

The Meaning of Saving in the AI Era: Financial Literacy Among Widyatama University Students Using E-Wallets

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ABSTRACT: Amid the shift from cash to digital money, Generation Z increasingly conducts transactions through e-wallets rather than physical cash. Features such as auto-save and personalized recommendations have positioned AI as a financial assistant, yet students' competency to interact critically with these features remains unclear. This study explores how Widyatama University students reinterpret the practice of saving and utilize artificial intelligence (AI) as a saving assistant. The research method uses a descriptive-interpretive phenomenological design; this qualitative study employs in-depth semi-structured interviews with nine purposively selected student informants, analyzed through Colaizzi's seven-step method. Findings reveal an ambivalent reinterpretation of saving: while its core meaning — setting money aside for the future — is still maintained, the practice weakens because digital money removes the psychological friction once provided by physical cash, making saving feel more prone to being spent. Most informants were unaware that their e-wallets contained AI-based saving features, and where trust in AI did emerge, it stemmed from familiarity with the brand rather than genuine understanding of the underlying mechanism. Framed through the human-AI interaction competency theory, these findings show that students' AI-based financial literacy remains at the awareness stage, not yet reaching the competency needed to translate trust into effective saving behavior. Based on these findings, this study proposes an original conceptual contribution, the A-C-T Model (Awareness–Competency–Trust), explaining the sequential conditions required for AI to function effectively as a saving assistant.

KEYWORDS: saving behavior, artificial intelligence, financial literacy, e-wallet, human-AI interaction competency

I. INTRODUCTION

Looking at the current phenomenon, preliminary observations of how Widyatama University students conduct transactions when shopping around campus show clear evidence that the cashless lifestyle has become an entrenched habit. As many as 59% of respondents actively use digital payment methods because they are considered convenient and efficient, although concerns about security still remain [1]. This finding supports the phenomenon currently occurring among young people, particularly within the campus environment.

Digital transformation has changed the way young people perceive and interact with money. Generation Z has grown up in an almost entirely digital financial ecosystem, as money now exists in the form of an invisible e-wallet balance. An e-wallet, or electronic wallet, is defined as a financial-technology-based application that allows users to store balances, make payments, and conduct digital transactions without requiring physical cash [2]. The most popular e-wallets in Indonesia are GoPay, OVO, ShopeePay, DANA, and LinkAja, which have adapted the mobile banking system, making it easy for users to download and use these applications through the Play Store or App Store [2].

The previous generation, better known as the millennial generation, understood saving as a conventional activity of manually setting aside cash into a piggy bank or bank account. This shift in the form of money has also changed Generation Z's perception of saving, which is no longer understood conventionally, but rather as an abstract process often facilitated by a system. This phenomenon occurs not only in Indonesia but also in other countries such as India, where both generations are similarly strongly

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influenced by the digital revolution, marked by high usage of digital wallets, investment applications, and online banking platforms such as Paytm, Groww, and Zerodha [3]. Financial literacy among university students in Indonesia has in fact been a research concern since well before the widespread adoption of e-wallets, as shown in an earlier study examining how newcomer students in Bandung City managed their finances during the COVID-19 quarantine period [4].

Amid this shift, artificial intelligence (AI) has entered e-wallet applications as a financial assistant through features such as auto-save, round-up savings, and personalized saving recommendations. Students' ability to make proper use of these features is essentially part of financial literacy, which is defined as a combination of awareness, knowledge, skills, attitudes, and behavior needed by a person to make appropriate financial decisions in order to achieve financial well-being [5], or, more concisely, as an individual's level of understanding of basic financial concepts that influences financial behavior and decision-making [6]. The urgency of financial literacy in the Indonesian context is further underscored by its role in mitigating broader socioeconomic risks, such as the national online gambling crisis, which has been linked to poor financial literacy and problematic money-management behavior [7]. However, the presence of AI as an assistant does not automatically guarantee that young people truly possess the competency to interact with AI appropriately, rather than merely relying on it passively. Because the perception of saving has changed and is no longer conventional, students need to properly understand how to save effectively by making use of AI, rather than simply following automated features without understanding.

Research on the intersection between AI and financial literacy has expanded rapidly in recent years, spanning several thematic clusters. One cluster explores AI as an educational or content-delivery tool for financial literacy: generative AI has been used to produce financial education content that improves subjective knowledge and financial well-being [8], AI-based platforms have been used to teach financial literacy directly [9], embodied social robots have been piloted as literacy-teaching media [10], and machine learning has been proposed as a tool to advance personal finance research and practice more broadly [11]. A second cluster examines AI and digital literacy competency as antecedents of professional or financial capability, including AI literacy and critical thinking among prospective accountants [12], the role of psychological need satisfaction and self-regulated learning in shaping AI literacy among higher-education students [13], and the mediating role of perceived support in AI literacy development [14]. A third cluster consists of systematic and bibliometric reviews that map the growth of AI-and-financial-literacy research without empirically examining user experience [15]. A fourth cluster applies AI-driven financial literacy frameworks to specific contexts, including a sustainability-oriented ecosystem framework [16] and the ethical and strategic implications of AI-driven personal finance transformation [17]. Underlying much of this literature are behavioral-economics foundations that explain why the form of money shapes spending and saving decisions, including the pain-of-payment effect associated with different payment methods [18], mental accounting of savings and debt [19], and the socially constructed meaning of money [20].

Several prior studies have touched more directly on the intersection of AI and financial literacy, but with different perspectives, populations, and methods from this research. Ponuselvi and Rajathilagam [21] quantitatively compared financial knowledge retention between AI-based platforms and conventional methods among the general young-adult population. Hanson and Ott [22] tested causal relationships between literacy and trust variables toward AI through a quantitative model among cross-campus students, without exploring the experiences and meanings behind those figures. Wang, Lim, and Leong [23] mapped broad research trends on AI in financial literacy through a descriptive-mapping bibliometric review. The most recent study, Vijayananth and Saravanabhavan [24], introduced the construct of human–AI interaction competency as a variable that moderates the relationship between perceived algorithmic trust and sustainable financial behavior among retail investors in India, finding that the effectiveness of trust in AI is only realized in good financial behavior when accompanied by adequate competency. However, that study was quantitative, focused on adult stock investors, and did not explore how such competency is formed or subjectively interpreted by its users. The fundamental difference in this research lies in the phenomenological approach used to deeply explore how AI, as an assistant, reshapes the meaning and practice of saving among Widyatama University students — a population and everyday saving context different from retail investors — as well as the dimension of subjective experience that has not been touched upon by the studies reviewed above.

Based on the description above, this research aims to deeply explore the shifting meaning of saving among Widyatama University students as a result of the shift to digital money, and to analyze how human–AI interaction competency shapes the way they utilize AI as an appropriate and effective saving assistant. Theoretically, this research enriches the study of financial literacy by presenting a phenomenological perspective on the human–AI interaction competency construct, which has so far only been tested quantitatively. Practically, these findings can serve as a reference for e-wallet service providers in designing AI features that support literacy, as well as for educators and financial-literacy policymakers in developing saving education materials relevant to students. The research question of this study is: how do Widyatama University students reinterpret the practice of saving and make use of artificial intelligence as a saving assistant amid the shift from cash to digital money?

II. METHODOLOGY

This research uses a qualitative approach with a descriptive-interpretive phenomenological design. The descriptive dimension refers to Husserl's transcendental phenomenology tradition, which emphasizes describing informants' experiences as they are directly lived, while the interpretive dimension refers to Heidegger's hermeneutic phenomenology, which views the meaning of experience as never separate from the informant's life context [25]. The combination of both was chosen because this research seeks not only to describe students' saving experiences but also to interpret how the context of the digital generation shapes that meaning.

Informants were selected purposively using a maximum variation sampling strategy [26] from Widyatama University students, with the following criteria: aged 18–24 years, active e-wallet users for at least one year, and accustomed to transacting without cash. The number of informants was 9 people, referring to the point of data saturation, which is generally reached within a range of 6–12 interviews for a relatively homogeneous group of informants [27].

Data were collected through in-depth semi-structured interviews, covering five domains: (1) initial experience of using e-wallets and saving history; (2) personal interpretation of the current concept of saving; (3) understanding of and interaction with AI features on e-wallets; (4) level of trust in those features; and (5) challenges and reflections on the meaning of saving with the help of AI. Data were analyzed using Colaizzi's [28] seven-step phenomenological method, comprising a thorough reading of the transcripts, extraction of significant statements, formulation of meanings, clustering of themes into categories, an exhaustive description, description of the fundamental structure, and final validation through member checking. Colaizzi's method was chosen because it offers systematic steps that remain close to the raw data, producing a description that is concise yet comprehensive and directly validated by informants — a characteristic that makes it easier to apply than alternative methods such as Giorgi's approach, which is more distilling in nature [29]. Data trustworthiness was maintained through source triangulation among informants.

III. RESULTS

Based on interviews with 9 student informants from Widyatama University, four main thematic patterns were found that shape the map of the meaning of saving, as illustrated in Figure 1, along with one reflective theme that summarizes the informants' overall experience.

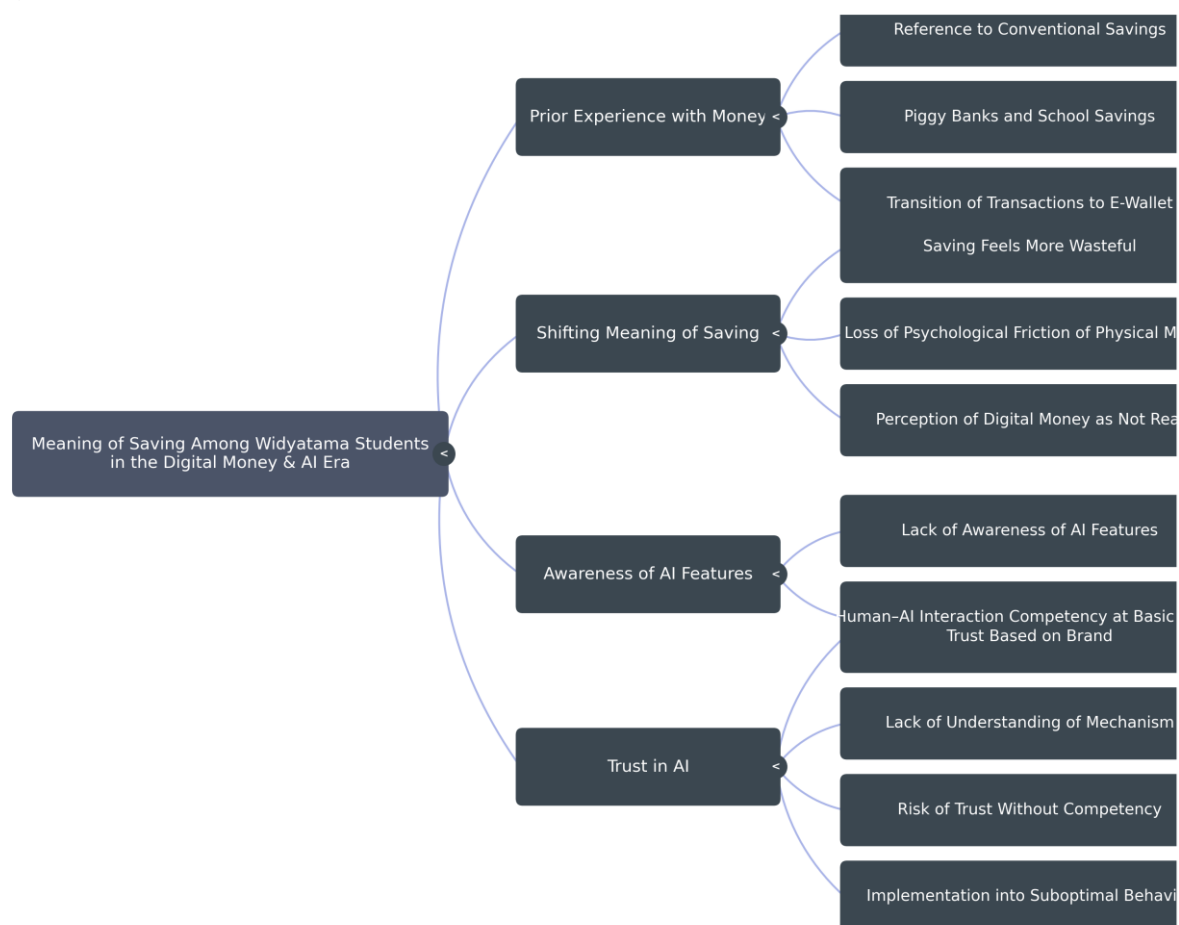


Fig. 1. Map of the meaning of saving among Widyatama students in the digital money and AI era, based on interview results

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1) Prior Experience with Money: Informants' adoption of e-wallets was generally driven by social and situational pressure rather than a deliberate, conscious decision. Nevertheless, cash and childhood conventional saving habits (piggy banks, school savings) remain the frame of reference they use to assess their current digital saving experience, indicating that the transition to digital money occurs alongside, rather than fully replacing, these inherited habits.

2) The Shifting Meaning of Saving: Most informants interpreted the e-wallet as a medium that actually weakens, rather than strengthens, their saving habits. Digital money was perceived as something not quite real — one informant even called it “phantom money” — because the ease of transacting removes the psychological friction that usually accompanies the act of holding and releasing physical cash. A small number of informants still retained the core meaning of saving, only acknowledging that its form and process had changed.

3) Awareness of AI Features: Most informants either did not know, or only realized during the interview, that the e-wallet they use has an AI-based auto-save or recommendation feature. Within the framework of human–AI interaction competency [24], this finding shows that Widyatama students generally sit at a very low level of competency, not yet even reaching the most basic stage — becoming aware that the AI system's output exists at all.

4) Passive Trust in AI: Among informants who use AI features, the trust that emerged did not stem from an understanding of how the algorithm works, but rather from trust in the application's brand in general — a pattern termed perceived algorithmic trust unmoderated by competency [24]. This kind of trust is prone to not being optimally translated into disciplined saving behavior, because it is not the result of critical evaluation, but merely a transfer of trust from experience using other features.

5) Challenges and Reflections on the Meaning of Saving with AI Assistance: As a closing theme that summarizes the four preceding themes, nearly all informants cited the temptation of online shopping as the main challenge of the digital era. Yet their reflections actually revealed an intuitive understanding consistent with the theory: one informant stated that “what matters most is still the habit of managing your money, not just the technology” — implicitly affirming that AI is only effective as a saving assistant when accompanied by user competency and discipline, rather than standing alone as an automatic solution.

IV. DISCUSSION

To explain how Widyatama students' financial literacy is formed in interpreting saving and using AI, this research constructs a flow of interrelated themes as illustrated in Figure 2, using the human–AI interaction competency framework [24] as the boundary of analysis.

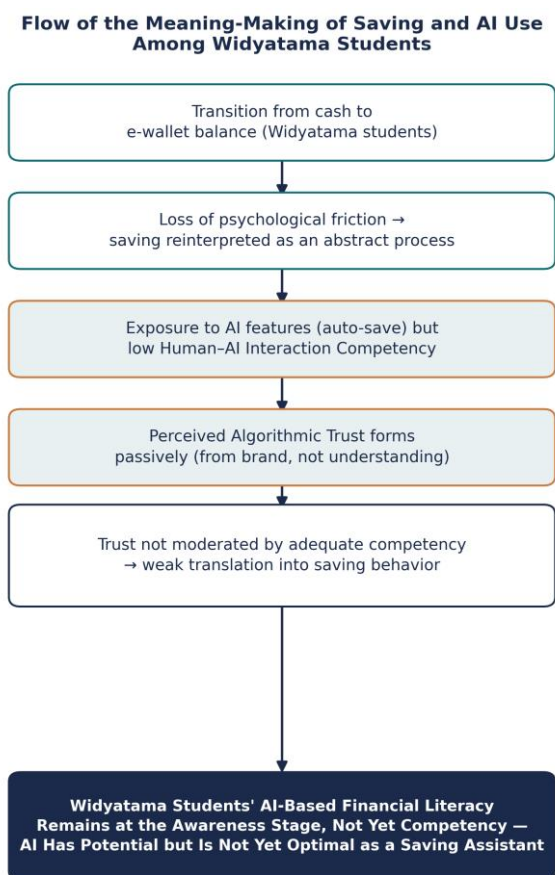


Fig. 2. Flow of the meaning-making of saving and AI use among Widyatama students

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This flow begins with the transition from cash to e-wallet balances, which removes the psychological friction that has long served as a natural control mechanism in conventional saving. As a result, students reinterpret “saving” as an abstract process prone to being diverted into spending, rather than a physical act that feels tangible. This finding reinforces the argument in the introduction that the shift in the form of money changes saving from a physical act into an abstract process vulnerable to losing its intentional meaning.

At the next stage, exposure to AI features on e-wallets turned out not to be accompanied by the competency to understand them. In line with the framework of human–AI interaction competency, which defines it as the capacity to understand, interpret, and evaluate the output of AI systems [24], most Widyatama students stop at the most basic stage, not even aware that such features exist. When trust in AI does form (among informants who use the feature), it arises from experience using other features of the same application (brand trust) rather than from critical evaluation of how the algorithm works — precisely the pattern of perceived algorithmic trust without competency that the theory predicts will result in a weak translation into financial behavior.

The convergence point of this entire flow is the informants' own reflection in the fifth theme — that the effectiveness of AI in saving depends on personal habit and discipline, not solely on the sophistication of the technology. This echoes the core argument of [24] while also providing qualitative context absent from their quantitative research: that AI-based financial literacy among Widyatama students currently remains at the awareness stage and has not yet reached the competency stage that would allow trust to be genuinely translated into effective saving practices.

V. CONCLUSIONS

Referring to the research question of how Widyatama University students reinterpret the practice of saving and make use of artificial intelligence as a saving assistant amid the shift from cash to digital money, this research concludes that this reinterpretation is ambivalent. On one hand, the core concept of saving is still maintained; on the other, its practice weakens due to the loss of the psychological friction of physical money, making digital money easier to spend than to save. As for the use of AI as a saving assistant, this has not yet been effective — not because of a rejection of the technology, but because Widyatama students generally still remain at a low awareness stage regarding the existence and workings of AI features, so that the trust that emerges is passive and not yet supported by adequate interaction competency.

Based on these findings, this research proposes an original conceptual model as a theoretical contribution, named the A-C-T Model (Awareness–Competency–Trust) in AI-Based Saving Practice. This model explains that AI can only function effectively as a saving assistant when three prerequisites are met sequentially: (1) Awareness — the user is aware of the existence and function of the AI feature within their financial application; (2) Competency — the user understands the workings and logic behind the AI's recommendations, rather than merely using them passively; and (3) Competency-Mediated Trust — trust in AI is formed through critical understanding, rather than a mere transfer of trust from the application's brand. The absence of any one of these prerequisites, as found among the majority of informants in this study who remained at the awareness stage, prevents AI from being optimally translated into disciplined saving behavior — a finding that both aligns with and extends the predictions of [24] into the qualitative meaning-making context of Indonesian students.

VI. RECOMMENDATIONS

For students, drawing on the human–AI interaction competency theory [24], which shows that trust in AI is only effectively translated into good financial behavior when accompanied by adequate competency, it is recommended that students consciously move from the Awareness stage to the Competency stage within the A-C-T Model — actively learning how AI features work before activating them. This is also consistent with the skill and behavior dimensions in the financial literacy frameworks of [30] and [5], which emphasize that literacy is not merely passive knowledge but the ability to apply it in real decisions. Students are also advised to maintain the habit of independently monitoring their financial condition, so that trust in AI arises from critical evaluation rather than a mere transfer of trust from the application's brand.

For future research, it is recommended that the A-C-T Model be tested quantitatively by operationalizing each stage using validated instruments — for example, the awareness, knowledge, skill, and behavior dimensions from [5] to measure the Awareness and Competency stages, and the perceived algorithmic trust and human–AI interaction competency constructs from [24] to measure the Trust stage.

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