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Digitalization of a Credit Institution: Its Impact on Clients' Credit Behavior

Charmaine M. Asajar[1]; Eugene P. Sumawang[2]

1Saint Louise De Marillac College of Sorsogon, Inc. Burgos Street, Talisay Sorsogon City, Philippines
[2]Saint Louise De Marillac College of Sorsogon, Inc. Burgos Street, Talisay Sorsogon City, Philippines

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Abstract: This study examined the digitalization of a selected credit institution and its influence on clients' credit behavior in Gubat, Sorsogon. Specifically, it assessed the extent of digitalization in loan application, loan disbursement, and loan repayment; determined how digital services influence client borrowing and repayment behavior; described observable credit behaviors under digitalized services; examined client responsiveness and qualitative adoption challenges; and proposed an action plan of innovative strategies for effective and inclusive digitalization. A convergent mixed-methods research design was employed. Quantitative data were gathered from fifty (50) purposively selected clients with active loan accounts and direct experience with the credit institution's digitalized services. Qualitative data were obtained through open-ended narrative prompts describing client experiences, perceived influences, and operational barriers. Descriptive statistics specifically frequency counts, percentages, weighted means, and rankings were used to analyze quantitative data, while Braun and Clarke's thematic framework was used for qualitative analysis. Findings revealed that digitalization in loan application was moderately evident (M = 3.35), whereas loan disbursement (M = 3.71) and loan repayment (M = 3.81) were evident, led by automated ledger updates (M = 4.20) and system postings (M = 4.18). Regarding behavioral influence, digitalization enhanced loan convenience, encouraged borrowing for financial needs, reinforced repayment discipline, and built digital management confidence. For observable credit behaviors, clients most frequently preferred online application portals (f = 38, Rank 1), visited the office for required voucher signing prior to release (f = 50, Rank 1), and utilized mobile payment applications for repayments (f = 35, Rank 1). Regarding client responsiveness and qualitative adoption, digital channels fostered prompt action and credit monitoring autonomy, though full adoption remained constrained by digital literacy barriers (36%), internet connectivity limitations (24%), and trust or security concerns (20%). The study concludes that while digitalization has successfully automated backend processing, the institution operates within a hybrid delivery model due to ongoing client capability and technological constraints. An action plan featuring an interconnected framework encompassing digital system improvements, payment partnerships, literacy programs, peer ambassadors, client support systems, and a hybrid delivery model is proposed to strengthen digital infrastructure, enhance client readiness, and ensure inclusive service delivery.

Keywords: *Digitalization, Credit Institution, Credit Behavior, Client Responsiveness, Hybrid Service Delivery Model, Convergent Mixed-Methods, Gubat Sorsogon.*

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I. INTRODUCTION

Credit institutions play a vital role in promoting financial inclusion by providing access to credit and other financial services to individuals, households, and micro, small, and medium enterprises (MSMEs) that may not be adequately served by traditional banking institutions. Through the provision of loans, savings-related services, and financial assistance, these institutions contribute to livelihood generation, enterprise development, household financial stability, and local economic growth. Particularly in developing communities, credit institutions serve as important financial intermediaries that enable clients to meet immediate financial needs, invest in productive activities, and improve their overall quality of life.

The rapid advancement of information and communication technology has significantly transformed the financial services industry. Digitalization has emerged as a strategic approach that enables financial institutions to deliver services more efficiently, accurately, and conveniently. In credit institutions, digitalization involves the integration of digital technologies into various operational processes, including online or mobile-based loan applications, electronic fund transfers, electronic mails, automated loan processing, system-generated repayment schedules, SMS or mobile notifications, electronic record

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management, and integrated accounting and management information systems. These innovations reduce dependence on manual transactions, minimize processing delays, improve operational efficiency, strengthen transparency, and enhance the accessibility of financial services.

Globally, the digital transformation of financial institutions has reshaped the way credit services are delivered and accessed. Digital financial services have expanded opportunities for underserved populations by reducing geographical barriers, lowering transaction costs, and improving the speed of financial transactions. Nevertheless, studies have also emphasized that while digital technologies increase financial accessibility, they may simultaneously introduce new challenges such as digital exclusion, cybersecurity risks, data privacy concerns, and unequal access among clients with varying levels of digital literacy. Consequently, financial institutions are increasingly challenged to balance technological innovation with inclusivity to ensure that no segment of the population is left behind.

In the Philippines, the government has recognized digital finance as a key driver of financial inclusion and sustainable economic development. The Bangko Sentral ng Pilipinas (BSP) has actively promoted the digital transformation of the financial sector through initiatives such as the Digital Payments Transformation Roadmap 2020–2023, which aims to increase the adoption of digital payments while establishing a secure, efficient, reliable, and inclusive digital payments ecosystem. Likewise, the National Strategy for Financial Inclusion (NSFI) 2022–2028 identified digital financial services, financial capability, consumer protection, and financial education as strategic priorities for expanding access to formal financial services and strengthening financial resilience among Filipinos (Bangko Sentral ng Pilipinas, 2020; 2022). These national initiatives encourage credit institutions to adopt digital technologies that improve service delivery while ensuring that clients remain protected and capable of utilizing digital financial platforms effectively.

At the institutional level, many credit institutions have gradually incorporated digital technologies into their lending operations to improve efficiency and client service. Digital platforms now support various stages of the credit process, including loan inquiry, application, approval, disbursement, payment monitoring, and collection. Electronic transaction records, automated reminders, mobile payment facilities, and digital accounting systems have reduced operational costs and improved the accuracy of financial records. Moreover, these technologies allow institutions to monitor loan portfolios more effectively and respond more efficiently to clients' financial needs.

In the local context of Gubat, Sorsogon, credit institutions continue to provide essential financial services to individuals, employees, farmers, small entrepreneurs, and households who rely on credit to finance livelihood activities, education, emergency expenses, and business operations. As these institutions adopt digital technologies to modernize their services, clients increasingly encounter digital methods of applying for loans, receiving notifications, accessing account information, and making loan repayments. However, the extent to which clients can effectively utilize these digital services varies considerably. Differences in digital literacy, internet connectivity, smartphone ownership, financial capability, and perceptions of online security may influence how clients respond to digital credit services and ultimately affect their borrowing and repayment behavior.

Digitalization therefore extends beyond operational efficiency and has the potential to influence clients' financial decisions and credit behavior. Credit behavior encompasses the manner in which clients apply for loans, make borrowing decisions, comply with documentary requirements, receive loan proceeds, monitor repayment schedules, respond to payment reminders, fulfill repayment obligations, and manage subsequent borrowing activities. On one hand, digital platforms may promote greater financial discipline by providing timely information, improving payment convenience, and increasing transparency regarding loan obligations. On the other hand, easier access to credit through digital channels may encourage more frequent borrowing or impulsive financial decisions among some clients. Understanding these behavioral outcomes is essential for credit institutions seeking to maximize the benefits of digital transformation while minimizing its potential risks.

Despite the increasing adoption of digital technologies by credit institutions, limited empirical studies have examined how digitalization influences the credit behavior of clients, particularly within community-based credit institutions operating in municipalities such as Gubat, Sorsogon. Existing studies often focus on the operational benefits of digital financial services or the adoption of financial technology by banking institutions, while comparatively little attention has been given to the behavioral responses of clients in local credit institutions. This gap highlights the need for empirical investigation to determine whether digitalization positively influences responsible borrowing, timely repayment, and client engagement, or whether it creates new barriers for clients with limited digital readiness.

Anchored on this context, this study entitled "Digitalization of Credit Institution: Its Impact on Clients' Credit Behavior" sought to examine the level of digitalization of the selected credit institution in Gubat, Sorsogon in terms of loan application, loan disbursement, and loan repayment, and to determine its impact on clients' credit behavior with respect to borrowing patterns, repayment behavior, and responsiveness to digital credit services. Furthermore, the study aims to identify innovative strategies that may strengthen digital credit delivery while ensuring accessibility, inclusivity, and client-centered financial services. The findings are expected to provide evidence-based recommendations that may assist credit institutions in enhancing their digital transformation initiatives, improving client experience, promoting

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responsible credit behavior, and supporting the broader goal of inclusive and sustainable financial development.

➢ *Problem Statement*

This study assessed the impact of credit institution digitalization on the credit behavior of clients in Gubat, Sorsogon. Specifically, it answered the following questions:

- What is the extent of credit institution digitalization in processing:

✓ Loan application
✓ Loan disbursement process
✓ Loan repayment behavior

- How has the digitalization of credit institution services influenced clients' borrowing patterns and repayment behavior?
- What are the observable credit behaviors of the clients of credit institution in Gubat, Sorsogon in relation to the digitalization of its credit processes in terms of:

✓ Preferences and practices in loan application
✓ Experiences with loan disbursement
✓ Patterns in loan repayment

- How does digitalization influence clients' responsiveness to digital credit institution services and their credit behavior?
- What innovative strategies could be proposed to ensure effective digitalization and address client-related issues?

II. METHODOLOGY

➢ *Research Design*

The study employed a mixed-method research design, specifically a convergent mixed-method approach, which integrated quantitative and qualitative data to provide a comprehensive understanding of the research problem. The quantitative component measured the extent of digitalization in the credit institution and its influence on clients' credit behavior using a structured survey questionnaire. It generated numerical data describing clients' perceptions of digital loan application, loan disbursement, loan repayment, and digital communication services.

The qualitative component complemented the quantitative findings by collecting open-ended responses that explored clients' experiences, perceived benefits, challenges, and recommendations regarding digitalized credit services. These narratives provided contextual explanations for the quantitative results and enabled the researcher to gain deeper insights into clients' behaviors and experiences that could not be adequately captured through numerical data alone.

The integration of quantitative and qualitative findings allowed the study to validate, enrich, and explain the results, thereby providing a more holistic understanding of how digitalization influences clients' credit behavior within the selected credit institution.

➢ *The Respondents*

The respondents of the study consisted of fifty (50) clients of credit institution who were selected based on predetermined inclusion criteria. The respondents represented borrowers who had experienced the cooperative's digitalized credit services during the implementation period. To qualify as respondents, individuals were required to possess an active loan account with the institution during the period of digital service implementation; utilized at least one digitalized credit service, such as digital loan application, electronic loan disbursement, SMS repayment reminders, mobile payment channels, or other digital communication services; and voluntarily agree to participate in the study by providing informed consent.

These criteria ensured that all respondents possessed firsthand experiences with the institution's digital financial services and were capable of providing relevant information regarding their credit behavior.

➢ *Sampling Technique*

The study employed purposive sampling, a non-probability sampling technique in which respondents were intentionally selected based on specific characteristics relevant to the research objectives. This sampling method was considered appropriate because the study required participants who had actual experience using the cooperative's digital credit services.

Purposive sampling enabled the researcher to obtain information-rich cases from clients who had interacted with digital loan application systems, electronic fund disbursement, digital repayment channels, SMS reminders, and other digital support services. Their experiences provided meaningful insights into how digitalization influenced borrowing decisions, repayment behavior, and overall credit management.

➢ *Research Instruments*

The primary data collection instrument was a researcher-made structured questionnaire developed based on the objectives of the study and supported by the reviewed literature and theoretical framework. The questionnaire consisted of five major sections.

- Section I measured the extent of digitalization in terms of digital loan application; digital loan disbursement; and digital loan repayment. Section II determined the influence of digitalization on clients' credit behavior, particularly in relation to borrowing decisions, repayment practices, financial responsibility, and responsiveness to digital financial services.

- Section III assessed clients' observable credit behaviors, including their preferences regarding digital loan application, experiences during loan disbursement, repayment patterns, and utilization of digital payment channels.

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- Section IV measured clients' responsiveness toward digital communication, including SMS reminders, digital notifications, online instructions, and perceived challenges encountered while using digital financial services.

- Section V consisted of open-ended questions that gathered respondents' suggestions, experiences, and recommendations for improving the cooperative's digital credit services.

➢ *Validity of Instruments*

To establish content validity, the questionnaire was evaluated by experts in research methodology, credit institution operations, digital financial services, and business management. Their comments and recommendations regarding clarity, relevance, language, organization, and alignment with the research objectives were incorporated into the final version of the instrument.

A pilot test was conducted among ten (10) clients who met the inclusion criteria but were excluded from the actual respondents of the study. The pilot testing assessed the clarity, comprehensibility, consistency, and appropriateness of the questionnaire items. Feedback obtained from the pilot respondents was used to revise ambiguous statements and improve the overall quality of the instrument.

To determine the internal consistency of the questionnaire, the researcher computed Cronbach's Alpha coefficient. A reliability coefficient of 0.70 or higher was considered acceptable, indicating that the questionnaire possessed satisfactory internal consistency for data collection.

➢ *Data Gathering Procedures*

To ensure a systematic, ethical, and rigorous data collection process, the researcher executed the operational protocol across three sequential phases: pre-data collection, actual data collection, and post-data collection. During the pre-data collection phase, institutional approval was established by submitting a formal request letter to the credit institution's management. Upon approval, the researcher coordinated with designated personnel to identify qualified respondents based on set inclusion criteria and establish a operational schedule. Concurrently, informed consent protocols and briefing guidelines were finalized to guarantee voluntary participation, complete participant anonymity, and strict data confidentiality.

In the actual data collection phase, respondents were briefed on the study's objectives, significance, and procedures before securing their written informed consent. Data gathering was conducted using a dual-mode administration strategy, utilizing face-to-face questionnaire distribution for on-site respondents and digital survey links for remote participants. Throughout the administration, respondents were given adequate time to complete both structured items and open-ended narrative prompts while the researcher provided standard operational clarifications as needed.

Finally, during the post-data collection phase, all retrieved instruments were audited for completeness and consistency, with incomplete submissions excluded to preserve dataset integrity. Validated responses were subsequently encoded into Microsoft Excel for data cleaning to resolve encoding errors and inconsistencies. The finalized quantitative dataset was then formatted for statistical processing, while qualitative narrative responses were systematically compiled for thematic analysis.

➢ *Data Analysis Method*

To address the research objectives, a convergent mixed-methods analysis strategy was employed, combining descriptive quantitative statistics with qualitative thematic analysis.

➢ *Quantitative Analysis*

- Frequency Count and Percentage: Used to organize, summarize, and present categorical data, respondent profiles, key adoption challenges, and observable client credit behaviors.
- Ranking: Used to determine the relative position and priority of specific observable client credit behaviors based on their computed frequency counts.
- Weighted Mean: Computed to evaluate the perceived extent of digitalization (across loan application, loan disbursement, and loan repayment) and to measure respondents' agreement regarding its influence on credit behavior. Computed values were mapped using the scale interpretation guide shown in Table 1.

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Table 1 Five-Point Likert Scale Interpretation Guide

Scale Option	Mean Range	Verbal Interpretation	Operational Extent
5	4.20 – 5.00	Very evident	Fully implemented
4	3.40 – 4.19	Evident	Substantially implemented
3	2.60 – 3.39	Moderately evident	Moderately implemented
2	1.80 – 2.59	Less evident	Slightly implemented
1	1.00 – 1.79	Not evident at all	Not implemented

➢ *Qualitative Analysis*

Textual responses from open-ended questions were analyzed following Braun and Clarke's (2006) six-phase thematic framework:

- Familiarization with Data: Repeated reading of narrative responses to establish deep data immersion.
- Generating Initial Codes: Assigning concise labels to recurring textual features and meaningful data segments.
- Searching for Themes: Sorting and grouping collated codes into prospective thematic patterns.
- Reviewing Themes: Checking candidate themes against the complete dataset to ensure coherence and validity.
- Defining and Naming Themes: Formulating precise operational definitions and concise titles for final themes.
- Producing the Report: Integrating qualitative thematic evidence with quantitative findings for comprehensive interpretation.

III. RESULTS AND DISCUSSION

➢ *Extent of Credit Institution Digitalization*

The assessment of digital credit operations across the loan application process, loan disbursement process, and loan repayment behavior stages reveals a progressive trend in technological adoption, transitioning from Moderately Evident in early intake procedures to Evident in transactional and accounting processes.

Table 2 Extent of Digitalization in Loan Application

Indicators	$\bar{X}$	Descriptive Rating
Submission of Loan Form	3.72	Evident
Screening of Loan Form	3.50	Moderately Evident
Background and Credit Investigation	3.12	Moderately Evident
Loan Appraisal and Approval	3.36	Moderately Evident
Contract Signing	3.04	Moderately Evident
Average	**3.35**	**Moderately Evident**

- *Loan Application Process*

In the loan application stage, respondents evaluated the overall process as Moderately Evident (M = 3.35). Data indicate that while Submission of Loan Form obtained the highest rating (M = 3.72, Evident), Background and Credit Investigation (M = 3.12, Moderately Evident) and Contract Signing (M = 3.04, Moderately Evident) recorded the lowest weighted means. This demonstrates that digitalization in the application phase is front-loaded; data intake is digitalized, whereas evaluative, risk-assessing, and legally binding steps remain substantially manual. This divergence occurs because routine intake forms are easily standardized into online portals, whereas credit checks and legal agreements involve strict compliance standards, identity verification, and risk mitigation that prompt both management and clients to rely on face-to-face safeguards.

This finding aligns with Davis's (1989) Technology Acceptance Model (TAM), which posits that perceived ease of use drives rapid adoption of simple tools, whereas high perceived complexity and risk hinder the adoption of remote legal execution. It also supports Rogers' (2003) Diffusion of Innovations Theory regarding complexity constraints in early innovation stages. Within this study, these results confirm that application workflows cannot be digitized abruptly without causing client friction. This validates the necessity of the proposed Hybrid Service Model to maintain face-to-face assistance for contract execution.

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Table 3 Extent of Digitalization in Loan Disbursement

Indicators	$\bar{X}$	Descriptive Rating
Pre-Disbursement Orientation	3.28	Moderately Evident
Creation of Loan Account	3.84	Evident
Documentation	3.86	Evident
Loan Fund Preparation	4.02	Evident
Loan Release / Disbursement	4.04	Evident
Providing Repayment Schedule	3.76	Evident
Average	**3.71**	**Evident**

- *Loan Disbursement Process*

In the loan disbursement stage, the overall process achieved an evaluation of Evident (M = 3.71). Specific indicators show that Loan Release / Disbursement (M = 4.04, Evident) and Loan Fund Preparation (M = 4.02, Evident) achieved the highest scores, whereas Pre-Disbursement Orientation received the lowest rating (M = 3.28, Moderately Evident). These results show that backend financial releases are highly automated, while client-facing orientation functions remain reliant on conventional delivery. Core banking systems and electronic funds transfer platforms effortlessly automate financial distribution upon approval; however, conducting online orientations requires reliable bandwidth and client digital literacy that are not uniformly present, compelling staff to conduct briefings in person.

This supports Rogers' (2003) assertion that innovations offering clear relative advantage such as transaction speed and accuracy diffuse rapidly, whereas communication-intensive processes require direct human channels to overcome perceived complexity. This finding highlights a critical operational vulnerability: releasing digital funds without adequate digital orientation increases borrower misunderstanding. This directly justifies the integration of the Digital Literacy Program and Digital Ambassador Program in the proposed action plan.

Table 4 Extent of Digitalization in Loan Repayment

Indicators	$\bar{X}$	Descriptive Rating
Scheduled Collection by Loan Officer	3.54	Moderately Evident
Payment Verification	3.98	Evident
System Posting / Remittance	4.18	Very Evident
Monitoring Borrower Accounts	3.96	Evident
Follow-Up on Delinquent Accounts	3.70	Evident
Updating Loan Ledgers and Reports	4.20	Very Evident
Client Counseling / Business Monitoring	3.16	Moderately Evident
Loan Completion / Settlement	3.72	Evident
Average	**3.81**	**Evident**

- *Loan Repayment Behavior*

In the loan repayment stage, the process obtained the highest overall rating across all operational phases (M = 3.81, Evident). Updating Loan Ledgers and Reports (M = 4.20, Very Evident) and System Posting / Remittance (M = 4.18, Very Evident) recorded top ratings, whereas Client Counseling / Business Monitoring received the lowest mean score (M = 3.16, Moderately Evident). The data demonstrate that institutional bookkeeping and accounting updates are near-fully digitalized, whereas qualitative relationship management—specifically delinquency counseling remains largely unautomated. Structured numerical transactions are easily processed by core management information systems, but delinquent account follow-up and financial counseling require empathy, negotiation, and contextual assessment that software algorithms cannot replicate.

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This outcome supports TAM (Davis, 1989), proving that perceived usefulness is maximized in routine administrative tasks, while corroborating human-technology synergy literature which emphasizes that automation cannot replace human capital in advisory functions. Crucially, this confirms the central thesis premise: digitalization optimizes institutional efficiency, but human interaction remains indispensable for credit risk management. This directly informs the design of the Client Support System to preserve human intervention alongside automated ledger updates.

- *Influence of Digitalization on Borrowing and Repayment Behavior*

- *Improved Accessibility and Convenience of Loan Services*

Qualitative findings revealed that digitalization significantly enhanced the accessibility and convenience of loan services. Participants (e.g., Participant 3, Participant 6, Participant 11) consistently emphasized that automated updates and online communication reduced repetitive office visits, shortened waiting times, and provided real-time status notifications. This indicated that digital touchpoints successfully removed physical and temporal barriers from early-stage loan operations. This shift occurred because automated notifications and online platforms replaced physical queues with instant information pathways, allowing borrowers to engage with the institution asynchronously from their homes or places of business.

These findings align with Davis's (1989) Technology Acceptance Model (TAM), where perceived usefulness and perceived ease of use directly drive user satisfaction and technology adoption. They also reinforce Rogers' (2003) Diffusion of Innovations Theory, which identifies relative advantage—specifically time savings and operational convenience—as a critical driver of innovation adoption. Within the broader study, this theme demonstrates that early-stage digitalization yields immediate operational dividends in client satisfaction. This directly supports the action plan's Digital Literacy Program and Digital Ambassador Program, ensuring that all client demographics can capitalize on these convenience features.

- *Increased Borrowing Activity through Easier Access*

Participants reported that streamlined digital access increased their confidence and frequency in applying for loans when financial needs arose (e.g., Participant 5, Participant 9, Participant 12). Respondents highlighted that faster processing times and simplified application procedures made it easier to secure capital for business expansion and manage emergency expenses without hesitation. This suggests that reducing procedural friction directly lowers psychological and administrative barriers to credit acquisition. This trend emerged because digitized application workflows reduce processing lead times, giving borrowers confidence that capital will be accessible when time-sensitive financial obligations or opportunities occur.

This outcome corroborates TAM (Davis, 1989) by showing how perceived ease of use translates into increased behavioral intention and service utilization. It also supports findings by Ozili (2018), who noted that digital financial services expand credit access and financial inclusion by lowering transaction costs and streamlining service delivery. For the institution, this finding highlights a dual operational outcome: while increased borrowing activity drives portfolio growth, it also elevates credit exposure. This validates the strategic necessity of the proposed Hybrid Service Model, ensuring that expanded credit access is paired with prudent credit evaluation and client guidance.

- *Enhanced Repayment Discipline through Digital Services*

The qualitative responses demonstrated that digital services, particularly automated SMS reminders and electronic loan records, fostered greater repayment discipline among clients (e.g., Participant 1, Participant 2, Participant 7). Borrowers emphasized that digital notifications prevented missed due dates and enabled active tracking of remaining balances. This indicates that automated communication serves as a proactive behavioral nudge, transforming repayment management from a reactive effort into a structured habit. This occurred because automated alerts mitigate cognitive overload and memory bias, keeping financial obligations top-of-mind before late penalties accrue.

This finding aligns with the Financial Capability Framework, which posits that timely access to financial information and digital tools enables individuals to make informed decisions and build responsible financial habits. It also reflects Prospect Theory (Kahneman & Tversky, 1979), as automated alerts motivate borrowers to avoid potential losses specifically late payment charges and damaged credit standing. Operationally, this demonstrates that automated notifications are a highly cost-effective tool for credit risk management. This directly informs the proposed Client Support System and Digital System Improvement strategies to further optimize alert scheduling and digital ledger visibility.

- *Greater Confidence in Digital Loan Management*

Participants expressed heightened trust and confidence in managing their loans due to accessible digital records, payment confirmations, and transparent account histories (e.g., Participant 4, Participant 8, Participant 10). Respondents noted that digital transaction logs provided verifiable proof of payment and eliminated doubts regarding balance accuracy. This reveals that operational transparency is a foundational driver of client trust in digital systems. This occurred because immediate digital confirmations eliminate record-keeping ambiguity, reassuring clients that their financial contributions are accurately captured without administrative error.

These results reinforce TAM (Davis, 1989), who demonstrated that perceived system reliability and transparency solidify long-term technological adoption. They also mirror the core tenets of the Financial Capability

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Framework, which emphasizes that transparent financial tools empower individuals to manage obligations with self-efficacy. For this study, client confidence represents the bridge between initial technological adoption and sustained institutional loyalty. This finding directly justifies the Digital System Improvement strategy in the proposed action plan, ensuring that ledger transparency, instant digital receipts, and clear transaction histories remain central features of the institution's digital ecosystem.

➢ *Observable Credit Behaviors of Clients in Digitalized Credit Institution*

Table 5 Observable Credit Behavior of Clients in Digitalized Credit Institution in Terms of Preferences and Practices

Behaviors	Frequency	Rank
Preferring online loan application portals instead of visiting the institution's office	38	1
Tracking loan application status online instead of waiting for manual updates	35	2
Communicating with loan officers through digital platforms rather than face-to-face interactions	33	3
Completing loan requirements by uploading documents digitally instead of submitting hard copies	31	4
Checking loan eligibility through online platform and mobile applications before filing applications	29	5

- *Client Preferences and Application Practices*

Observable client application behaviors indicate a strong preference for digital intake and status tracking over traditional in-person methods. The most frequently observed behavior was preferring online loan application portals instead of visiting the institution's office (f = 38, Rank 1), followed by tracking application status online (f = 35, Rank 2) and communicating with loan officers via digital platforms (f = 33, Rank 3). Uploading documents digitally ranked fourth (f = 31, Rank 4), whereas checking loan eligibility through online portals prior to application recorded the lowest frequency (f = 29, Rank 5). These data demonstrate that clients actively embrace digital channels during initial borrowing stages to eliminate travel costs and long waiting times. However, pre-application self-assessment tools remain underutilized, as borrowers prefer direct consultation regarding qualification requirements rather than navigating self-service eligibility features.

This behavioral trend aligns with Davis's (1989) Technology Acceptance Model (TAM), which posits that perceived ease of use and perceived usefulness directly shape behavioral intentions to adopt technology. The preference for online portals also supports Rogers' (2003) Diffusion of Innovations Theory regarding the relative advantage of digital platforms over time-consuming physical travel. Within the scope of this study, these findings confirm that while clients are ready for digital intake, gaps remain in self-guided financial assessment. This directly justifies the proposed Digital System Improvement strategy—specifically incorporating automated loan calculators and simplified interface guides—alongside the Digital Literacy Program to build client confidence in utilizing pre-application eligibility tools.

Table 6 Observable Credit Behavior of Clients in Digitalized Credit Institution in Terms of Disbursement Experiences

Behaviors	**Frequency**	**Rank**
Visiting the institution to sign the required loan vouchers before the release of loan proceeds.	50	1
Receiving loan proceeds through a credit institution savings account or ATM after completing the required in-person voucher signing.	35	2
Confirming the receipt of loan proceeds by checking their GSAC Savings Account or ATM balance.	35	3
Receiving SMS notifications regarding loan disbursement or related loan transactions.	30	4
Withdrawing loan proceeds through a GSAC ATM at their preferred time and amount after the loan has been credited.	24	5

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- *Client Disbursement Experiences*

Client experiences during loan disbursement reflect a distinct operational constraint within the digitalized framework. Visiting the institution to sign required loan vouchers achieved unanimous participation (f = 50, Rank 1). In contrast, receiving proceeds through institution savings accounts or ATMs (f = 35, Rank 2) and confirming receipt via balance checks (f = 35, Rank 3) recorded secondary frequencies. Receiving SMS disbursement notifications ranked fourth (f = 30, Rank 4), while withdrawing proceeds through institutional ATMs recorded the lowest frequency (f = 24, Rank 5). The data reveal a compulsory hybrid bottleneck: while fund distribution and account posting are digitized, legal compliance and auditing policies enforce mandatory, in-person voucher signing before funds are released. Additionally, lower ATM withdrawal frequencies suggest that clients often transfer funds elsewhere or face local cash-withdrawal preferences.

These findings illustrate Rogers' (2003) concept of system compatibility within the Diffusion of Innovations Theory, where individual technology adoption is bounded by organizational compliance rules and structural infrastructure. The unanimous attendance for physical voucher signing demonstrates that institutional policy, rather than client reluctance, enforces manual touchpoints. For the study, this evidence confirms that disbursement cannot be completely digitized without regulatory and operational revisions. This directly validates the necessity of maintaining the Hybrid Service Model during disbursement while pursuing long-term Digital Payment Partnerships and secure electronic voucher verification to gradually streamline release workflows.

Table 7 Observable Credit Behavior of Clients in Digitalized Credit Institution in Terms of Loan Repayment Patterns

Behaviors	Frequency	Rank
Utilizing mobile payment applications for loan repayment instead of in-person transactions.	35	1
Following automated repayment reminders through SMS or app notifications rather than relying on memory.	33	2
Monitoring repayment history through digital dashboards rather than paper records.	30	3
Scheduling repayments via online platforms instead of manual arrangements.	27	4
Reducing delinquency by responding to real-time digital alerts instead of waiting for institution staff follow-ups.	24	5

- *Client Loan Repayment Patterns*

Observable client repayment behaviors demonstrate strong adoption of digital transaction channels and automated reminders. Utilizing mobile payment applications for loan repayment recorded the highest frequency (*f* = 35, Rank 1), followed closely by following automated SMS or app repayment reminders (*f* = 33, Rank 2) and monitoring repayment history through digital dashboards (*f* = 30, Rank 3). Scheduling repayments online ranked fourth (*f* = 27, Rank 4), while reducing delinquency by responding to real-time digital alerts recorded the lowest frequency (*f* = 24, Rank 5). These results indicate that mobile financial applications offer compelling transactional convenience, while automated alerts serve as effective behavioral nudges for on-time borrowers. However, the lower ranking for real-time delinquency resolution suggests that chronically distressed accounts require direct human follow-up rather than automated text alerts alone.

This outcome supports TAM (Davis, 1989) regarding the high perceived usefulness of mobile payment integrations in simplifying routine financial tasks. It also reflects Prospect Theory (Kahneman & Tversky, 1979), as automated alerts motivate borrowers to act promptly to avoid late penalties and credit score damage. Practically, these findings show that digital channels successfully capture routine repayments, but cannot fully replace interpersonal intervention for high-risk collections. This reinforces the action plan's Digital Payment Partnership strategy to expand mobile wallet integrations, while highlighting the role of the Client Support System and loan officers in delivering personalized counseling for delinquent borrowers.

➢ *Influence of Digitalization on Client Responsiveness and Credit Behavior*

- *Digital Communication, Instruction Compliance, and Client Autonomy*

Qualitative findings reveal that digital messaging, SMS notifications, and mobile account monitoring significantly enhanced client responsiveness, compliance, and credit autonomy. Participant 4 noted that receiving text updates eliminated the need for frequent office visits, while Participant 9 and Participant 2 shared that automated alerts provided timely updates regarding payment schedules. Furthermore, Participant 11 and Participant 3 emphasized that clear electronic instructions made complying with loan

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requirements straightforward, and Participant 1 and Participant 5 highlighted that independent digital account monitoring fostered greater self-reliance. These narratives demonstrate that digital touchpoints transform communication from passive information broadcasts into actionable behavioral nudges, encouraging clients to transition from reactive payment behaviors to proactive, self-directed credit management.

This behavioral shift occurs because automated notifications reduce cognitive friction, memory decay, and physical travel delays. By delivering clear, real-time reminders directly to clients' mobile devices, digital tools keep financial obligations prominent before due dates pass. These results support Davis's (1989) Technology Acceptance Model (TAM), where perceived usefulness drives user engagement, and Prospect Theory (Kahneman & Tversky, 1979), which posits that individuals take timely action to avoid losses such as late penalties and damaged credit standing. The findings also align with the Financial Capability Framework, demonstrating that timely access to financial information strengthens financial self-efficacy. Operationally, these insights confirm that digital communication effectively streamlines routine account tracking and payment compliance. This directly supports the action plan's Client Support System and Digital System Improvement strategies, ensuring that real-time alert scheduling and digital ledger visibility remain central features of institutional operations.

- *Digital Literacy, Infrastructure, and Security Barriers*

Despite the advantages of digital channels, participants identified digital literacy gaps, unreliable internet connectivity, and security apprehensions as primary barriers to complete technology adoption. Participant 6 and Participant 3 explained that unfamiliarity with mobile applications required them to seek assistance from cooperative staff or family members, while Participant 12 noted difficulty interpreting complex digital notifications. Additionally, Participant 9, Participant 2, and Participant 10 highlighted that weak internet signals and connectivity interruptions delayed receipt of updates and stalled transactions. Furthermore, Participant 5 and Participant 6 expressed concerns regarding data privacy, potential transaction errors, and a preference for in-person validation. These qualitative accounts reflect quantitative survey findings where 36% of respondents cited digital skill deficits, 24% cited internet instability, and 20% reported security concerns. The data demonstrate that technological availability alone does not guarantee digital adoption; client capability, structural infrastructure, and institutional trust are equally vital.

These operational friction points occur because digital financial tools require a foundational level of technical literacy and telecommunications infrastructure that varies widely across client demographics. Moreover, handling financial transactions online inherently introduces perceived risk and anxiety regarding fund security. This aligns with Rogers' (2003) Diffusion of Innovations Theory, which identifies complexity, trialability, and environmental compatibility as critical determinants of innovation adoption. It also corroborates Ozili (2018), who observed that digital financial inclusion is constrained by underlying infrastructural deficits and user capability gaps. Practically, these findings demonstrate that forcing complete automation without addressing client readiness risks excluding vulnerable borrowers. This provides empirical justification for the Digital Literacy Program, Digital Ambassador Program, and expanded security protocols within the proposed action plan to systematically build client capability and system trust.

- *Service Delivery Dynamics and the Hybrid Operational Model*

The qualitative accounts reveal that while digitalization successfully reduces dependence on face-to-face transactions for routine tasks, personal interaction remains indispensable for complex procedures and counseling. Participant 7 and Participant 10 noted that digital updates saved time and reduced physical branch visits for routine account inquiries. However, Participant 8, Participant 3, and Participant 6 emphasized that they continue to visit the cooperative in person when seeking detailed explanations, resolving transactional ambiguities, or conducting high-stakes credit procedures. These narratives demonstrate that digital services complement rather than eliminate traditional face-to-face practices, establishing a dual-mode operational environment where technology handles routine information processing while human personnel manage qualitative client support.

This dynamic occurs because routine administrative inquiries (e.g., balance checks, payment reminders) are efficiently resolved through automated channels, whereas complex financial decisions, delinquency management, and legal executions require human empathy, negotiation, and direct guidance that digital algorithms cannot replicate. This finding supports TAM (Davis, 1989) regarding the complementary utility of digital tools in organizational settings, as well as human-technology synergy literature emphasizing the irreplaceable value of social capital in credit risk management. Within the context of this study, this outcome validates the central premise of the research: digitalization optimizes operational efficiency, but human assistance remains essential for inclusive service delivery. This provides direct empirical justification for the Hybrid Service Model, ensuring the institution maintains accessible branch-based support alongside expanded digital channels.

➢ *Proposed Action Plan for Effective Digitalization*

- *Rationale, Objectives, and Structural Design of the Action Plan*

The proposed action plan translates the empirical findings of this study into a structured institutional strategy designed to strengthen digital credit operations while mitigating client friction. Grounded in quantitative data and qualitative themes, the plan addresses a clear operational reality: while backend systems and accounting ledgers are highly digitalized, client adoption remains constrained during a "Hybrid Transition Phase" marked by digital

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literacy gaps, connectivity issues, security fears, and mandatory manual touchpoints. To address these barriers, the action plan articulates a general objective to establish an integrated, client-centered, and sustainable framework that optimizes digital credit operations while preserving essential human support. Specific objectives focus on enhancing client digital literacy, simplifying system interfaces, expanding digital payment channels, establishing multi-tiered helpdesks, and maintaining an inclusive hybrid service framework.

This action plan represents an institutional shift from fragmented software adoption to a holistic organizational model. Rather than viewing technology as a total replacement for human interaction, the plan structures six innovative strategies across three interconnected operational layers: the Infrastructure Layer (Digital System Improvement and Digital Payment Partnership), the Capability and Support Layer (Digital Literacy Program, Digital Ambassador Program, and Client Support System), and the Delivery Layer (Hybrid Service Model). This design directly aligns with Davis's (1989) Technology Acceptance Model (TAM) and Rogers' (2003) Diffusion of Innovations Theory. Rather than assuming technology acceptance is automatic, the plan addresses TAM's core constructs—Perceived Ease of Use and Perceived Usefulness—by systematically building user competency and refining system usability. Practically, this framework ensures that technological upgrades do not outpace client readiness, preventing digital exclusion among less technologically fluent borrowers.

- *Layered Operational Synergy and Interconnected Strategies*

The strategic value of the action plan lies in the operational synergy among its three layers. At the Infrastructure Layer, Digital System Improvement simplifies user interfaces and adds transparent features like loan calculators and real-time receipts, while Digital Payment Partnerships expand mobile wallet and bank transfer channels. At the Capability and Support Layer, the Digital Literacy Program provides quarterly hands-on training, reinforced on the ground by the Digital Ambassador Program (peer-led guidance) and a centralized Client Support System (helpdesk troubleshooting). These technical and educational mechanisms directly inform and feed into each other: technical issues logged by the Client Support System identify specific glitches for Digital System Improvements, while upgraded platform interfaces serve as direct practical modules for Digital Literacy workshops.

This structural interdependence ensures that technical infrastructure upgrades are matched by continuous human capability development. This aligns directly with the Financial Capability Framework, which posits that financial well-being requires both financial capability (skills and confidence developed through training and peer support) and structural opportunity (accessible, transparent infrastructure provided by improved systems and payment partners). It further corroborates findings by Ozili (2018), who demonstrated that digital financial inclusion requires lowering transaction friction while maintaining accessible support channels. Institutionally, this feedback loop guarantees a higher return on technology investments, as system modifications directly resolve client-reported pain points, thereby increasing active portal utilization and digital repayment rates.

- *Phased Implementation, Risk Mitigation, and Institutional Outcomes*

The execution of the action plan relies on a phased, monitoring-driven implementation strategy managed by leadership, IT staff, loan officers, and peer ambassadors. Initial implementation prioritizes resource-light, high-impact support mechanisms specifically establishing the Client Support System and launching the Digital Ambassador Program to resolve immediate client friction during branch visits. Concurrently, technical teams execute system enhancements and negotiate payment gateway partnerships over a 6-to-12-month period. Progress is monitored continuously using clear key performance indicators (KPIs), including a target where at least 80% of participating clients demonstrate independent digital competency, alongside measurable reductions in helpdesk error tickets and increased digital payment volumes.

Phasing the implementation mitigates operational risk by allowing management to collect empirical feedback from client support logs before committing capital to major software overhauls. This approach reflects Prospect Theory (Kahneman & Tversky, 1979) by minimizing perceived risk and loss aversion associated with digital payment errors, thereby safeguarding institutional trust. Ultimately, the action plan establishes an optimized hybrid operational framework. By balancing automation with human intervention, the credit institution accelerates transaction processing, improves repayment adherence, protects vulnerable borrowers against digital exclusion, and secures long-term institutional sustainability.

IV. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

➢ *Findings*

- The extent of credit institution digitalization in processing loan application has a mean value of 3.35 or interpreted as Moderately Evident, while loan disbursement has a mean value of 3.71 or interpreted as Evident, and loan repayment recorded a mean value of 3.81 or interpreted as Evident. The moderate digitalization level in loan applications highlights those key procedures particularly contract signing (M = 3.04) and background/credit investigations (M = 3.12) continue to rely on traditional, face-to-face operations. Conversely, the higher levels recorded in loan disbursement and repayment underscore the institution's effective transition to computerized processing, evidenced by high execution in loan release (M = 4.04), ledger updates (M = 4.20), and system postings (M = 4.18). Altogether, these findings show that the institution has adopted a hybrid service delivery model that

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combines digital automated systems for transaction management with conventional procedures for client interaction and evaluation.

- The digitalization of credit institution services influence client's borrowing patterns and repayment behavior by enhancing loan application convenience, reducing processing times, and simplifying overall procedures. The implementation of digital systems further drives improved repayment consistency while strengthening client confidence in managing accounts through digital platforms. However, easier access to digital credit also encourages more frequent borrowing among certain clients, highlighting the critical need for continuous financial education and responsible lending practices.
- The observable credit behaviors of clients in the digitalized credit institution in Gubat, Sorsogon in terms of preferences and practices are predominantly led by preferring online loan application portals instead of visiting the institution's office (f = 38, Rank 1), tracking loan application status online (f = 35, Rank 2), and communicating with loan officers through digital platforms (f = 33, Rank 3). In terms of disbursement experiences, clients most frequently visited the institution to sign required loan vouchers before the release of proceeds (f = 50, Rank 1), followed by receiving loan proceeds through savings accounts or ATMs (f = 35, Rank 2) and confirming receipt by checking account balances (f = 35, Rank 3). Regarding loan repayment patterns, clients primarily utilized mobile payment applications for transactions (f = 35, Rank 1), followed automated repayment reminders via SMS or app notifications (f = 33, Rank 2), and monitored repayment history using digital dashboards (f = 30, Rank 3). Overall, these findings indicate high client adoption of digital tools during the application and repayment stages, balanced by traditional in-person compliance for final voucher approvals.
- The influence of digitalization on client responsiveness and credit behavior is characterized by improved communication engagement, heightened compliance with loan instructions, and greater client autonomy, balanced by specific technological and behavioral challenges. Digital communication channels—such as SMS notifications and automated reminders—fostered prompt client action, timely repayment compliance, and proactive credit monitoring, thereby reducing dependence on routine face-to-face office visits.

However, full digital adoption remains constrained by key challenges, led by digital literacy barriers reported by 36% of respondents who struggled with platform navigation, internet connectivity and accessibility constraints experienced by 24% who faced signal disruptions, and trust and security concerns cited by 20% regarding transaction safety and privacy.

Overall, these thematic findings highlight an uneven digital readiness among clients, demonstrating that while digital tools empower self-directed credit management, technology acts as a complement rather than a total replacement for traditional human interaction—reinforcing the necessity of a hybrid credit service delivery model paired with digital literacy support.

- The innovative strategies are Digital System Improvement, Digital Payment Partnerships, Digital Literacy Programs, Digital Ambassador Programs, Client Support Systems, and the Hybrid Service Model to ensure effective digitalization and address client-related issues. Structured across three interconnected operational layers Infrastructure, Capability and Support, and Delivery—these strategies establish a comprehensive roadmap designed to resolve key client adoption barriers, including digital literacy gaps, connectivity constraints, security concerns, and reliance on face-to-face assistance. By pairing platform enhancements and expanded payment channels with hands-on training, peer guidance, and dedicated helpdesks, the institution establishes an inclusive framework that balances digital automation with essential human support.

➢ *Conclusions*

- The extent of credit institution digitalization in processing loan application, loan disbursement process, and loan repayment reflects significant progress in transaction automation while maintaining traditional operational controls.
- The digitalization of credit institution services influences client borrowing patterns and repayment behavior through improved accessibility and convenience of loan services, increased borrowing activity through easier access, enhanced repayment discipline through digital services, and greater confidence in digital loan management.
- The observable credit behaviors of clients reflect a strong preference for digital channels during the loan application and repayment stages, while maintaining traditional in-person visits for required disbursement voucher sign-offs.
- Digitalization influence client's responsiveness to digital credit institution services and their credit behavior through improved communication engagement, timely compliance with loan instructions, and greater credit management autonomy, while encountering adoption constraints such as digital literacy barriers, connectivity issues, and trust concerns that require digital tools to complement traditional face-to-face services.
- The proposed action plan provides an interconnected framework of innovative strategies spanning technical infrastructure, client capability building, and hybrid service delivery to effectively optimize digital credit operations, mitigate client adoption barriers, and ensure inclusive financial service delivery.

➢ *Recommendations*

- The institution should integrate automated tools for contract signing and credit verification while maintaining efficient computerized transaction systems.

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- The institution should combine easy digital access with continuous financial education to foster responsible borrowing practices.
- The institution should upgrade mobile payment portals while streamlining necessary in-person voucher verification procedures.
- The institution should offer targeted digital literacy workshops, enhance data security mechanisms, and maintain reliable multi-channel client support.
- To strengthen digital infrastructures, expanding internet accessibility, client literacy initiatives, peer ambassador guidance, and structured customer helpdesks should be systematically executed through the proposed action plan to sustain an inclusive hybrid service delivery model.
- For Future Researchers. Future studies are encouraged to examine the long-term effects of digitalization on clients' credit behavior through longitudinal research involving larger and more diverse samples. Comparative studies among institution, rural banks, microfinance institutions, and commercial financial institutions may provide broader insights into digital financial transformation across different organizational contexts. Future researchers may also incorporate institutional loan performance data, in-depth interviews, and focus group discussions to obtain a more comprehensive understanding of clients' experiences and the sustainability of digital financial services.

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