

Digital Payment Systems, Behavioral Finance, and Personal Financial Management: A Perspective on Millennials and Gen Z

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ABSTRACT

The expansion of digital payment platforms has fundamentally altered the financial habits of younger demographics, specifically Millennials and Generation Z (Gen Z). Although these fintech solutions provide unparalleled convenience, their pervasive use raises critical questions regarding consumer behavior and long-term financial stability. This study investigates the interplay between behavioral biases, digital payment utilization, and personal financial planning among young consumers. Employing a quantitative methodology, data gathered from 320 active digital payment users were evaluated using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess direct, indirect, and moderating dynamics. The empirical results demonstrate that behavioral biases negatively impact financial planning while driving digital payment adoption. Concurrently, reliance on digital payments exerts a negative direct effect on financial planning and acts as a partial mediator in the model. Notably, multi-group analysis indicates that these detrimental effects are more pronounced within Gen Z than Millennials. These insights enrich the behavioral finance and fintech literature by revealing the psychological drivers behind digital consumption, underscoring the urgent need for targeted financial literacy initiatives and intentional fintech design features that foster disciplined spending.

Keywords: Digital Payment; Personal Financial Management; Millennials; Generation Z

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INTRODUCTION

The rapid proliferation of digital financial technologies has fundamentally restructured contemporary monetary behaviors, ranging from routine daily transactions to long-term wealth management. Globally, Millennials (born 1981–1996) and Generation Z (born 1997–2012) are pioneering this behavioral shift. Driven by high technological fluency, ubiquitous smartphone reliance, and an inherent comfort with digital ecosystems, these younger cohorts are reshaping traditional financial landscapes (Susnaningsih Muat et al., 2025). As digital payment mechanisms—such as mobile wallets, QR code systems, and contactless payments—increasingly supplant cash, the financial behaviors of younger consumers are undergoing a profound evolution. These shifts modify immediate spending and saving habits while simultaneously exposing consumers to psychological and cognitive vulnerabilities that distort financial decision-making. Consequently, evaluating the intricate relationships between digital payment adoption, underlying behavioral

biases, and personal financial planning among Millennials and Gen Z has become an issue of vital scholarly and practical importance.

The exceptional convenience, transactional velocity, and accessibility of digital payments align seamlessly with the lifestyle orientations of younger demographics. For example, mobile wallets and QR-based systems have experienced widespread adoption among Millennials within emerging markets, where internal behavioral determinants—such as consumer attitudes and perceived ease of use—serve as primary drivers of technology adoption (Tatian et al., 2025). Concurrently, empirical evidence indicates that constructs like perceived convenience, security, and social influence dictate digital payment adoption across both Gen Z and Millennial cohorts, highlighting the convergence of technological utility and social influence (e.g., studies featured in MDPI, 2025). While this accelerated integration of fintech redefines how young consumers interact with financial frameworks, it simultaneously introduces complex questions regarding the cognitive and psychological consequences these platforms exert on comprehensive personal financial planning.

Contrary to classical economic models of rational choice, behavioral finance theory demonstrates that psychological biases frequently compromise individual economic decisions. Biases such as overconfidence, herding behavior, and present bias are highly prevalent among younger consumers, distorting risk perception, resource allocation, and long-term goal setting. Recent literature confirms that these behavioral biases actively distort investment strategies and borrowing habits among younger populations, a dynamic that is further amplified by social media exposure and digital ecosystems (Warkar & Durai, 2025). For instance, overconfidence and herd mentalities significantly impair Gen Z's financial logic, proving that cognitive distortions remain pervasive even among cohorts with baseline financial literacy. As digital payment platforms eliminate frictional boundaries from transactions, managing the psychological mechanisms embedded in digital spending becomes increasingly urgent.

A critical psychological phenomenon linked to digital transactions is the "cashless effect." This construct posits that paying through digital channels significantly diminishes the immediate "pain of paying," which frequently results in inflated discretionary spending and weak budgetary compliance (Investopedia, 2025). The cashless effect exemplifies how cognitive and emotional heuristics intersect with fintech adoption, potentially undermining structured attempts at long-term financial discipline. For Millennial and Gen Z consumers—who frequently balance academic obligations, early-stage career transitions, and escalating lifestyle costs—these behavioral vulnerabilities can severely impede the realization of critical financial milestones, such as building emergency funds, securing real estate, or planning for retirement.

Ultimately, financial planning—defined as a systematic framework for managing cash flow, expenditures, savings, investments, and long-term objectives—is a cornerstone of sustainable financial well-being. Nevertheless, empirical data reveals a paradox: both Millennials and Gen Z lag significantly in implementing comprehensive financial planning frameworks despite their high engagement with advanced fintech tools. Investigations into financial planning adoption among these younger cohorts indicate that while they maintain optimistic attitudes regarding the utility of planning, actual execution remains profoundly inadequate, exposing severe gaps between technology usage and applied financial discipline (Susanto et al., 2022). Closing these gaps requires more than just provisioning digital tools; it demands a deeper understanding of how consumers navigate psychological biases while striving to maintain long-term financial discipline within frictionless payment environments.

The intersection of behavioral biases and digital payment adoption holds particular implications for personal financial planning. When digital transactions are frequent and immediate, and when psychological biases encourage impulsive or emotion-driven decisions, achieving long-term financial goals may become increasingly difficult without awareness and mitigation strategies. Furthermore, the influence of social norms, peer behaviors, and digital content—especially through social media and influencers—may strengthen cognitive biases and influence financial behaviors in ways that diverge from rational planning models (Warkar & Durai, 2025). Understanding how these dynamics play out across millennials and Gen Z consumers is vital for designing effective financial education interventions, digital payment frameworks, and personalized planning tools.

Despite the growing literature on digital payments and generational financial behavior, significant gaps remain. Most existing studies focus on adoption drivers or singular aspects of financial behavior without comprehensively integrating the psychological mechanisms that underpin financial decision-making in a digital environment. Specifically, there is limited empirical evidence examining how behavioral biases influence the relationship between digital payment adoption and personal financial planning across millennial and Gen Z cohorts, which are both technologically integrated and psychologically distinct from older generations. Filling this gap is crucial for financial institutions, policymakers, educators, and consumers themselves to promote better financial health and resilience in increasingly digitized economies.

In developing economies and rapidly digitizing populations, such as Indonesia, these questions take on added importance. Younger consumers in such contexts often have high digital engagement but varying levels of financial literacy, raising concerns about whether technological adoption translates into sound planning and financial well-being. While digital financial technologies expand access to financial services and streamline transaction processes, they may inadvertently intensify cognitive biases or financial vulnerabilities if not paired with robust education and support systems.

Therefore, this study aims to explore the complex interplay between behavioral biases, digital payment adoption, and personal financial planning among millennial and Gen Z consumers. By examining these interrelationships, the study seeks to contribute to a deeper understanding of how psychological, technological, and generational factors converge to shape financial behaviors and outcomes in the digital age. The insights derived from this research can inform the development of tailored interventions, educational curricula, and digital platforms that enhance financial decision-making and planning among younger generations, ultimately supporting more sustainable financial futures.

The primary objective of this research is to investigate how behavioral biases and digital payment adoption jointly influence personal financial planning among millennial and Gen Z consumers. Specifically, the study aims to examine (a) the role of behavioral biases in shaping financial decision-making within digital payment contexts, (b) the direct and moderating effects of digital payment adoption on personal financial planning behaviors, and (c) generational differences between millennials and Gen Z in these relationships. By integrating psychological, technological, and generational perspectives, this research seeks to provide empirical evidence that can enhance theoretical understanding and practical strategies for promoting effective financial planning in an era dominated by digital financial technologies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Behavioral Biases in Personal Financial Decision-Making

Behavioral finance challenges the assumptions of classical financial theory by emphasizing that individuals often act irrationally due to cognitive limitations, emotions, and psychological biases. Among younger generations such as millennials and Gen Z, behavioral biases are particularly salient because of limited financial experience, high exposure to digital information, and strong peer influence through social media platforms. Recent studies indicate that biases such as overconfidence, present bias, herd behavior, and loss aversion significantly affect financial decision-making among young consumers (Warkar & Durai, 2025).

Overconfidence bias leads individuals to overestimate their financial knowledge and ability to control outcomes, often resulting in excessive risk-taking and insufficient financial planning. Present bias, which reflects a preference for immediate gratification over long-term benefits, has been shown to undermine saving and long-term planning behaviors, especially among younger cohorts who face frequent consumption temptations (Susanto et al., 2022).

Herding behavior, intensified by digital communities and “finfluencer” narratives, encourages individuals to mimic others’ financial behaviors rather than making independent, well-informed decisions (Warkar & Durai, 2025). Collectively, these biases can distort budgeting, saving, and investment decisions, thereby weakening personal financial planning effectiveness. Empirical evidence suggests that behavioral biases negatively influence structured financial

behaviors, including goal setting, budgeting discipline, and retirement planning (Susnaningsih Muat et al., 2025). As millennials and Gen Z increasingly rely on digital financial platforms, these biases may be amplified rather than mitigated, making behavioral considerations central to understanding financial planning outcomes.

H1: Behavioral biases have a significant negative effect on personal financial planning among millennial and Gen Z consumers.

Digital Payment Adoption and Financial Behavior

Digital payment adoption refers to the use of electronic payment systems such as mobile wallets, QR code payments, and contactless cards to conduct financial transactions. Over the past decade, digital payment systems have experienced rapid growth, with millennials and Gen Z representing the largest user segments due to their technological readiness and lifestyle compatibility (Mdpi, 2025). Prior research highlights perceived convenience, ease of use, security, and social influence as primary drivers of adoption (Tatian et al., 2025).

While digital payments enhance transaction efficiency and financial inclusion, scholars increasingly debate their behavioral implications. The “cashless effect” suggests that digital payments reduce the psychological pain associated with spending, leading to increased consumption and weaker expenditure control (Investopedia, 2025). For younger consumers, frequent use of digital payments may result in less awareness of spending patterns, potentially undermining budgeting and saving practices critical to financial planning.

Nevertheless, digital payments may also support financial planning when integrated with financial management features such as transaction tracking, spending categorization, and automated saving tools. Some studies find that digital payment usage, when accompanied by financial literacy and self-control, can enhance financial awareness and planning behavior (Susnaningsih Muat et al., 2025). This dual nature of digital payment adoption suggests that its impact on financial planning is complex and context-dependent.

H2: Digital payment adoption has a significant effect on personal financial planning among millennial and Gen Z consumers.

Behavioral Biases and Digital Payment Adoption

Behavioral biases play a crucial role in shaping individuals’ adoption and usage of digital payment technologies. Overconfidence may lead consumers to underestimate financial risks associated with excessive digital spending, while present bias encourages impulsive purchases facilitated by frictionless payment systems. Herding behavior, reinforced by peer usage and social endorsement, further accelerates adoption without sufficient evaluation of long-term financial consequences (Mdpi, 2025).

Recent empirical findings suggest that behavioral biases significantly influence how young consumers engage with digital payment platforms, affecting both frequency and intensity of use (Warkar & Durai, 2025). For example, social influence and optimism bias have been shown to increase reliance on digital wallets, sometimes at the expense of financial discipline. In this sense, behavioral biases act as antecedents that shape not only adoption decisions but also usage behavior. Given that millennials and Gen Z are highly embedded in digital ecosystems, understanding how behavioral biases influence digital payment adoption is essential for explaining broader financial behaviors.

H3: Behavioral biases have a significant positive effect on digital payment adoption among millennial and Gen Z consumers.

Digital Payment Adoption and Personal Financial Planning

The relationship between digital payment adoption and personal financial planning is multifaceted. On one hand, digital payments can undermine planning by encouraging impulsive spending and reducing spending salience. On the other hand, digital platforms often provide real-time financial information that can enhance budgeting accuracy and financial awareness. Empirical studies demonstrate mixed findings, indicating that digital payment adoption can either positively or negatively affect financial planning depending on users’ behavioral characteristics and financial literacy levels (Susanto et al., 2022).

Among millennials and Gen Z, the integration of digital payments with lifestyle consumption increases the likelihood that financial decisions are made spontaneously rather than strategically. However, when digital payment systems are used consciously and supported by financial management tools, they may improve financial organization and planning consistency (Susnaningsih Muat et al., 2025). Therefore, digital payment adoption may serve as both an enabler and a disruptor of personal financial planning.

H4: Digital payment adoption significantly influences personal financial planning among millennial and Gen Z consumers.

Mediating Role of Digital Payment Adoption

Building on behavioral finance and technology adoption theories, digital payment adoption may function as a mediating mechanism between behavioral biases and personal financial planning. Behavioral biases influence how frequently and intensely individuals use digital payment systems, which in turn shape their financial planning outcomes. For instance, individuals with strong present bias may adopt and frequently use digital payments, leading to impulsive spending that weakens financial planning discipline.

Recent research supports mediation frameworks in digital finance contexts, showing that technology adoption often transmits psychological influences to financial outcomes (Mdpi, 2025). Thus, rather than exerting only direct effects, behavioral biases may indirectly affect financial planning through digital payment usage behavior.

H5: Digital payment adoption mediates the relationship between behavioral biases and personal financial planning among millennial and Gen Z consumers.

Generational Perspective: Millennials vs. Gen Z

Although millennials and Gen Z share technological familiarity, they differ in financial maturity, income stability, and risk perception. Millennials are more likely to engage in long-term financial planning due to life-cycle factors such as marriage and home ownership, whereas Gen Z consumers tend to prioritize short-term consumption and digital convenience (Susanto et al., 2022). These generational differences may influence how behavioral biases and digital payment adoption affect financial planning.

Empirical studies indicate that Gen Z exhibits stronger susceptibility to social influence and present bias compared to millennials, suggesting that the strength of hypothesized relationships may vary across generations (Warkar & Durai, 2025). Incorporating a generational lens, therefore, enhances explanatory power and practical relevance.

H6: The effects of behavioral biases and digital payment adoption on personal financial planning differ between millennial and Gen Z consumers.

METHOD

Research Design

This study adopts a quantitative research design with an explanatory approach to examine the relationships among behavioral biases, digital payment adoption, and personal financial planning among millennial and Gen Z consumers. A quantitative approach is appropriate because the study seeks to test theoretically grounded hypotheses and analyze causal relationships between latent constructs using statistical techniques. Data were collected through a structured survey questionnaire and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS), which is suitable for complex models involving multiple constructs and mediation effects.

Population and Sample

The population of this study consists of millennial and Gen Z consumers who actively use digital payment services such as mobile wallets, QR code payments, or contactless payment systems. Millennials are defined as individuals born between 1981 and 1996, while Gen Z includes those born between 1997 and 2012. These cohorts were selected due to their high exposure to digital technologies and dominant participation in digital payment ecosystems.

A purposive sampling technique was employed to ensure that respondents met the following criteria:

- a) Belong to the millennial or Gen Z age group
- b) Have used digital payment services at least once in the past six months
- c) Are responsible for managing their own personal finances

The minimum sample size was determined based on the 10-times rule commonly applied in SEM-PLS, where the sample should be at least ten times the maximum number of structural paths directed at a latent construct. Given the complexity of the proposed model, a minimum of 200 respondents was deemed sufficient to ensure statistical power and model stability.

Data Collection Method

Primary data were collected using a self-administered online questionnaire, distributed through digital platforms such as social media and messaging applications. Online surveys were selected due to their effectiveness in reaching digitally active millennials and Gen Z respondents and their suitability for fintech-related research.

Before full distribution, a pilot test was conducted with a small group of respondents to ensure clarity, reliability, and validity of the measurement items. Feedback from the pilot test was used to refine wording and structure where necessary.

Measurement of Variables

All constructs in this study were measured using multi-item scales adapted from prior validated studies, with minor contextual adjustments to fit the digital payment and generational context. Responses were measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree.

a) *Behavioral Biases*

Behavioral biases were operationalized as a reflective construct capturing common cognitive and emotional biases in financial decision-making, including overconfidence, present bias, and herding behavior. Measurement items assessed tendencies such as excessive confidence in financial decisions, preference for immediate consumption, and reliance on peer behavior when making financial choices.

b) *Digital Payment Adoption*

Digital payment adoption refers to the extent to which individuals use and rely on digital payment systems in their daily transactions. This construct was measured through indicators reflecting frequency of use, perceived convenience, ease of use, and habitual reliance on digital payment platforms such as e-wallets and QR payments.

c) *Personal Financial Planning*

Personal financial planning was measured as a reflective construct representing structured financial behaviors, including budgeting, saving, goal setting, and long-term financial preparation. Items captured respondents' ability to plan expenses, allocate savings, and prepare for future financial needs.

d) *Control Variables*

To reduce potential bias, demographic variables such as age group (millennial vs. Gen Z), gender, income level, and education were included as control variables in the analysis, as these factors may influence financial behavior and technology adoption.

Data Analysis Techniques

Data analysis was conducted using SEM-PLS, employing software such as SmartPLS. SEM-PLS was chosen due to its suitability for predictive research, ability to handle non-normal data distributions, and effectiveness in testing mediation and multi-group comparisons.

The analysis followed a two-stage approach:

a) *Measurement Model Evaluation*

The measurement model was assessed to ensure the reliability and validity of the constructs using the following criteria:

- Indicator reliability: Outer loadings ≥ 0.70

- Internal consistency reliability: Cronbach's alpha and Composite Reliability (CR) ≥ 0.70
- Convergent validity: Average Variance Extracted (AVE) ≥ 0.50
- Discriminant validity: Assessed using the Fornell–Larcker criterion and Heterotrait–Monotrait (HTMT) ratio

Indicators that did not meet acceptable thresholds were considered for removal to improve model quality.

b) Structural Model Evaluation

The structural model was evaluated to test the proposed hypotheses by examining:

- Path coefficients (β values)
- t-statistics and p-values obtained through bootstrapping (5,000 resamples)
- Coefficient of determination (R^2) to assess explanatory power
- Effect size (f^2) to determine the magnitude of relationships
- Predictive relevance (Q^2) using blindfolding procedures

The mediating role of digital payment adoption was tested using indirect effect analysis and bootstrapping confidence intervals. Additionally, multi-group analysis (MGA) was conducted to examine differences between millennial and Gen Z respondents.

Ethical Considerations

Stringent ethical standards were maintained across all phases of the research process. Participation in the study was entirely voluntary, with all respondents providing informed consent regarding the study's objectives prior to completing the survey instrument. Complete anonymity and data confidentiality were guaranteed, as the data collection protocol strictly excluded any personally identifiable information (PII). Furthermore, the gathered data was utilized exclusively for academic research purposes.

RESULTS AND DISCUSSION

Respondent Profile

Table 1. Demographic Characteristics of Respondents (n = 320)

Category		Description	Frequency	Percentage (%)
Generation	ls	Millennials	178	55.6
		Gen Z	142	44.4
Gender		Male	146	45.6
		Female	174	54.4
Monthly Income	300	< USD	98	30.6
		USD	137	42.8
		300–600		
		> USD	85	26.6
Digital Payment Usage	600	Daily	212	66.3
		Weekly	108	33.7

The sample exhibits a balanced distribution between Millennials and Gen Z, with Millennials comprising a slightly larger proportion of the cohort. A significant majority of respondents engage

with digital payment platforms on a daily basis, confirming that the data is highly contextually relevant to the scope of this investigation.

Construct Reliability and Convergent Validity

Table 2. Reliability and Convergent Validity

Construct		Cronbach's Alpha	Composite Reliability (CR)	AVE
Behavioral Biases		0.871	0.901	.646
	Digital Payment Adoption	0.884	0.915	.683
	Personal Financial Planning	0.892	0.921	.702

All constructs exceed the recommended thresholds for Cronbach's alpha and composite reliability (>0.70), indicating strong internal consistency. AVE values above 0.50 confirm adequate convergent validity.

Discriminant Validity (HTMT Criterion)

Table 3. HTMT Ratio

Constructs	Behavioral Biases (BB)	Digital Payment Adoption (DPA)	Personal Financial Planning (PFP)
Behavioral Biases (BB)	-		
Digital Payment Adoption (DPA)	.621	-	
Personal Financial Planning (PFP)	.547	.589	-

All HTMT values are below the threshold of 0.85, confirming satisfactory discriminant validity among constructs.

Coefficient of Determination (R²)

Table 4. R² Values

Endogenous Variable	R ²
Digital Payment Adoption	.386
Personal Financial Planning	.472

Behavioral biases explain 38.6% of the variance in digital payment adoption, while behavioral biases and digital payment adoption jointly explain 47.2% of the variance in personal financial planning, indicating moderate to strong explanatory power.

Hypothesis Testing (Direct Effects)

Table 5. Path Coefficients and Hypothesis Results

Hypothesis	Path	Path Coefficient	t-value	p-value	Result
H1	Behavioral Biases → Personal Financial Planning	0.312	.684	0.001	Accepted
H2	Digital Payment Adoption → Personal Financial Planning	0.214	.927	0.001	Accepted

H3	Behavioral Biases → Digital Payment Adoption	β = -.621	t = -1.842	p = 0.001	< .05	Supported
H4	Digital Adoption → Personal Financial Planning	β = -.214	t = -.927	p = 0.001	< .05	Supported

Behavioral biases exert a significant negative effect on personal financial planning, supporting H1. Digital payment adoption also negatively affects financial planning, suggesting that frequent and frictionless digital transactions may weaken budgeting discipline. Behavioral biases significantly increase digital payment adoption, supporting H3.

Mediation Analysis

Table 6. Mediation Effect of Digital Payment Adoption

Path	Indirect Effect (β)	t	p	Mediation Type
Behavioral Biases → Digital Payment Adoption → Personal Financial Planning	-0.133	3.412	< 0.001	Partial Mediation

Digital payment adoption partially mediates the relationship between behavioral biases and personal financial planning. This indicates that behavioral biases influence financial planning both directly and indirectly through increased use of digital payment systems.

Effect Size (f²)

Table 7. Effect Size

Relationship	f²	Effect Strength
Behavioral Biases → Digital Payment Adoption	.521	Large
Behavioral Biases → Personal Financial Planning	.184	Medium
Digital Payment Adoption → Personal Financial Planning	.096	Small

Behavioral biases have a strong effect on digital payment adoption, while their effect on personal financial planning is moderate. Digital payment adoption shows a smaller but still meaningful effect on financial planning behavior.

Predictive Relevance (Q²)

Table 8. Q² Predictive Relevance

Endogenous Variable	Q²
Digital Payment Adoption	.271
Personal Financial Planning	.318

Positive Q² values indicate that the model has strong predictive relevance for both endogenous constructs.

Multi-Group Analysis (Millennials vs. Gen Z)

Table 9. Multi-Group Analysis Results

Path	Millennials β	Gen Z β	p-value	Difference
Behavioral Biases → PFP	-0.278	-0.356	0.041	Significant

Digital Payment Adoption →	−0.183	−	0.	Signif
PFP	0.261	036	icant	

The negative effects of behavioral biases and digital payment adoption on personal financial planning are significantly stronger among Gen Z than millennials, supporting H6.

Discussion

This study aimed to examine the relationships among behavioral biases, digital payment adoption, and personal financial planning among millennial and Gen Z consumers. The findings provide important insights into how psychological factors and financial technologies jointly shape financial behavior in the digital era. Overall, the results confirm that behavioral biases play a central role in influencing both digital payment usage and the quality of personal financial planning, with notable differences between millennial and Gen Z cohorts.

Behavioral Biases and Personal Financial Planning

The empirical results confirm that behavioral biases exert a statistically significant negative impact on personal financial planning, providing robust support for Hypothesis 1. This outcome aligns seamlessly with foundational behavioral finance theory, which asserts that individuals frequently succumb to systematic cognitive errors that disrupt rational economic choices. Specifically, psychological heuristics such as overconfidence, present bias, and herd mentality systematically impair a consumer's capacity to establish organized financial plans, maintain strict budgetary boundaries, and prioritize future wealth accumulation. Within the Millennial and Gen Z demographics, these cognitive vulnerabilities are exceptionally prominent.

This heightened susceptibility is driven by their nascent financial experience, intense peer pressure, and constant immersion in highly digitalized consumption markets. The inverse relationship identified in this research mirrors previous academic literature, which establishes that present bias erodes consistent saving habits, while overconfidence induces individuals to underestimate structural financial risks and neglect long-term financial preparation. Crucially, these insights suggest that baseline financial literacy alone is insufficient; psychological distortions can still obstruct effective financial planning even among relatively knowledgeable young consumers.

Furthermore, effect size analysis reveals that behavioral biases maintain a moderate direct effect on financial planning outcomes. The structural implication is clear: mitigating deeply ingrained behavioral tendencies—rather than focusing exclusively on traditional financial literacy programs—is imperative for optimizing financial health among younger cohorts. Consequently, future intervention strategies should emphasize self-regulation mechanisms, techniques to delay gratification, and frameworks that foster analytical, deliberative financial decision-making.

Behavioral Biases and Digital Payment Adoption

The study also finds that behavioral biases have a strong positive effect on digital payment adoption, confirming Hypothesis 3. This result highlights the psychological underpinnings of fintech usage among millennials and Gen Z. Individuals who exhibit higher levels of present bias and overconfidence are more likely to adopt and frequently use digital payment systems due to their convenience, speed, and low perceived transaction friction.

Herding behavior further reinforces this tendency, as young consumers often adopt payment technologies that are widely used by peers or promoted through social media and digital platforms. The strong effect size observed for this relationship indicates that digital payment adoption is not merely a technological choice but a behavior deeply embedded in cognitive and social processes. This supports the view that fintech adoption among younger consumers is driven as much by psychological impulses as by perceived functional benefits.

These findings extend prior technology adoption research by demonstrating that behavioral biases serve as important antecedents to digital payment usage. As such, digital payment providers and policymakers should recognize that increased adoption may also bring unintended behavioral consequences, particularly when psychological biases remain unchecked.

Digital Payment Adoption and Personal Financial Planning

Empirical evidence confirms that adopting digital payments negatively impacts personal financial planning, validating Hypotheses 2 and 4. This aligns with the "cashless effect" theory,

where digital transactions diminish the immediate psychological discomfort of spending, thereby driving up consumption. For younger cohorts like Millennials and Gen Z, habitual reliance on digital payments can cloud expense awareness and erode budgetary discipline, hindering structured financial planning. Although these digital platforms feature tracking tools designed to aid budgeting, such advantages require strong self-regulation to materialize. Consequently, without behavioral discipline, digital finance presents a paradox: tools built for efficiency inadvertently encourage impulsive spending.

The relatively smaller effect size of digital payment adoption compared to behavioral biases indicates that technology alone is not the primary driver of poor financial planning. Rather, digital payment systems amplify existing behavioral tendencies, acting as a conduit through which psychological biases influence financial outcomes.

Mediating Role of Digital Payment Adoption

A primary contribution of this research is establishing digital payment adoption as a partial mediator between behavioral biases and personal financial planning, confirming Hypothesis 5. This indicates that psychological biases impact financial planning through both direct channels and indirect pathways via increased digital payment usage. Practically, individuals exhibiting heightened present bias or overconfidence are more inclined to adopt digital payment methods, which subsequently accelerates impulsive spending and compromises financial planning. Because this mediation is only partial, these psychological biases also directly impair planning habits, regardless of technology usage.

From a theoretical perspective, this finding bridges behavioral finance with fintech adoption literature by illustrating how psychological traits manifest through digital habits to alter financial outcomes. It highlights that financial technologies are not neutral instruments, but rather dynamic catalysts that interact closely with a user's cognitive profile.

Generational Differences: Millennials vs. Gen Z

Multi-group analysis reveals pronounced generational disparities, confirming Hypothesis 6 as Gen Z demonstrates a more severe negative impact from both behavioral biases and digital payment adoption on personal financial planning. This variation stems from differences in financial maturity, income stability, and life-cycle stages between Millennials and Gen Z. Gen Z consumers, typically younger and in the nascent stages of their financial lives, display greater vulnerability to impulsive consumption and peer influence.

Furthermore, their intensive immersion in digital platforms and social media appears to exacerbate these psychological biases, complicating structured financial planning. Conversely, Millennials—frequently managing family expenses and long-term financial liabilities—demonstrate higher financial literacy and restraint, which partially mitigates the adverse effects of digital payment reliance. Consequently, these findings emphasize the necessity of customizing financial literacy programs and policy frameworks to specific generational traits rather than employing a uniform approach.

Implications of the Findings

Taken together, these findings emphasize that enhancing personal financial planning among Millennials and Gen Z extends beyond merely expanding access to digital financial instruments. Behavioral mechanisms must be proactively managed through targeted financial literacy, behavioral nudges, and intentional user interface (UI) designs that encourage conscientious spending and long-term asset accumulation.

Fintech providers could introduce behavioral friction—such as real-time spending thresholds, friction-induced payment delays, or automated goal-oriented savings prompts—to mitigate impulsive consumption behaviors. For policymakers and academic educators, these data underscore the urgency of embedding behavioral finance principles into standard financial literacy curricula, particularly for younger demographics. Training individuals to identify and navigate their own cognitive biases is arguably as critical as imparting technical financial competencies. Ultimately, this study establishes that behavioral biases fundamentally govern both fintech adoption and financial planning efficacy. Digital payment adoption acts as a primary conduit through which internal psychological vulnerabilities manifest into tangible financial detriments, a dynamic to which Gen Z is exceptionally

susceptible. These insights enrich the digital finance literature by mapping the behavioral risks inherent in cashless ecosystems and offering strategic pathways toward financial wellness in a digital economy.

CONCLUSION

This research establishes that behavioral biases are a critical determinant of personal financial planning among Millennial and Gen Z consumers, operating through both direct pathways and indirect mechanisms via digital payment adoption. The empirical evidence indicates that cognitive heuristics—specifically present bias, overconfidence, and herding behavior—substantially accelerate dependency on digital payment platforms. This heightened reliance, in turn, erodes budgetary discipline and undermines long-term financial preparation. By demonstrating that digital payment adoption partially mediates the link between behavioral biases and financial planning, this study highlights a critical fintech paradox: digital financial tools can exacerbate underlying psychological vulnerabilities instead of inherently optimizing financial management. Furthermore, multi-group analysis reveals that these detrimental effects are significantly more acute among Gen Z consumers than Millennials, a disparity rooted in varying levels of financial maturity and life-cycle demands. Ultimately, these insights emphasize the necessity of embedding behavioral finance principles into digital banking ecosystems and financial literacy frameworks. Enhancing personal financial planning within increasingly cashless economies demands a shift beyond mere technological advancement, requiring deliberate, targeted strategies that empower younger demographics to identify and mitigate their cognitive biases.

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