



The Role of Financial Literacy in the Paradox of Financial Inclusion in the Era of Digital Wallets and PayLater Services

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ABSTRACT :

Digital financial inclusion in Indonesia has grown rapidly with the emergence of various financial innovations such as e-wallets and buy now, pay later (BNPL) services. However, this development presents a paradox: greater financial inclusion does not necessarily correspond to higher levels of financial literacy. In fact, society particularly Generation Z has shown increasingly consumptive and impulsive financial behavior. This study is a conceptual review that aims to analyze the role of financial literacy in moderating the influence of perceived ease of use of e-wallets and the fear of missing out (FOMO) on impulsive behavior. The method employed is a systematic conceptual review, analyzing recent literature (2020–2025) from academic journals and official reports published by institutions such as the Financial Services Authority (OJK) and Bank Indonesia. The findings indicate that both the ease of digital transactions and psychological factors like FOMO contribute substantially to impulsive financial behavior among Generation Z. However, financial literacy serves as a crucial cognitive buffer that mitigates the negative impacts of digital financial inclusion. Therefore, strengthening digital financial literacy is essential to ensure that financial inclusion initiatives are not only accessible but also sustainable, empowering young generations to achieve greater financial well-being rather than vulnerability.

Key words: *digital financial inclusion, financial literacy, FOMO, e-wallets, impulsive behavior*

ABSTRACT :

Inklusi keuangan digital di Indonesia telah berkembang pesat dengan munculnya berbagai inovasi finansial seperti *e-wallet* dan layanan *buy now, pay later* (BNPL). Namun, perkembangan ini menimbulkan sebuah paradoks: peningkatan inklusi keuangan tidak selalu sejalan dengan peningkatan tingkat literasi keuangan. Faktanya, Masyarakat khususnya Generasi Z menunjukkan perilaku finansial yang semakin konsumtif dan impulsif. Penelitian ini merupakan kajian konseptual yang bertujuan untuk menganalisis peran literasi keuangan dalam memoderasi pengaruh persepsi kemudahan penggunaan *e-wallet* dan fenomena *fear of missing out* (FOMO) terhadap perilaku impulsif. Metode yang digunakan adalah *systematic conceptual review*, dengan menganalisis literatur terkini (2020–2025) dari jurnal akademik dan laporan resmi yang diterbitkan oleh lembaga seperti Otoritas Jasa Keuangan (OJK) dan Bank Indonesia. Hasil kajian menunjukkan bahwa kemudahan transaksi digital dan faktor psikologis seperti FOMO berkontribusi secara signifikan terhadap perilaku keuangan impulsif di kalangan Generasi Z. Namun, literasi keuangan berperan sebagai penyangga kognitif penting yang dapat mengurangi dampak negatif

dari inklusi keuangan digital. Oleh karena itu, penguatan literasi keuangan digital menjadi hal yang esensial agar inisiatif inklusi keuangan tidak hanya bersifat aksesibel, tetapi juga berkelanjutan—memberdayakan generasi muda untuk mencapai kesejahteraan finansial yang lebih baik, bukan kerentanan.

Key words: Inklusi Keuangan Digital, Literasi Keuangan, FOMO, e-Wallet, Impulsive Buying

INTRODUCTION

Financial inclusion has become one of the main pillars of Indonesia's economic development strategy, aiming to promote equitable and sustainable growth. This agenda emphasizes expanding access to formal financial services so that all segments of society including low-income groups and younger generations can manage and develop their financial resources more effectively¹. With broader access to financial services, individuals are expected to improve their economic well-being, reduce dependence on risky informal financial practices, and participate more actively in the national digital economy.

In the past decade, digital transformation driven by financial technology (fintech) innovation has significantly reshaped Indonesia's financial landscape. Digital financial services such as electronic wallets (e-wallets) and buy now, pay later (BNPL/PayLater) facilities have emerged as key instruments for accelerating financial inclusion. Surveys indicate that by 2024, approximately 96% of respondents had used e-wallets for digital payments, reflecting the widespread adoption of cashless transactions. In addition, the use of PayLater services is predominantly concentrated among younger age groups, with around 43.9% of users belonging to the Millennial generation (aged 26–35) and 26.5% classified as Generation Z (aged 18–25)². These trends suggest that digital financial services play a particularly important role in shaping the financial behavior of young consumers.

Despite these positive developments, the rapid expansion of digital financial access has also given rise to a paradox of financial inclusion. Wider access to technology-based financial services is not always accompanied by an adequate level of financial capability or literacy³. According to the Financial Services Authority (OJK), Indonesia's financial literacy index reached 65.43% in 2024, while the financial inclusion index stood at 75.02%. In earlier periods, the gap was even more pronounced, with financial literacy recorded at approximately 49.68% while

¹ Rahmalia, Ariusni, and Triani, "Pengaruh Tingkat Pendidikan, Pengangguran, Dan Kemiskinan Terhadap Kriminalitas Di Indonesia."

² Nabila, "Millennials and Gen Z Dominate PayLater Users in Indonesia."

³ Rahmad Ramadhani, Sintia Safrianti, and Fauzan Fauzan, "Pengaruh Literasi Keuangan, Inklusi Keuangan Dan Financial Technology Terhadap Perilaku Keuangan Dengan Lifestyle Sebagai Variabel Pemoderasi."

inclusion reached 85.10%. This persistent disparity highlights a structural imbalance between access and capability. At the same time, OJK reported that the volume of PayLater contracts in Indonesia reached 72.88 million in 2023, with a total transaction value of IDR 33.6 trillion an increase of 119% compared to the previous year. These figures indicate that although access to digital financial services is expanding rapidly, the capacity to manage such access responsibly remains uneven⁴.

This gap is particularly concerning among Generation Z, who are digital natives and highly familiar with financial technology but often lack sufficient awareness of the long-term consequences of their financial decisions. Empirical studies support this concern. Tambunan et al. (2023) found that financial literacy has a significant positive effect on Generation Z's ability to repay PayLater obligations. Similarly, Muzakkir, Syam, and Fatwa (2024) reported that while Generation Z quickly adopts fintech services such as PayLater, they face substantial challenges related to risk awareness and financial literacy⁵. These findings suggest that technological familiarity does not automatically translate into sound financial behavior. Beyond structural and technological factors, psychological dimensions also play a crucial role in shaping digital financial behavior. One prominent factor is the phenomenon of Fear of Missing Out (FOMO), which reflects anxiety about being excluded from socially valued experiences or trends⁶. Generation Z is continuously exposed to lifestyle and consumption-oriented content through social media platforms such as TikTok, Instagram, and live commerce channels (e.g., Shopee Live). This exposure creates social pressure to remain "up-to-date" and relevant. Moreover, e-commerce algorithms that emphasize urgency through flash sales, limited-time offers, and countdown timers intensify loss aversion and encourage impulsive purchasing decisions. As a result, digital financial access, while increasing inclusivity, simultaneously introduces new behavioral risks when not accompanied by adequate self-control and financial literacy⁷.

⁴ OJK, "OJK Highlights Need to Increase People's Financial Literacy."

⁵ Muzakkir, Azisah Syam, and Fatwa, "Integrasi Layanan Fintech Dalam Platform E-Commerce: Studi Kasus Penggunaan Paylater Pada Generasi Z."

⁶ Przybylski et al., "Motivational, Emotional, and Behavioral Correlates of Fear of Missing Out."

⁷ Fitri et al., "The Influence Of Financial Literacy And Lifestyle On The Ability To Pay Spaylater Among Gen Z."

Previous studies on digital financial inclusion in Indonesia have largely focused on technology adoption, user satisfaction⁸, or macroeconomic impacts⁹ of fintech innovation¹⁰. Many of these studies rely on the Technology Acceptance Model (TAM) to explain how perceived ease of use and perceived usefulness drive fintech adoption. However, such approaches tend to stop at adoption intention and usage rates, offering limited insight into post-adoption financial behavior. Consequently, the behavioral and psychological consequences of digital financial inclusion such as impulsive consumption, overreliance on PayLater facilities, and delayed repayment remain underexplored, particularly among younger demographics.

Research in behavioral finance, on the other hand, has demonstrated that financial behavior is shaped not only by rational evaluation but also by emotional and social factors¹¹. In this regard, the Theory of Planned Behavior (TPB) proposed by Ajzen (1991)¹² provides a more comprehensive framework for explaining financial decision-making. TPB posits that behavior is influenced by attitudes, subjective norms, and perceived behavioral control. Recent studies have integrated financial literacy into this framework to explain digital financial behavior. For example, Komalasari and Firmansyah (2025) employed TPB to analyze the effects of digital financial literacy and self-control on PayLater behavior among Generation Z. Similarly, Ramadhani et al. (2025) found that financial literacy and financial technology positively influence the financial behavior of Generation Z, while access to formal financial inclusion alone does not produce meaningful behavioral change in the absence of adequate literacy¹³. These findings underscore the importance of viewing financial literacy not merely as knowledge, but as a form of behavioral control that shapes how individuals respond to technological convenience and social pressure.

From a stakeholder perspective, this issue carries significant implications. For regulators such as the Financial Services Authority (OJK) and Bank Indonesia, insufficient financial literacy may undermine consumer protection efforts and pose risks to financial system stability. For fintech providers, irresponsible usage of digital payment and PayLater services can increase default risk

⁸ Ayu et al., "Financial Literacy Moderation on the Influence of E-Wallet Usage and Locus of Control on Consumptive Behavior of Generation Z in Denpasar City The Role of Finance Literacy Moderation on the Influence of Lifestyle and Financial Technology on the Consumption."

⁹ Allen, Gu, and Jagtiani, "Fintech, Cryptocurrencies, and CBDC: Financial Structural Transformation in China."

¹⁰ Boitan and Marchewka-Bartkowiak, *Fostering Innovation and Competitiveness With FinTech, RegTech, and SupTech*.

¹¹ Xu and Tian, "Effects of Fear of Missing out on Inhibitory Control in Social Media Context: Evidence from Event-Related Potentials."

¹² Ajzen, "The Theory of Planned Behavior."

¹³ Rahmad Ramadhani, Sintia Safrianti, and Fauzan Fauzan, "Pengaruh Literasi Keuangan, Inklusi Keuangan Dan Financial Technology Terhadap Perilaku Keuangan Dengan Lifestyle Sebagai Variabel Pemoderasi."

and reputational concerns. For educators and society at large, the long-term consequence may be the emergence of a generation that enjoys unprecedented access to financial tools but remains vulnerable to financial stress and over-indebtedness.

Based on these theoretical and empirical considerations, this study aims to develop a conceptual model that explains the role of financial literacy in addressing the paradox of digital financial inclusion in the era of e-wallets and PayLater services. Grounded in the Theory of Planned Behavior, this study positions financial literacy as perceived behavioral control, while Fear of Missing Out represents subjective norms shaped by digital and social environments. By integrating financial literacy, psychological factors, and fintech convenience into a single framework, this research offers a novel perspective that moves beyond technology adoption and focuses on post-adoption financial behavior. The emphasis on PayLater usage and the consumptive lifestyle of Generation Z highlights the novelty of this study and contributes to a deeper understanding of sustainable and responsible digital financial inclusion in emerging economies such as Indonesia.

Methods

This study employs a systematic conceptual review¹⁴ approach. Data were collected through a structured literature search of peer-reviewed journals indexed in Scopus, SINTA, and other reputable databases, as well as official reports published by OJK, Bank Indonesia, and international institutions. The review covers publications from 2020–2025 to ensure relevance and currency.

The data collection technique involved keyword-based searches (e.g., *financial literacy*, *digital wallets*, *PayLater*, *FOMO*, *impulsive buying*, *Generation Z*), followed by screening based on relevance, methodological rigor, and publication credibility. Selected studies were then coded and categorized according to key variables and theoretical perspectives.

The analysis proceeded in three stages: (1) identification of core concepts; (2) comparison and synthesis of findings across studies; and (3) development of conceptual propositions and an integrative model. This method aims to build theory rather than test hypotheses statistically.

Result and Discussion

Ease of Use of E-Wallets and Impulsive Buying

In Indonesia's digital economy, e-wallets and "buy-now-pay-later" (BNPL) services have made payments exceedingly convenient. Features like one-click checkout, auto-debit, cashback,

¹⁴ Hadi, Tjahjono, and Palupi, *Systematic Review: Meta Sintesis Untuk Riset Perilaku Organisasional*.

and instant promo reminders effectively lower the psychological “pain of paying” – the sense of loss felt when spending money¹⁵. In behavioral terms, these cashless methods mask the monetary cost and fuel impulsive spending. Empirical evidence confirms this: recent literature finds that payment design itself is a key driver of impulse purchases. For example, a systematic review reports that BNPL schemes and e-wallet options *reduce* the pain of paying and thus *increase* impulsivity, whereas cash-on-delivery heightens cost salience and dampens impulse. In other words, digital ease-of-use removes friction and makes purchases feel lighter, aligning with Prelec and Loewenstein’s (1998) insight that disassociated payments lessen spending restraint.

This dynamic is visible in current trends (*sandingkan*): surveys show Gen Z leading in fintech usage. For instance, about 62% of Indonesian PayLater users are aged 18–30¹⁶. These young consumers, eager for the latest gadgets and fashion, use seamless credit services and e-wallet apps to buy on impulse. E-commerce campaigns (flash sales, countdowns, limited offers) exploit the reduced payment friction to prompt quick buys. Thus the very convenience that fosters financial inclusion also amplifies impulsiveness among tech-savvy youth.

Studies *bandingkan* previous findings on this ease-of-use effect. Globally, researchers similarly note that digital payments weaken spending restraint. For example, Lee *et al.* research find that “perceived enjoyment” of e-wallets positively drives impulse buying, even if basic satisfaction does not. Likewise, our systematic review source highlights that e-wallet adoption correlates with higher online impulse buying because spending feels less painful¹⁷. These results resonate with Theory of Planned Behavior (TPB): ease-of-use likely boosts perceived behavioral control (purchasing seems effortless) and enhances positive attitude toward buying. However, the actual impulse depends on other triggers as well.

Interestingly, some evidence *tandingan* this view. A recent Indonesian study using a Technology Acceptance Model (TAM) found that perceived ease-of-use (PEOU) of an e-wallet had *no* significant direct effect on impulse-buying attitudes¹⁸. In that study, only enjoyment and perceived usefulness (hedonic and utilitarian value) predicted consumer attitude, and cognitive attitude did not translate into more impulsive buys. This suggests that mere usability alone may not automatically induce impulsive purchasing; it often requires emotional or contextual catalysts

¹⁵ Bakar, Fauziyah, and Rahmat, “Do Consumers Perceive Impulsive Buying and Pain of Payment? E-Commerce Transactions Using Pay Later, E-Wallet, and Cash-On-Delivery.”

¹⁶ Nurfaiza and Prayitno, “Exploring Factors Influencing Gen Z’S Paylater Usage Intention And Its Impact On Impulsive Buying.”

¹⁷ Lee et al., “Small Probabilistic Discounts Stimulate Spending: Pain of Paying in Price Promotions.”

¹⁸ Underdown and Tamara, “Digital Wallets: A Study on the Influence of Consumer Perceptions and Attitudes on Impulsive Consumer Behaviour.”

(e.g. fun, peer pressure) to translate convenience into action. In sum, while the prevailing literature shows e-wallet convenience generally *enables* impulsivity (consistent with “pain of paying” theory), some findings indicate this link is mediated by attitudes or hedonic motivation and not purely structural. This gap points to a need to study when and how ease-of-use matters most – for instance, whether minimal checkout friction requires concurrent marketing stimuli to trigger impulse.

Fear of Missing Out (FOMO) and Impulsive Buying

Fear of missing out (FOMO) refers to the anxiety of being left out of rewarding experiences or opportunities. In consumption contexts, FOMO acts as a powerful social-emotional driver. It functions like a normative belief in TPB: social cues (friends’ purchases, trending items, live sales) create pressure to buy. Our review indicates FOMO strongly amplifies impulsive buying among digital youth. A systematic analysis identifies FOMO as one of the key psychological clusters fueling Gen Z impulse purchases¹⁹. For example, promotional tactics on platforms like TikTok, Shopee, and Instagram – flash sales, countdown timers, influencer deals – leverage FOMO to instill urgency and a sense of scarcity (loss aversion). This triggers spur-of-the-moment buys. Empirically, a field study of Indonesian Gen Z (age 18–24) found that FOMO had a *strong and significant* positive effect on impulsive purchase decisions (standardized $\beta \approx 0.62$, $p < 0.001$). In that survey, general social-media ads had little direct impact on buying, but they *indirectly* drove impulse via FOMO. In short, emotional and social triggers outweigh pure marketing exposure: when Gen Z consumers feel everyone else is buying or that a deal is fleeting, they tend to buy on impulse²⁰.

This aligns with current phenomena (*sandingkan*): Indonesian youth culture is ripe for FOMO-driven buying. Media reports note Gen Z’s “YOLO” mindset and pervasive FOMO make them jump on trends without deliberation²¹. Their constant exposure to peers’ lifestyles on social media creates a feedback loop: as one friend shows off a new gadget or outfit, others feel compelled to do the same immediately. For instance, OJK highlights that many young Indonesians cite FOMO as a reason to take quick loans or buy new products to keep up with friends²². These social

¹⁹ Xu and Tian, “Effects of Fear of Missing out on Inhibitory Control in Social Media Context: Evidence from Event-Related Potentials.”

²⁰ Arifin, Mismiwati, and Anwar, “The Effect of Fomo (Fear of Missing Out) and Price Discount on Impulse Buying with Religiosity as a Moderating Variable in Palembang City People Who Shop at E-Commerce Shopee.”

²¹ Kumparanbisnis, “OJK: Literasi Keuangan Gen Z Paling Rendah, Banyak Yang Terjerumus Pinjol.”

²² Amalia, “5 Fakta Literasi Finansial Gen Z Berdasarkan Survei OJK.”

media fintech interactions (“shoppertainment”) are exactly the scenario where impulsive buying thrives.

Comparing to previous studies, our analysis confirms established patterns. Worldwide, researchers find that FOMO correlates with higher impulse purchases in youth segments. The systematic review we cite explicitly clusters FOMO and social comparison as major internal drivers of Gen Z’s impulse buying, noting these reduce evaluative restraint. Other regional surveys echo this: studies of Indonesian university students report that stronger FOMO tendencies predict more frequent impulsive transactions (often via e-wallet or PayLater) as young people try to “keep up” with trends. This is consistent with Ajzen’s TPB framework: FOMO inflates attitudes (buying seems positive/socially rewarding) and subjective norms (“everyone else is buying”), thus raising the intent to purchase immediately.

On the other hand, contradictions and gaps emerge. The role of FOMO may differ across contexts and cultures, but comparative work is limited. For example, some research suggests collectivist cultures might exhibit even stronger FOMO effects due to high value on group conformity. Conversely, a few reports imply that when FOMO is coupled with higher financial literacy or skepticism, its impact on behavior lessens – but evidence is thin. In our conceptual model, we note that while most evidence points to FOMO *increasing* impulsivity, more work is needed on boundary conditions: Do certain product categories or personalities weaken the FOMO-impulse link? Are Gen Z in Indonesia more susceptible than, say, urban Gen Z in Western countries? These are open questions.

Financial Literacy and Consumer Control

Financial literacy refers to the knowledge, attitudes, and skills that enable sound financial decisions. In our framework, it is the counterbalance to impulsive triggers. Literate individuals better understand budgets, interest costs, and long-term consequences; they can delay gratification and apply self-control. Indeed, theory and data suggest financial literacy acts as an internal brake on impulse. Lusardi and Mitchell²³ describe literacy as encompassing not just facts but the ability to use that knowledge – for instance, to critically evaluate a fast credit offer or a flashy sale. In practice, high-literacy Gen Z are more likely to think through purchases and resist emotions. In Indonesia, the need for this brake is acute. National surveys consistently show Gen Z has very low financial literacy scores despite being highly connected. OJK reports that teenagers (15–17) – part of Gen Z – have the *lowest* literacy index of any age group, even as their access to digital finance is among the highest. In other words, many young Indonesians are digital savvy but financially

²³ Lusardi and Mitchell, “The Economic Importance of Financial Literacy: Theory and Evidence.”

uninformed. This gap underlies the “paradox of financial inclusion”: apps abound, but users lack knowledge to use them wisely. For example, unverified reports note that students with poor financial knowledge have fallen into pay-later debt and excessive installments. Even formal data show Gen Z has the lowest literacy rates (around 50–52%) despite widespread gadget use²⁴.

Our comparative review indicates that financial literacy consistently correlates with more responsible behavior. For instance, one Indonesian student study found that greater literacy predicted lower impulse-buying tendencies (those with good literacy were better at resisting urges). Internationally, educational programs are known to reduce impulsivity among youth. These findings align with cognitive-control theory: literate people can recruit self-control to override “hot” impulses. This also ties into the pain-of-paying concept²⁵: literate consumers mentally account for spending, so they feel the cost even when using digital wallets.

However, some tensions appear in the literature. A few studies surprisingly show only a weak link between basic financial knowledge and impulsivity among youth in heavily promotional environments. It may be that literacy alone isn’t enough if persuasive tactics are overwhelming. Moreover, existing research often measures general financial education, not fintech-specific know-how. In Indonesia, few studies have explicitly tested how fintech literacy (knowing how e-wallets, promo cycles, and credit tools work) affects impulse. This gap suggests a need to distinguish between general literacy and digital-finance literacy in future work.

Proposition 4 (P4): Financial literacy weakens the relationship between e-wallet ease of use and impulsive behavior; the higher a person’s financial literacy, the lower the likelihood that transaction convenience will lead to consumptive behavior.

Moderating Role of Financial Literacy

Combining the above factors, our conceptual model proposes that financial literacy *moderates* the effects of e-wallet ease-of-use and FOMO on impulsive buying. In effect, literacy provides cognitive and emotional control that can dilute or redirect impulses. When a fintech app makes checkout frictionless, a financially savvy user may still pause to check account balance or compare prices. When FOMO creates urgency, a literate consumer might recall a savings goal or read the fine print before buying. This moderation reflects cognitive-control theory: individuals with higher self-regulatory capacity (bolstered by knowledge) can inhibit knee-jerk decisions²⁶. It

²⁴ Kumparanbisnis, “OJK: Literasi Keuangan Gen Z Paling Rendah, Banyak Yang Terjerumus Pinjol.”

²⁵ Prelec and Loewenstein, “The Red and the Black: Mental Accounting of Savings and Debt.”

²⁶ Nyrhinen et al., “Online Antecedents for Young Consumers’ Impulse Buying Behavior.”

also resonates with TPB: literacy strengthens perceived control over behavior, and may even shape attitudes to be more cautious.

Our analysis suggests that with high financial literacy, the positive pathways from ease-of-use and FOMO to impulse *weaken*. For example, even if an e-wallet feels easy (lowers pain), a literate user reintroduces the sense of cost and risk, effectively restoring some pain-of-paying. Likewise, FOMO-induced urge can be “intercepted” by reflective thinking. A recent Indonesian review explicitly calls for stronger literacy initiatives to balance the new impulse drivers in the market²⁷. Although most existing models treat literacy as a direct factor, our integration is novel: we cast it as a buffer in a digital context. This fills a gap in prior research, which rarely tests moderation explicitly.

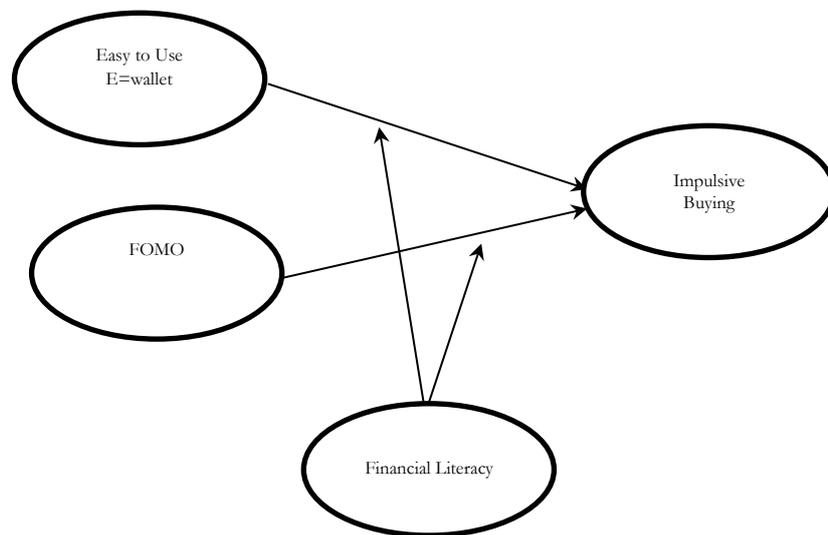
In comparative perspective, few empirical studies have examined this exact moderation. One unpublished local survey (not yet widely cited) found no clear moderating effect of general financial literacy on e-wallet impulse purchase behavior, hinting at complexity. Nevertheless, our theory implies that literacy should at least partially attenuate the impact of fintech triggers. This would help resolve the “inclusion paradox”: broad access to finance (via e-wallets, loans) must be matched by user capacity, or else inclusivity simply accelerates uncontrolled spending.

Therefore, financial literacy functions as a psychological brake that diminishes the impact of FOMO on impulsive purchasing decisions. Empirical research by Erna Retna²⁸ revealed that financial literacy significantly weakens the relationship between digital social pressure and consumptive behavior among Gen Z in Surabaya. Hence, high financial literacy is expected to reduce the influence of FOMO on impulsive behavior among Generation Z fintech users in Indonesia.

Based on the theoretical framework and propositions discussed above, the following conceptual model is proposed for this study. :

²⁷ Bakar, Fauziyah, and Rahmat, “Do Consumers Perceive Impulsive Buying and Pain of Payment? E-Commerce Transactions Using Pay Later, E-Wallet, and Cash-On-Delivery.”

²⁸ Retna, “Research in Business & Social Science Financial Behavior of Generation Z in Surabaya City : Analysis of the Relationship between Financial Literacy and Lifestyle.”



Based on the systematic review of recent studies published between 2020 and 2025, it was found that ease of e-wallet use, Fear of Missing Out (FOMO), and financial literacy are strongly interconnected in shaping impulsive buying behavior among Generation Z in the digital era. These three factors represent technological, psychological, and cognitive dimensions that jointly explain why young consumers are more prone to unplanned and emotionally driven spending in digital financial environments.

Our conceptual findings must be situated in Indonesia’s rapidly evolving digital finance landscape. As regulators report, Indonesian fintech adoption has exploded: by 2024 nearly 180 million Indonesians used smartphones and internet penetration reached ~79%²⁹. Mobile payments have surged – Bank Indonesia data show QRIS (standardized QR code payments) with 56.3 million users and 2.6 billion transactions worth IDR 262.1 trillion in Q1 2025. E-money transactions grew from IDR 305.4 trillion in 2021 to IDR 594.2 trillion by 2024. Digital wallets (GoPay, OVO, DANA, ShopeePay, etc.) now dominate payments – accounting for ~39% of all transactions³⁰ and the BNPL/“pay-later” market is rapidly expanding (projected to reach US\$8.6 billion by 2025). Notably, Indonesia’s young Gen Z (born 1997–2012) makes up a large share of these users: nearly 99.5% of Indonesians age 16+ own a smartphone and spend 7½ hours/day online (mostly on social media), heightening exposure to trend-driven FOMO influences. Yet digital/financial literacy lags behind: only ~50% financial literacy and 41% digital literacy³¹. This mismatch – ubiquitous, easy mobile payments versus modest literacy – provides a real-world backdrop: our model posits that seamless e-wallet interfaces and peer-driven FOMO

²⁹ “Indonesian Country Commercial Guide.”

³⁰ Liyu, “Unlocking Opportunities in Indonesia: Southeast Asia’s Largest Digital Payments Market.”

³¹ World Bank Grup, “Inclusion Through Innovation in Financial Services: Winning Over Businesspeople and Consumers in Indonesia.”

fuel Gen Z's adoption and spending, but that human capital (financial literacy) is crucial for tempering impulsive consumption.

This model is grounded in established theories. Ajzen's Theory of Planned Behavior (1991) posits that behavioral intention follows from attitude, subjective norms, and perceived control. In our context, ease-of-use and convenience shape Gen Z's *attitudes* toward e-wallets, and pervasive social cues (social media, peer influence) create a normative pressure – essentially, FoMO embodies a felt subjective norm (“everyone's using it, so I should too”). Perceived behavioral control – one's sense of capability – ties closely to financial literacy and self-efficacy. Thus, our model interprets higher literacy as bolstering perceived control and thus facilitating rational use of digital finance.

Cognitive control theory further illuminates how literacy acts as an internal regulator. This theory emphasizes that successful self-control relies on higher-level cognitive processes “interfering” with more automatic impulses³². In practice, a Gen Z user with strong financial knowledge can engage those cognitive controls to resist impulsive spending triggered by FoMO or seamless payments. By contrast, a user low in literacy may lack this interference and default to impulsive consumption. In other words, financial literacy provides the cognitive “supervisory system” needed to override immediate temptations.

The “pain of paying” concept (Prelec & Loewenstein, 1998) explains another mechanism at play. Paying with cash induces a psychological “sting” as money is tangible; digital payments largely eliminate this pain, so consumers spend more easily. Meta-analytic evidence confirms digital methods significantly reduce the pain of paying and thereby increase spending. In Indonesia's context, Gen Z's default to digital wallets means this pain is minimal, so the decision to buy feels “free,” especially under FoMO pressure. Our model thus incorporates pain-of-paying to show why ease-of-use and frictionless design can backfire: without some disincentive (like a required PIN or reminder), overspending ensues.

Practical Implications

This findings carry concrete lessons for policymakers, fintech firms, and educators. Regulators (OJK, Bank Indonesia) should note that while digital inclusion is expanding rapidly, consumer protection and education must keep pace. For example, Bank Indonesia's QRIS and FAST initiatives have driven growth, but the World Bank notes that “a lack of trust and low financial literacy remain hurdles” to safe use. OJK and BI could build on their recent digital finance

³² Dewitte, “From Willpower Breakdown to the Breakdown of the Willpower Model - The Symmetry of Self-Control and Impulsive Behavior.”

campaigns (e.g. DFS learning modules launched in 2023) by specifically addressing FoMO-driven risks. This might include mandatory disclosures for BNPL/paylater products, or limiting aggressive paylater marketing to students and youths. Regulators could also require e-wallet apps to implement spending alerts or compulsory waiting periods for large purchases, effectively reintroducing a measure of the “pain of paying” as a brake on impulse.

For fintech platforms and e-wallet designers, usability remains vital but must be balanced with safeguards. Our model implies that seamless, gamified features (e.g. one-tap checkout, virtual coin animations) enhance user engagement³³, but they can inadvertently fuel overspending. Platforms should consider built-in budget tools: for instance, optional pop-ups summarizing monthly spending, or “you have X days to pay” reminders that make costs salient. According to consumer research, every extra touchpoint (e.g. confirmation dialogs) can raise the pain of paying and slow impulsive spending. Moreover, embedding micro-learning modules or tips about saving and debt management in apps could leverage “teachable moments” – for example, after a high-spend transaction, the app could suggest a short quiz on credit costs. Our emphasis on design aligns with studies showing that perceived ease and enjoyment (hedonic value) boost continued use; thus fintechs can sustain engagement by combining friendly interfaces with educational nudges.

Educators and financial literacy campaigners should also adapt strategies. Gen Z users live online, so literacy programs must meet them there. Campaigns could highlight how “YOLO/FOMO” mindsets can lead to financial pitfalls – for example, social-media challenges that simulate high-interest debt accumulation. Teaching cognitive-control techniques (like goal-setting or mental accounting) can give youths tools to counteract impulse buys. The OJK’s surveys show Gen Z literacy is still relatively low, underscoring that even tech-savvy students need basic skills. Schools and NGOs might incorporate modules on the psychology of spending (covering concepts like FoMO and pain-of-paying) into personal finance curricula. In practice, our model suggests focusing not just on *what* products are (bank accounts, e-wallets) but on *how* attitudes and social pressures shape usage.

Addressing Gaps in the Literature

Our framework explicitly fills several lacunae in prior research. First, few studies have treated financial literacy as a moderator rather than merely an independent predictor. As [25] and [33] imply, literacy often is examined in isolation, but our model highlights its buffering role: it

³³ Saputra and Ridhaningsih, “The Influence of Perceived Ease of Use and Perceived Security Regarding Continuance Intention to Use E-Wallet Dana with Hedonic Value as a Mediating Variable (Case Study on Students of Padang State University).”

weakens the pathway from ease/FoMO to irresponsible spending. This perspective complements and extends findings like “FoMO is strong but loses significance when literacy is present”³⁴. Second, most fintech adoption models stop at usage intention; our focus on post-adoption behavior (continued use, spending patterns, debt accumulation) is novel in the Indonesian Gen Z context. For instance, studies on QRIS or e-wallets typically measure “intention to use” or “continuance intention”³⁵. We go further by linking those behaviors to outcomes like excessive consumption, thereby addressing critics who call for research on the “overspending” side of cashless payments. Finally, we offer an integrated model uniting technology adoption theory, consumer psychology, and financial education – an approach that, as one Indonesian study notes, was largely absent from existing work. By concurrently considering ease-of-use (a TAM/TPB antecedent), FoMO (a social/psychological motivator), and literacy (human capital), our conceptual paper bridges disciplinary silos and lays groundwork for more comprehensive models in emerging markets.

Conclusion

Conclusion

This study explains the paradox of digital financial inclusion in Indonesia, particularly among Generation Z, where increasing access to e-wallets and PayLater services does not always lead to healthier financial behavior. Using the Theory of Planned Behavior, Cognitive Control Theory, and the pain of paying concept, the study shows that impulsive buying is driven by the interaction of technological convenience, psychological pressure, and financial capability.

The findings indicate that the ease of using e-wallets reduces the psychological cost of spending, making young users more prone to unplanned purchases. At the same time, Fear of Missing Out (FOMO), reinforced by social media exposure and urgency-based promotions, intensifies impulsive behavior by creating strong social and emotional pressure. These conditions explain why digital financial access can unintentionally encourage consumptive behavior among Generation Z.

Most importantly, this study positions financial literacy as a key moderating factor. Higher financial literacy strengthens self-control and perceived behavioral control, thereby weakening the influence of both transaction convenience and FOMO on impulsive buying. Conversely, low financial literacy increases vulnerability to digital persuasion and overconsumption. This

³⁴ Putra Pratama et al., “The Influence of Fear of Missing Out (FoMO), Financial Literacy, and Trust on the Use of Pay Later Service by Gen Z Through Mediating Consumer Satisfaction.”

³⁵ Saputra and Ridhaningsih, “The Influence of Perceived Ease of Use and Perceived Security Regarding Continuance Intention to Use E-Wallet Dana with Hedonic Value as a Mediating Variable (Case Study on Students of Padang State University).”

perspective extends previous research by emphasizing the buffering role of financial literacy rather than viewing it solely as a direct predictor of behavior.

Overall, this study contributes by offering an integrated conceptual model that links fintech adoption, psychological factors, and financial literacy. The findings highlight the importance of aligning digital financial inclusion with effective financial education and responsible fintech design to ensure that expanded access leads to sustainable financial well-being rather than increased financial vulnerability.

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