial literacy, AI literacy and explainability are positioned as supporting factors that may influence the extent to which consumers engage in critical evaluation. Trust may encourage engagement with the recommendation, while financial and AI literacy may provide consumers with the ability to assess it. Explainability may provide the information required for evaluation. However, these factors are not treated as substitutes for critical evaluation.

V. PROPOSED DIMENSIONS OF CRITICAL EVALUATION

5.1 Relevance

Consumers need to assess whether the recommendation is relevant to their particular financial situation, objectives and circumstances. A recommendation may be technically reasonable but inappropriate for an individual whose income, financial goals or constraints differ from the assumptions used by the AI system.

Evaluation question:

Is this recommendation relevant to my financial situation and goal?



5.2 Risk

Financial recommendations involve different levels and types of risk. Consumers may need to consider the possibility of financial loss and whether the recommended level of risk is consistent with their ability and willingness to bear risk.

Evaluation question:

What could I lose if I follow this recommendation?

5.3 Uncertainty

AI-generated recommendations are based on available data and assumptions and cannot guarantee future financial outcomes. Critical evaluation therefore requires consumers to recognise uncertainty rather than treating an AI recommendation as a certain prediction.

Evaluation question:

How certain is this recommendation, and what could make it wrong?

5.4 Assumptions and Transparency

Consumers should be able to understand, at least to a reasonable extent, the important information and assumptions underlying a recommendation. A recommendation that appears precise may depend on assumptions that the consumer has not considered.

Evaluation question:

What information or assumptions are behind this recommendation?

5.5 Suitability

The final assessment concerns whether the recommendation fits the consumer's financial needs, circumstances, objectives and preferences.

Evaluation question:

Is this recommendation suitable for me?

VI. PROPOSITIONS AND CONCEPTUAL RELATIONSHIPS

P1: Supporting factors → Critical Evaluation

P1: Higher levels of financial literacy and AI literacy are expected to enhance consumers' ability to critically evaluate AI-generated financial advice

P2: Explainability → Critical Evaluation

P2: Greater explainability of AI-generated financial advice is expected to facilitate consumers' critical evaluation of recommendations.

P3: Trust → Critical Evaluation

P3: Consumer trust in AI-generated financial advice is expected to influence critical evaluation, while excessive reliance on trusted AI recommendations may reduce independent assessment.

P4: Critical Evaluation → Consumer Response

P4: Higher levels of critical evaluation are expected to increase the likelihood that consumers will respond selectively to AI-generated advice through acceptance, modification, verification or rejection.

P5: Critical Evaluation → Decision Quality



P5: Critical evaluation of AI-generated financial advice is expected to contribute to more informed and appropriate consumer financial decision-making.

P6: Risk and Uncertainty → Critical Evaluation

P6: Higher perceived financial risk and uncertainty in the decision context are expected to strengthen the extent of consumers' critical evaluation before acting on AI-generated financial advice.

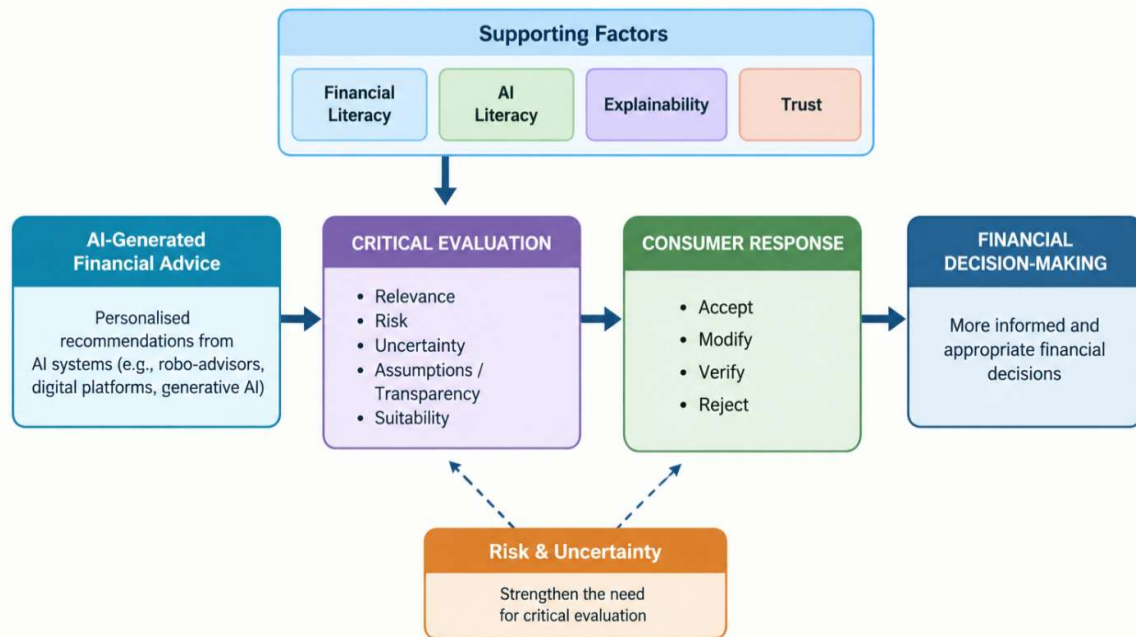


Fig. 1. Conceptual Framework for Critical Evaluation of AI-Generated Financial Advice

VII. DISCUSSION

The proposed framework shifts the focus of AI-based financial advice from whether consumers trust and use AI to how they evaluate its recommendations before making a financial decision. Existing research has established the importance of trust, explainability, financial literacy and reliance, but these factors alone do not explain whether a consumer carefully assesses a recommendation before acting on it.

The framework proposes that critical evaluation involves five dimensions: relevance, risk, uncertainty, assumptions and transparency, and suitability. These dimensions recognise that an AI-generated recommendation may appear useful while still being unsuitable for a particular consumer. The framework also proposes that consumers may respond differently after evaluation by accepting, modifying, verifying or rejecting the recommendation.

Trust is therefore viewed as an important factor but not as evidence of sound decision-making. Similarly, explainability may help consumers understand an AI recommendation, but understanding an explanation does not necessarily mean that the recommendation is suitable. Financial and AI literacy may support evaluation by helping consumers understand both the financial issue and the limitations of AI-based recommendations.

The framework also suggests that the need for critical evaluation may increase when financial risk and uncertainty are high. This is particularly relevant for decisions involving investments, credit and long-term financial commitments. Thus, responsible use of AI in finance should not depend only on increasing consumer trust or improving system explanations. It should also support consumers in making informed judgements about when to accept, question or reject AI-generated advice.



VIII. IMPLICATIONS

8.1 Theoretical Implications

The study extends existing research on AI-based financial advice by positioning critical evaluation as a process between receiving AI advice and responding to it. It distinguishes critical evaluation from related concepts such as trust, financial literacy, AI literacy, explainability and algorithmic reliance. The framework provides a basis for bringing these concepts together in future research on consumer financial decision-making.

8.2 Implications for Financial Institutions

Financial institutions using AI-based advisory systems should provide recommendations in a way that enables consumers to understand their relevance, risks, assumptions and limitations. Systems should encourage consumers to review important information rather than encouraging unquestioned acceptance of automated recommendations.

8.3 Implications for Regulators and Policymakers

Regulators and policymakers can consider consumer evaluation when developing guidelines for AI-based financial advice. Transparency and disclosure requirements should not only focus on how AI produces recommendations but also on whether consumers receive sufficient information to assess the risks and suitability of those recommendations.

8.4 Consumer Implications

The framework highlights the importance of consumers taking an active role when using AI-generated financial advice. Consumers should not treat an AI recommendation as automatically correct simply because the system appears knowledgeable or reliable. Critical assessment of relevance, risk, uncertainty and suitability can support more informed financial decisions.

IX. CONCLUSION

Artificial Intelligence is creating new opportunities for personalised and accessible financial advice, but greater use of AI does not automatically lead to better financial decisions. Existing research has largely examined trust, adoption, explainability, literacy and reliance. This paper moves beyond these individual factors by proposing critical evaluation of AI-generated financial advice as an important stage in consumer financial decision-making.

The proposed framework identifies five dimensions of critical evaluation: relevance, risk, uncertainty, assumptions and transparency, and suitability. It further proposes that consumers may accept, modify, verify or reject AI-generated recommendations after evaluating them. The framework therefore places the consumer's judgement at the centre of AI-enabled financial decision-making.

The study contributes a conceptual basis for understanding how consumers can move from simply trusting AI advice to evaluating it before acting upon it. For financial institutions and regulators, this highlights the need for AI systems that support informed consumer judgement rather than relying only on automation, trust and convenience.

X. FUTURE RESEARCH

Future research should empirically test the proposed framework and develop a reliable measure of critical evaluation of AI-generated financial advice. Studies can examine whether financial literacy, AI literacy, trust and explainability influence consumers' evaluation of recommendations. Experimental research can further examine whether consumers accept, modify, verify or reject AI advice under different levels of financial risk and uncertainty. Future studies can also compare AI-generated advice with human financial advice and examine whether critical evaluation leads to better financial decision-making outcomes. Research across different demographic groups and financial contexts would help establish whether the proposed framework applies consistently across consumers.

ACKNOWLEDGMENT



The authors sincerely acknowledge the support and encouragement received from the Department of Management Studies, Gayatri Vidya Parishad College for Degree & PG Courses (A), Visakhapatnam, India, in carrying out this research work.

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