

EXPLORING COGNITIVE BIASES AND EXTERNAL FACTORS IN CRYPTOCURRENCY INVESTMENT THROUGH AN EXTENDED TAM FRAMEWORK

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1 BACKGROUND

The growing public interest in **cryptocurrency investment** is largely driven by the promise of high financial returns and the appeal of technological innovation (Chuen et al., 2017; Berentsen & Schär, 2018). This enthusiasm is often amplified by media narratives that highlight success stories and speculative booms, contributing to a perception of opportunity that may not fully reflect the **underlying risks** (Angerer et al., 2021). Despite the increasing accessibility of crypto-assets, the market remains highly volatile and exposed to issues such as fraud, hacking, and regulatory uncertainty (Delfabbro et al., 2021; Colon et al., 2021). In this landscape of limited institutional guidance and uneven financial education, individuals—particularly **non-professional investors**—may rely on cognitive shortcuts to make decisions. Biases such as the **Ostrich Effect** (avoiding negative information) and the **Pro-Innovation Bias** (overestimating the benefits of novel technologies) can significantly distort investment judgments (Galai & Sade, 2003; Rogers, 1976). These heuristics, while psychologically adaptive in uncertain environments, can increase exposure to financial loss when not balanced by critical reflection or accurate information (Mousavi & Gigerenzer, 2014; Slovic et al., 2007). Understanding the **psychological** and **contextual drivers** of crypto investment behavior is therefore essential for building strategies aimed at **improving financial decision-making** and **reducing vulnerability to risk**.

2 OBJECTIVE

This study aims to:

- investigate what are the main **psychological and social** factors that influence non-professional investors to **want to invest in the cryptocurrency market**,
- understand how **biases** and **emotions** affect their **decision-making** in a high risk financial environment,
- provide some insights to support development of **educational interventions** and investor **protection strategies**.

3 METHODS

Phase 1: Qualitative Study

Participants:

16 participants (8 males, 8 females), aged 22-36

Procedure:

- 1 focus group with non-investors
- 1 focus group with cryptocurrency investors

Two 2 hour online focus groups using semi-structured questions and interactive activities (e.g., Mentimeter, word cloud, role-playing) exploring attitudes, perceived risks and perceived benefits of cryptocurrency investment.

Analysis:

Thematic Analysis (Braun & Clarke, 2006)

Phase 2: Quantitative Study

Based on the themes that emerged in Phase 1, a structured online questionnaire including 43 items rated on 5-point Likert scales was developed to examine the psychological and contextual factors influencing investment intention.

Participants:

306 respondents (147 males, 159 females), aged 18-35

Measures:

- Sociodemographics:** age, gender, education level
- Social Influence:** 5 items from UTAUT2 (Venkatesh et al., 2012), Albayati et al. (2020), Chaouali et al. (2016))
- FOMO:** 10 items (Przybylski et al., 2013)
- Financial Knowledge:** 3 self-assessed items
- Future Outlook:** 4 items from the Consumer Confidence Index (Katona, 1968)
- Perceived Ease of Use:** 4 items (Albayati et al., 2020)
- Perceived Usefulness:** 6 items (Albayati et al., 2020)
- Investment Intention:** 4 items from TAM2 (Venkatesh & Davis, 2000)

Analysis:

Data were analyzed using **SPSS 28**, and statistical techniques including **correlations**, **regressions**, **t-tests**, **ANOVA**, and **mediation models** were applied using PROCESS for SPSS (Hayes, 2022).

4 RESULTS

QUALITATIVE PHASE RESULTS

Thematic analysis of focus groups revealed three key factors influencing cryptocurrency investment attitudes:

- Social Influence:** Importance of opinions from peers, friends, family, and public figures.
- Financial Knowledge:** Perceived ability to understand and manage crypto and general investments.
- Future Outlook:** Beliefs about the long-term potential and utility of cryptocurrencies.

social influence	financial knowledge	future outlook
Opinions of friends	familiarity with finance	Crypto's future potential
Opinions of family	percieved financial literacy	Use in various sectors
Admired figures	Ability to acquire financial informations	long-term investment perspective
FOMO		

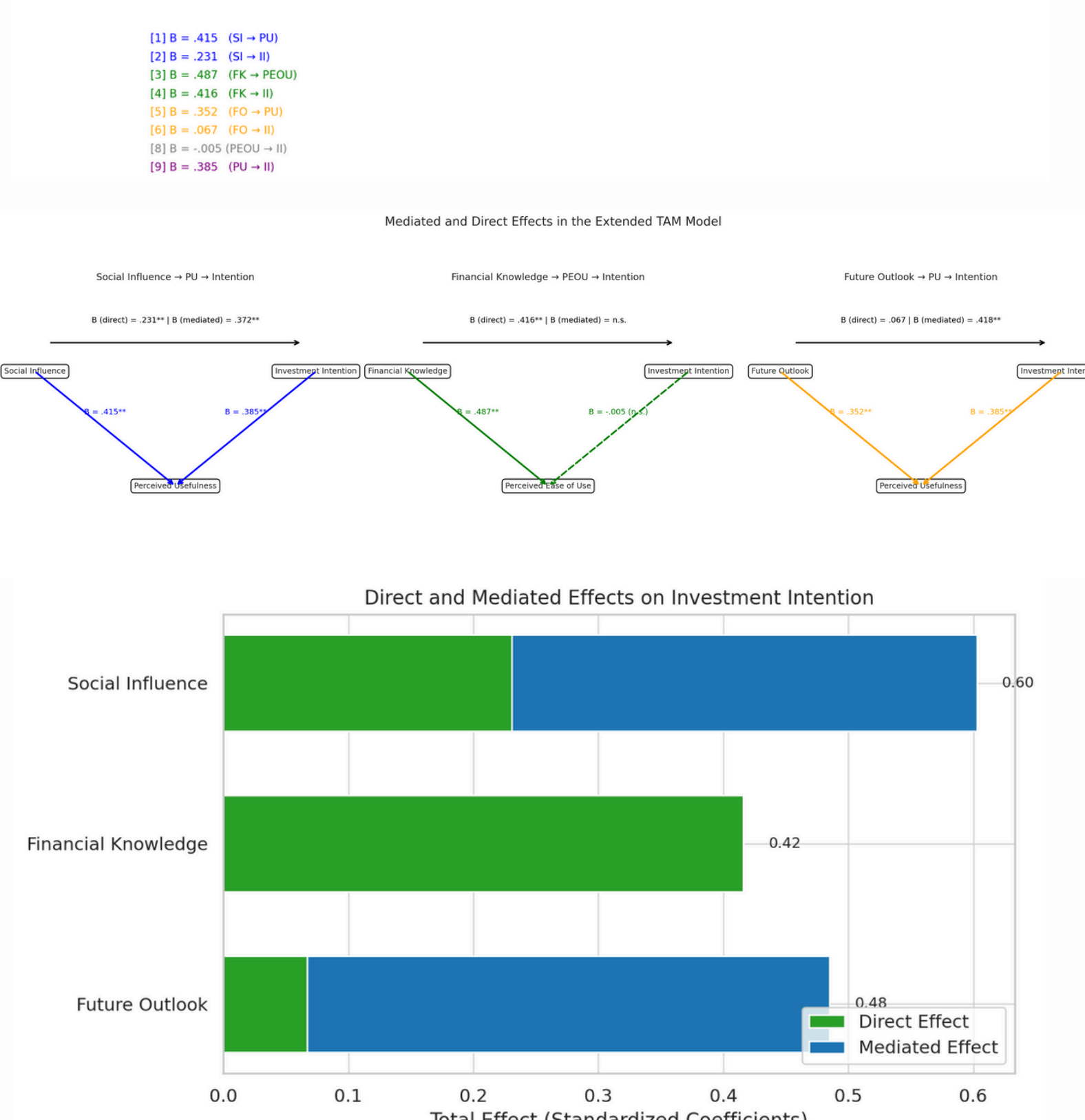
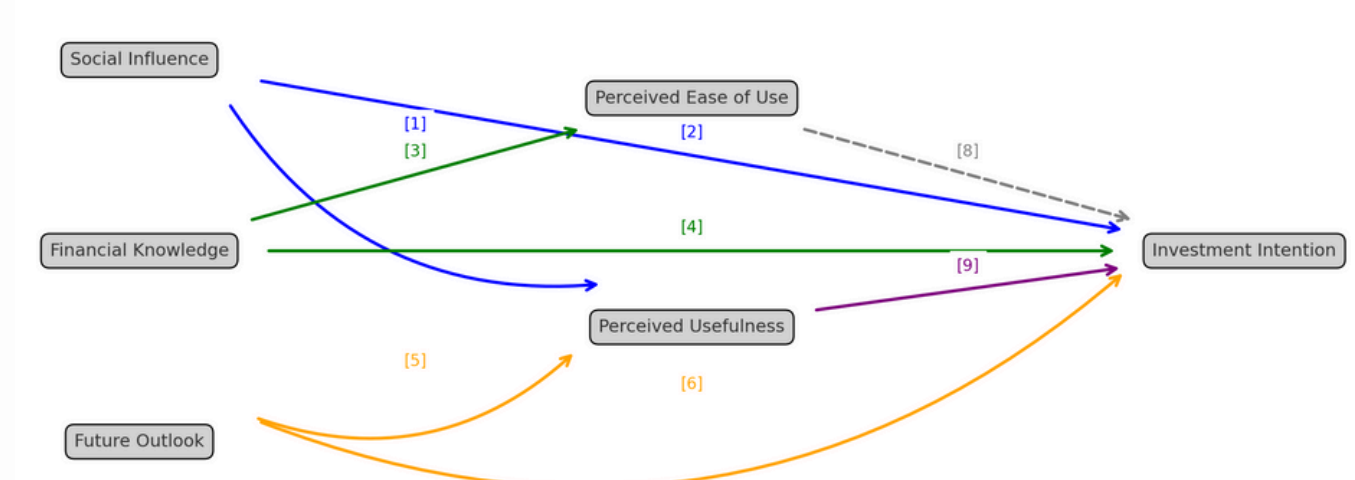
These themes highlighted both perceived risks and opportunities and were used to design the quantitative survey.

QUANTITATIVE PHASE RESULTS

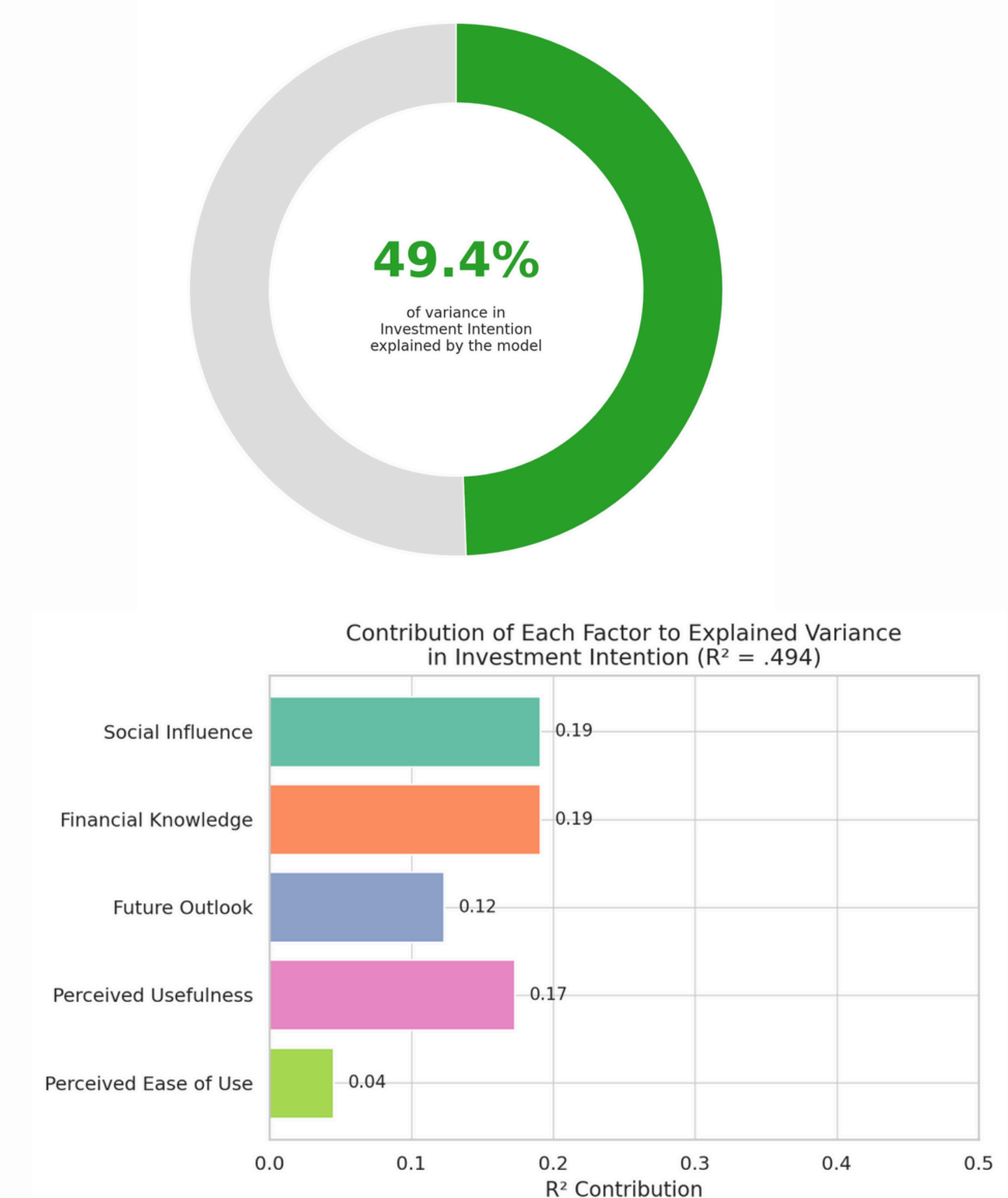
Based on qualitative findings, an **extended TAM model** (Davis, 1986) was developed by integrating the three external factors. Regression and mediation analyses confirmed the impact of the three external variables. The final model explained **49.4% of the variance** in investment intention.

Key Findings:

- Social Influence** had a **direct effect on investment intention** ($B = .437, R^2 = .191$) and on perceived usefulness ($B = .415, R^2 = .173$). A **partial mediation** via **perceived usefulness** explained 30.6% of investment intention ($R^2 = .306, B = .283, B = .372, p < .001$).
- Financial Knowledge** directly predicted **investment intention** ($B = .349, p < .001$), but **ease of use** had no significant effect ($B = -.005, p = .920$), showing no mediation.
- Future Outlook** was also significant ($B = .351, R^2 = .123$) and predicted perceived usefulness ($B = .352, R^2 = .124$). Partial mediation explained 27.6% of intention ($R^2 = .276, B = .204, B = .418, p < .001$).
- In the **full model** ($R^2 = .494$), only Social Influence ($B = .231$), Financial Knowledge ($B = .416$), and Perceived Usefulness ($B = .385$) remained significant predictors, while Future Outlook ($B = .067, p = .199$) and Ease of Use ($B = -.005, p = .920$) lost significance, suggesting indirect effects.



Model Predictive Power



5 CONCLUSIONS

This study, combining qualitative and quantitative methods, extends the **Technology Acceptance Model** by identifying social influence, financial knowledge, and future outlook as key **predictors of cryptocurrency investment intention**.

The results suggest that the strong impact of these external factors may be partially explained by cognitive biases:

- Overconfidence** could enhance the effect of **financial knowledge**
- Pro-Innovation Bias** and **FOMO** may amplify the role of **social influence** by boosting **perceived usefulness** and urgency to invest.
- Ostrich Effect** might underlie the weaker influence of **future outlook** and **ease of use**, as individuals selectively overlook risks.

Beyond highlighting these psychological mechanisms, the study offers a **valuable foundation for understanding which factors most strongly influence investment behavior—and potentially increase vulnerability to biased decision-making**.

These insights can inform future **financial education, critical thinking initiatives, and regulatory strategies aimed at reducing risk, particularly for less experienced investors, by promoting more informed and reflective financial choices**.

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