# Investigating the Mediating Effect of the Technology Readiness Index on the Relationship Between Customer Sociodemographic Profile and Net Promoter Score of a Government Bank in the Philippines

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**Abstract.** This study examined the mediating role of the Technology Readiness Index (TRI) in the relationship between customers' sociodemographic profile and Net Promoter Score (NPS) among 228 active users of a government-owned bank's Internet banking application in Nueva Ecija, Philippines. A descriptive research design with purposive random sampling was employed, using a validated bilingual (English-Filipino) structured questionnaire. Respondents were predominantly young (25-33 years), female (59.65%), single, college-educated public-sector employees (85.09%) with moderate income and relatively short banking tenure. The bank recorded an outstanding NPS of 60.96 (67.54% Promoters, 25.88% Passives, 6.58% Detractors), significantly surpassing international banking benchmarks. Internet banking application usage was moderate and selective, focusing on core features (balance inquiry, fund transfers, bill payments) while advanced functions remained largely unused. Customers displayed high technology readiness (overall TRI = 3.813), characterized by strong Optimism (4.167) and Innovativeness (3.691), with minimal Discomfort and Insecurity. Mediation analysis revealed that TRI significantly mediated only the relationship between monthly income and NPS (indirect effect = 0.042, p = .037). No significant mediation was found for other sociodemographic variables. Direct predictors of higher NPS were public-sector affiliation (β = 0.79, p = .002) and banking tenure (β = 0.085/year, p < .001). Despite high technology readiness, customer loyalty remains rooted primarily in institutional trust and mandatory relationships rather than digital experience, with technology readiness influencing advocacy mainly among higher-income customers.

*Keywords:* Digital banking, Mediation analysis, Net promoter score, Technology readiness index

## 1. Introduction

Government banks in the Philippines are under increasing pressure to digitalize their operations as customer expectations shift toward seamless digital banking experiences (Gigante et al., 2022). The emergence of digital-only banks and fintech innovations has transformed the banking landscape, compelling government institutions to expand their digital offerings while maintaining traditional services. However, for digital transformation to be successful, and for customer loyalty to be fostered, it is crucial to understand how customers from diverse demographic backgrounds perceive and adapt to these changes (Arriola, 2025).

The Net Promoter Score (NPS) has become a vital metric for banking institutions, capturing customers' willingness to recommend their bank and serving as a comprehensive indicator of satisfaction (Baehre et al., 2022). Notably, NPS outcomes vary significantly across demographic groups, highlighting the importance of understanding how sociodemographic factors influence satisfaction, particularly through mechanisms such as technology readiness.

Digital adoption also plays a critical role in customer satisfaction, loyalty, and engagement, but it is challenged by factors such as cybersecurity concerns, the digital divide, and trust barriers (Lugun, 2024). Institutional trust and perceived security are especially significant in the context of financial services, necessitating a closer look at how technology readiness enables customers to overcome these barriers (Jafri et al., 2024).

Research on technology readiness demonstrates that it operates differently across situational and demographic contexts (Al-Olaimat et al., 2025). This complexity suggests that a one-size-fits-all approach to digital transformation is inadequate. Additionally, customer perceived values vary substantially across relational contexts and customer segments, underscoring the need for banks to tailor their strategies based on varying drivers (Blut et al., 2024).

The unique context of Philippine government banking, serving populations with diverse urban-rural backgrounds, income levels, and digital literacy, offers an opportunity to examine these relationships in depth. This study investigates the mediating effect of customer technology readiness using the Technology Readiness Index, or TRI, on the relationship between sociodemographic profile and customer satisfaction and loyalty as measured by NPS, in a government bank. The study addresses gaps in understanding how digital channel utilization, adoption perceptions, digital adoption challenges, and technology readiness collectively shape customer satisfaction across demographic segments.

## 2. Methodology

The study employed a descriptive research design to systematically profile respondents, calculate the government bank's Net Promoter Score (NPS), assess the frequency of Internet banking application usage, and evaluate customers' Technology Readiness Index (TRI), while exploring direct, indirect, and total effects among sociodemographic characteristics (independent variables), technology readiness (mediating variable), and NPS (dependent variable).

The research was confined to customers of the government bank in Nueva Ecija, Philippines, chosen for its accessibility to the researchers and its diverse urban-rural population, which provided a wide range of sociodemographic profiles and technology readiness levels. From an initial 234 respondents who completed the bilingual (English and Filipino) structured questionnaire, six non-users of the Internet banking application were excluded, yielding a final sample of 228 valid respondents selected through purposive random sampling to ensure all participants had actual experience with the app.

The validated questionnaire consisted of four sections: (1) demographic profile, (2) the NPS question, (3) frequency of use of 15 Internet banking features on a 5-point scale, and (4) a 16-item TRI measuring optimism, innovativeness, discomfort, and insecurity. The instrument demonstrated excellent reliability (Cronbach's $\alpha = 0.9$). Data were collected online after obtaining informed consent and assuring confidentiality and voluntary participation, then encoded in Excel and analyzed using JASP.

Data analysis techniques involved frequency and percentage distributions, TRI and NPS computations, reflexive thematic analysis of narrative NPS feedback, and the product coefficient model to test mediation effects.

## 3. Results and Discussion

### 3.1. Sociodemographic Profile

The sample's sociodemographic profile reveals a predominance of young adults, with over half aged 25-33. Females make up 59.65% of respondents, and the majority are single (62.72%). Most participants have attained college education (62.28%), and a significant portion possess graduate degrees (33.77%). Public sector employees dominate the sample (85.09%), likely due to government banking mandates. Income distribution centers around the mid-range, with 29.39% earning 30,000-39,999 and 21.05% earning less than 10,000. Most respondents (30.26%) are recent bank clients, having relationships of 0-2 years, while long-term clients are few. Multi-banking is common: 25.88% have relationships with two other banks, and most maintain ties with one to three banks. Overall, the data points to a young, educated, predominantly female

and single population, mainly employed in public agencies, with moderate income and a tendency to engage with multiple banks.

### 3.2. Net Promoter Score

**Table 1** Net Promoter Score

|  | Frequency | Percentage |
|---|---|---|
| Promoters (Scores 9-10) | 154 | 67.54% |
| Passives (Scores 7-8) | 59 | 25.88% |
| Detractors Scores (0-6) | 15 | 6.58% |
| Total | 228 |  |
| NPS |  | 60.96% |

The Net Promoter Score (NPS) table reveals strong customer loyalty and satisfaction for the bank, with 67.54% as Promoters (scores 9–10), 25.88% as Passives (scores 7–8), and only 6.58% as Detractors (scores 0–6). The calculated NPS is 60.96%, significantly higher than the industry benchmark of 41% for banks and credit unions, indicating excellent performance and world-class customer loyalty (Gudlaugsson et al., 2025; QuestionPro, 2025). This suggests a predominantly favorable perception of the bank, with most respondents expressing high satisfaction and advocacy. Recent studies show that other financial institutions in the Philippines, such as the Bank of the Philippine Islands, GoThyme Bank (NPS 76%), and GCash (NPS 92%), also use NPS to assess customer experience and demonstrate strong customer loyalty (BPI, 2025; Barrientos, 2024; Inquirer, 2024).

**Table 2** Net Promoter Score – Theme Analysis

| Theme | Description |
|---|---|
| **Promoters** | |
| Accessibility (Branches & ATMs) | Customers are highly satisfied with the extensive and accessible network of branches and ATMs, which makes banking convenient anytime and anywhere. |
| Security and Trust (Government Bank) | The bank's status as a government-affiliated institution is a major driver of trust and confidence, especially regarding the security of deposits and funds. |
| Digital/App Usability & Convenience | The Internet app and online access are described as "user-friendly," "easy to use," and "convenient," facilitating fast and hassle-free transactions. |
| Positive Customer Service | Feedback highlights positive interactions with staff, describing them as "accommodating," "reliable," "mabilis at maayos kausap" (fast and easy to talk to), and providing "excellent service." |
| Role in Government Transactions/Services | The convenience of using the bank for government-related payments and transactions is a key benefit, especially since many government agencies utilize it. |
| **Passives** | |
| Slow In-Branch Service/Long Queues | The most frequent complaint is the "matagal ang pila" (long queue) and slow transaction speed in physical branches, often attributed to a perceived lack of staff ("kulang sa tao"). |
| System Instability (Downtime/Offline) | Customers mention that the system is "madalas down" (often down) or "madalas mag offline" (often goes offline), which disrupts transactions and service. |

| Need for Improvement in Digital Services | While the digital platform is acknowledged, customers note that it is "not as convenient" or "fell short on flexibility" compared to other commercial banks' products, and they desire "smoother digital services." |
| --- | --- |
| Inconvenient Onboarding/Activation Process | Passives note the inconvenience of being required to visit a physical branch for services like initial online banking enrollment Internet banking application or activation. |
| Lagging Competitiveness/Flexibility | The bank is sometimes viewed as less flexible or not as modern as other commercial banks, suggesting a need to keep better pace with market-leading services. |
| **Detractors** | |
| Severe Digital Onboarding/OTP Failure | A major pain point is the failure of basic digital functionalities, such as not receiving One-Time Passwords (OTP) in time, rendering the online banking platform "useless" for the user. |
| Slow Transaction Speed (Compared to Competitors) | Transactions are perceived as noticeably "mabagal" (slow) compared to other banks, creating significant user frustration and a poor experience. |
| Limited Online Transaction Features | Customers feel the bank has "limited transactions" that can be done online compared to features offered by competitors' Internet applications. |
| Challenges with Digital Adoption (Rural Clients) | There is concern that the bank's transition to digital banking is challenging for many clients, especially those in rural areas, leading to confusion and limited access. |
| Low Personal Relevance/Usage | A minority of Detractor responses come from individuals who either "do not personally use the bank" or feel the bank is primarily relevant only for government-related/school-related transactions. |

The analysis categorizes bank customers into three segments, Promoters, Passives, and Detractors, based on their Net Promoter Score (NPS) responses. Promoters are the most loyal, attributing their advocacy to the bank's government ownership, widespread physical presence, and trust in its institutional reliability. Their satisfaction is enhanced by user-friendly digital platforms and positive staff interactions, with reliability, security, and convenience being interconnected strengths. This aligns with Gudlaugsson et al. (2025), who found that a positive bank image encourages customer recommendations.

Passives recognize the bank's core strengths, security and accessibility, but hesitate to fully endorse it due to operational inefficiencies such as long queues, understaffing, and frequent system downtimes. While acknowledging digital improvements, they view the bank as lagging behind private competitors, especially due to the requirement for in-branch visits for digital onboarding. Although Passives do not promote or criticize the bank actively, they are a vital segment for potential conversion through targeted improvements and incentives, offering valuable feedback for service enhancements as suggested by Ruita (2023)

Detractors, on the other hand, highlight significant failings in the bank's digital services, notably issues with OTP delivery, limited online capabilities, and slow transaction processing. The forced digital transition, without sufficient support for less tech-savvy users, fosters exclusion and dissatisfaction. For some, the bank's relevance

is limited to mandatory government transactions. Despite their low satisfaction, Detractors provide the most detailed and actionable feedback, enabling the bank to identify and address systemic problems. As noted by Luck (2025), engaging with Detractor insights can turn reputational risks into opportunities for organizational improvement and enhanced customer experience.

**Table 3** Internet Application Usage

| Statements | Weighted Mean | Verbal Description |
|---|---|---|
| **Non-Financial Features** | | |
| View your account summary (balance inquiry) and transaction details | 3.610 | W |
| Inquire the status of the check/s you issued | 1.671 | N |
| Inquire the total amount & total number of check/s you deposited but subsequently returned | 1.566 | N |
| Update/Reset your Internet banking application password | 1.899 | MM |
| Report and tag as "hot card" your lost/stolen ATM card | 1.325 | N |
| Inquire your loanable amount, monthly amortization, and/or required gross monthly family income | 1.487 | N |
| Inquire your basic information of retail loan availed from the Bank (e.g., drawdown date, maturity date, interest rates, outstanding balance, etc.) | 1.482 | N |
| Access to the transaction information for Current Account (CA) holders | 1.838 | MM |
| View your detailed information in Internet banking application, and update your security questions and Internet number | 2.259 | MM |
| Manage your biller | 2.158 | MM |
| View your transaction history | 3.364 | M |
| Unlock your Internet banking application ID | 2.360 | MM |
| **Average Weighted Mean** | **2.085** | **MM** |
| **Financial Features** | | |
| Pay your bills immediately or in the future | 2.724 | M |
| Transfer your funds to your other account/s or to your nominated third-party account/s immediately or in the future | 3.232 | M |
| Reorder checkbook/s | 1.456 | N |
| **Average Weighted Mean** | **2.471** | **MM** |

*Average Weighted Mean Range Legend: 4.21 – 5.00: Used Daily (D), 3.41 – 4.20: Used Weekly (W), 2.61 – 3.40: Used Monthly (M), 1.81 – 2.60: Used More than Monthly (MM), 1.00 – 1.80: Not Used (N)*

**Table 4** Technology Readiness Index

| Statement Groups | Score |
|---|---|
| Optimism | 4.167 |
| Innovativeness | 3.691 |
| Discomfort* | 3.708 |
| Insecurity* | 3.686 |
| Technology Readiness Index | 3.813 |

*\*Inverted score (the higher here, the lower in actuals)*

The Technology Readiness Index indicates that users of the Internet banking application generally possess a high level of technology readiness, as shown by an overall score of 3.813. High optimism and innovativeness scores suggest most users are enthusiastic about technology and open to adopting new features. The inverted scoring for discomfort and insecurity further highlights users' confidence and comfort with the platform, suggesting low actual levels of apprehension or doubt. However, a small segment may still experience occasional challenges with new technological features, pointing to the importance of continued support and educational initiatives. Overall, the user base largely comprises technology enthusiasts and early adopters, with minimal barriers to further engagement. Ongoing enhancements and the introduction of advanced features could further improve user confidence and encourage greater adoption of digital banking services.

**Table 5** Mediation Analysis – Direct Effects

|  |  |  | Estimate | Std. error | z–value | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Lower | Upper |
| Age | → | NPS | −0.037 | 0.015 | −2.475 | 0.013 | −0.067 | −0.008 |
| Gender Encoded | → | NPS | 0.072 | 0.169 | 0.425 | 0.671 | −0.26 | 0.403 |
| Marital Status (Male) | → | NPS | 0.195 | 0.203 | 0.965 | 0.335 | −0.202 | 0.593 |
| Education Rank | → | NPS | −0.192 | 0.162 | −1.185 | 0.236 | −0.509 | 0.125 |
| Agency (Public) | → | NPS | 0.788 | 0.258 | 3.056 | 0.002 | 0.283 | 1.294 |
| Monthly Income | → | NPS | −0.077 | 0.079 | −0.98 | 0.327 | −0.231 | 0.077 |
| Number of years banking with the subject Bank | → | NPS | 0.085 | 0.025 | 3.361 | < .001 | 0.036 | 0.135 |
| Number of Banks with Relationship other than the subject Bank | → | NPS | −0.046 | 0.037 | −1.231 | 0.218 | −0.119 | 0.027 |

**Table 6** Mediation Analysis – Direct Effects

|  |  |  |  |  | Estimate | Std. error | z–value | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | Lower | Upper |
| Age | → | TRI | → | NPS | 0.002 | 0.003 | 0.916 | 0.36 | −0.003 | 0.007 |
| Gender Encoded | → | TRI | → | NPS | −0.042 | 0.03 | −1.391 | 0.164 | −0.1 | 0.017 |
| Marital Status (Male) | → | TRI | → | NPS | 0.032 | 0.033 | 0.984 | 0.325 | −0.032 | 0.096 |
| Education Rank | → | TRI | → | NPS | −0.051 | 0.035 | −1.452 | 0.146 | −0.121 | 0.018 |
| Agency (Public) | → | TRI | → | NPS | −0.02 | 0.04 | −0.49 | 0.624 | −0.099 | 0.059 |
| Monthly Income | → | TRI | → | NPS | 0.042 | 0.02 | 2.081 | 0.037 | 0.002 | 0.081 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of years banking with the subject Bank | → | TRI | → | NPS | −0.002 | 0.003 | −0.489 | 0.625 | −0.008 | 0.005 |
| Number of Banks with Relationship other than the subject Bank | → | TRI | → | NPS | 0.007 | 0.007 | 1.091 | 0.275 | −0.006 | 0.021 |

**Table 6** Mediation Analysis – Total Effects

| | | | Estimate | Std. error | z–value | p | 95% Confidence Interval Lower | Upper |
|---|---|---|---|---|---|---|---|---|
| Age | → | NPS | −0.035 | 0.015 | −2.355 | 0.019 | −0.064 | −0.006 |
| Gender Encoded | → | NPS | 0.03 | 0.166 | 0.182 | 0.855 | −0.296 | 0.357 |
| Marital Status (Male) | → | NPS | 0.228 | 0.2 | 1.138 | 0.255 | −0.164 | 0.62 |
| Education Rank | → | NPS | −0.243 | 0.158 | −1.54 | 0.124 | −0.552 | 0.066 |
| Agency (Public) | → | NPS | 0.768 | 0.255 | 3.016 | 0.003 | 0.269 | 1.268 |
| Monthly Income | → | NPS | −0.036 | 0.076 | −0.467 | 0.641 | −0.185 | 0.114 |
| Number of years banking with the subject Bank | → | NPS | 0.084 | 0.025 | 3.325 | < .001 | 0.034 | 0.133 |
| Number of Banks with Relationship other than the subject Bank | → | NPS | −0.039 | 0.037 | −1.052 | 0.293 | −0.111 | 0.033 |

The analysis of factors influencing the Bank's NPS demonstrates that traditional relationship-based attributes, particularly public-sector or government-agency payroll affiliation and length of the banking relationship, are the strongest predictors of customer recommendations. Agency affiliation shows the highest positive association with NPS, likely due to institutional requirements for government agencies to use government financial institutions. Each additional year of banking tenure also increases the likelihood of recommending the Bank, underscoring the importance of loyalty and longstanding relationships. Conversely, age has a modest but significant negative effect on NPS, with older customers being slightly less inclined to recommend the Bank, possibly because they maintain relationships with other banks.

Demographic and socioeconomic factors, including gender, marital status, education, monthly income, and the number of other banking relationships, do not significantly impact NPS directly. The only notable indirect effect is between monthly income and NPS, mediated by Technology Readiness Index (TRI): higher-income customers tend to be more technologically ready, which makes them more likely to recommend the Bank. However, this effect is limited, as TRI does not significantly mediate the influence of other variables, and the direct and indirect effects of income largely offset each other.

Overall, the primary drivers of customer recommendation are agency affiliation, tenure, and age, while technology readiness plays a secondary role relevant mainly to higher-income customers. For most segments, recommendation behavior is grounded in relationship and trust rather than attitudes toward technology or digital experiences. The findings suggest that efforts to improve technology readiness will most effectively enhance recommendations among higher-income clients, but loyalty and institutional connections remain the dominant factors shaping NPS.

## 4. Conclusions

The data analysis leads to these conclusions.

1. The typical Internet banking user of the government-owned bank are young, single, highly educated female public-sector employees with moderate income, relatively new tenure, and with multi-banking relationships.

2. The bank possesses exceptionally high customer loyalty (NPS = 60.96), driven primarily by institutional trust and government mandate rather than digital experience.

3. Digital adoption remains shallow and utility-driven; customers actively use only basic inquiry and transaction features while ignoring most advanced and administrative functions.

4. Users possess strong technology readiness characterized by high optimism and innovativeness coupled with minimal discomfort and insecurity, reflecting a user base that is prepared for deeper digital engagement.

5. Despite favorable technology readiness, TRI exerts only a limited mediating influence, significant solely between monthly income and NPS, indicating that, for the vast majority of customers, recommendation behavior is rooted in traditional relationship and institutional factors rather than attitudes toward technology or the quality of the digital banking platform.

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