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EVALUATING FARMER ACCEPTANCE OF THE FARMERS' INTERVENTION MONITORING CARD (FIMC): KEY DETERMINANTS OF USE AND ADOPTION

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Abstract

This quantitative study examined farmers' acceptance of the Farmers' Intervention Monitoring Card (FIMC) as a digital support modality in the upland rice-farming communities of Ifugao, Philippines. Specifically, it assessed the level of acceptance in terms of perceived ease of use, perceived usefulness, and willingness to use. Using a validated 90-item Likert-type questionnaire adapted from Blair (2022), data were gathered from 380 registered RSBSA rice farmers, Municipal Agriculture Officers, and Agricultural Extension Workers selected through purposive sampling in five municipalities with the highest number of FIMC beneficiaries. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to analyze the data. Results revealed a generally high level of acceptance of the FIMC. Farmers agreed that the system is accessible, manageable, and user-friendly, as reflected in the grand mean of 3.81 for perceived ease of use, despite some challenges related to cash withdrawal and access to inputs due to infrastructure and logistical constraints. Perceived usefulness obtained a higher grand mean of 3.94, indicating that farmers view the FIMC as an effective tool for improving access to financial assistance and agricultural inputs, enhancing farm planning, and contributing to productivity and household income. Willingness to use registered the highest grand mean of 4.22, showing strong intent to continuously adopt and recommend the system, especially when it leads to increased farm profitability. Overall, the FIMC demonstrates strong user acceptance and promising potential for strengthening digital agricultural support, provided that connectivity, training and implementation gaps are continually addressed.

Keywords: *Farmers' Intervention Monitoring Card (FIMC), digital agriculture, technology acceptance, perceived ease of use, perceived usefulness, willingness to use, Ifugao Philippines*

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Introduction

Across the world, agriculture is being transformed by digital tools that help farmers manage land, inputs, and finances. Systems such as digital cash transfers and mobile monitoring improve yields, strengthen rural livelihoods, and support the UN Sustainable Development Goals (SDGs) on poverty reduction, food security, and decent work, especially in remote areas.

One such innovation is the Farmers' Intervention Monitoring Card (FIMC), a digital card that streamlines the delivery and tracking of government aid and agricultural inputs. Inspired by global models like Kenya's mobile money and India's digital subsidy programs, the FIMC offers farmers a more efficient, transparent, and accessible way to receive subsidies and support. In the Philippines, the Department of Agriculture adopted the FIMC as part of its strategy to address long-standing issues in resource distribution, weak monitoring, and limited access to support services. By digitizing registration and subsidy release, the system reduces leakages and strengthens accountability while aligning with SDGs on no poverty, zero hunger, reduced inequalities, decent work, and responsible production.

In provinces such as Ifugao, the FIMC helps overcome limited access to banks, modern technology, and climate-related risks by allowing real-time tracking and digital claiming of aid. However, its effectiveness can be constrained by poor connectivity, low digital literacy, and limited smartphone ownership, making farmer training and human support crucial. Integrating the FIMC with the Registry System for Basic Sectors in Agriculture (RSBSA) further enhances targeting, planning, and data-driven decision-making.

International and local studies show that well-designed digital systems improve usability, trust, productivity, and financial security. Research highlights the importance of learnability, clear instructions, and human-centered support, while evidence from other countries and Philippine studies links digital cards and monitoring tools to better access to inputs, higher farm productivity, and more secure household income. The FIMC is grounded in a strong policy framework, including DA Memorandum Circular No. 50, RA 11203, RA 8435, and data privacy guidelines.

Despite implementation challenges, the long-term benefits of the FIMC are promising: improved access to resources, greater transparency, and more equitable support for farmers. Continued monitoring and evaluation are essential to ensure that the system remains responsive to farmers' needs and contributes meaningfully to sustainable agricultural development.

Statement of the Problem

The FIMC was introduced as a financial support modality to enhance farmers' economic stability and productivity. This study aimed to evaluate its overall effectiveness, with a focus on the following objectives:

1. What is the level of acceptance of the farmers toward the Farmers' Intervention Monitoring Card (FIMC), by their responses based on:
    1.1 Perceived Ease of use;
    1.2 Perceived usefulness; and
    1.3 Willingness to use

Research Methodology

The study employed a quantitative research design to systematically collect and analyze numerical data on farmers' perceptions of the FIMC program using statistical methods. It was conducted in Ifugao Province, a mountainous area in the Cordillera region known for its rice terraces and upland farming communities, making it an appropriate setting for assessing agricultural interventions. Five municipalities with the highest number of beneficiaries were purposively selected, involving 380 respondents, primarily rice farmers, along with Municipal Agriculture Officers and Agricultural Extension Workers to capture both grassroots and institutional perspectives.

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Data were gathered through a validated structured questionnaire consisting of 90 items measured on a five-point Likert scale, focusing on ease of use and perceived usefulness of the FIMC. Respondents were properly oriented, and ethical standards such as voluntary participation, confidentiality, and informed consent were strictly observed. The diversity of respondents in terms of age, experience, and educational background ensured a more comprehensive and representative assessment.

The collected data were analyzed using descriptive and inferential statistics, including frequency, percentage, mean, and standard deviation, to determine trends and levels of program acceptance. The use of a reliable instrument and appropriate statistical tools strengthened the validity of the findings and provided a clear basis for evaluating the effectiveness and areas for improvement of the FIMC program.

Results and Findings

Perceived Ease of Use (PEU)

The findings reveal a generally positive perception among farmers regarding the ease of use of the Cash Card ID system integrated within the program, as evidenced by the grand mean score of 3.81, which corresponds to an overall agreement, as shown in Table 4. Such a result reflects that, on average, users find the system accessible and manageable. This favorable evaluation underscores the system's effectiveness in supporting user interaction—an essential determinant in the adoption, sustained use, and overall success of digital technologies in agricultural development programs. Ease of use, as highlighted in various adoption frameworks such as the Technology Acceptance Model (TAM), is a critical predictor of user engagement, particularly in resource-constrained, rural environments where digital literacy levels may vary considerably.

Table 4: Farmers Perceived ease of use on the FARMERS' INTERVENTION MONITORING CARD (FIMC)

	Indicators	Mean	Description
1.	Learning to use the "Cash Card ID" was easy for me.	3.98	Agree
2.	The instructions provided for availing fertilizer, rice seeds, and financial assistance using FMIC/Cash Card ID are clear and easy to understand.	3.88	Agree
3.	The process of withdrawing money using the "Cash Card ID" is straightforward.	3.62	Agree
4.	I find it easy to use the "Cash Card ID" to avail fertilizer	3.62	Agree
5.	The process of using the "Cash Card ID" to obtain rice seeds is simple and clear.	3.85	Agree
6.	I find the "Cash Card ID" system user-friendly.	3.84	Agree
7.	I feel comfortable using the "Cash Card ID" on my own, without external assistance.	3.79	Agree
8.	I can easily get help or support when I face difficulties using the FIMC card	3.87	Agree
9.	The process of registering for the FIMC is simple and straightforward.	3.76	Agree
10.	Overall, I find using the FIMC card a simple and hassle-free process.	3.89	Agree
	Grand Mean	***3.81***	***Agree***

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The first indicator got the highest-rated item, *"Learning to use the 'Cash Card ID' was easy for me,"* received a weighted mean of 3.98, indicating that the majority of respondents found the onboarding process intuitive. This aligns with research by Pusparani, Setiyorini, and Frieyadie (2023), who identified *learnability, understandability,* and *operability* as core usability components in digital financial tools. Their study emphasized that user satisfaction is strongly influenced by the system's ability to minimize learning curves, particularly in resource-constrained or low-digital-literacy contexts.

This finding underscores the success of FIMC's introductory processes and suggests that instructional materials and support structures are generally effective for first-time users. Nonetheless, given that a few users did not share this perception, further strengthening of localized, language-sensitive onboarding materials may be warranted.

The second indicator, *"The instructions provided for availing fertilizer, rice seeds, and financial assistance using the FMIC/Cash Card ID are clear and easy to understand,"* garnered a weighted mean of 3.88. A majority of respondents (212 *Agree*, 74 *Strongly Agree*) validated the effectiveness of the communication strategies. However, 22 respondents (13 *Disagree*, 9 *Strongly Disagree*) expressed dissatisfaction, and 62 were *Neutral*, indicating that a subset of the population may have unmet informational needs.

This reinforces the value of multi-modal communication strategies, such as the integration of visuals, multilingual translations, and community-based demonstrations, particularly for older farmers or those with limited literacy

The indicator *"The process of withdrawing money using the Cash Card ID is straightforward"* received a relatively lower weighted mean of **3.62**. Although 204 respondents *Agreed* and 57 *Strongly Agreed*, a significant portion—76 *Disagreed* and 5 *Strongly Disagreed*—expressed dissatisfaction. This suggests the existence of systemic or operational friction during cash withdrawal.

Factors potentially contributing to this include technical issues with ATMs, inconsistent connectivity, and limited physical access to financial institutions, particularly in remote barangays. This finding is consistent with Pusparani et al. (2023), who found that *operability gaps* often stem not from the user interface alone but from infrastructure limitations and lack of real-time support. Similarly, Saputra et al. (2021) emphasized that usability is heavily dependent on users' ability to complete core functions—such as withdrawals—without ambiguity or disruption.

The fourth indicator, *"I find it easy to use the 'Cash Card ID' to avail fertilizer,"* received a weighted mean of 3.62, reflecting a moderately positive user experience. A majority of respondents 210 agreed and 42 strongly agreed indicated that the process of using the IMC to access fertilizer was straightforward. This suggesting that for most users, the system effectively meets their needs in terms of accessibility and ease of use.

However, 54 respondents (10 strongly disagreed and 44 disagreed) expressed dissatisfaction or difficulty in using the system, while 64 respondents remained neutral. This indicates a segment of users who may have experienced challenges, possibly due to lengthy distribution processes or delays in accessing the fertilizer. Such delays could lead to frustration, particularly if users are unclear about the process or if there are logistical barriers affecting the timely delivery of resources.

The fifth indicator, *fertilizer access* yielded a weighted mean of 3.62, similar to the score for withdrawals. A majority (210 *Agree*, 42 *Strongly Agree*) found the system straightforward, but 54 respondents expressed dissatisfaction, and 64 remained neutral. Delays in input distribution, vague timelines, and logistical coordination issues may be underlying contributors.

Another indicator "*I find the Cash Card ID system user-friendly*" obtained a weighted mean of 3.84, indicating strong general approval. Respondents (61 Strongly Agree, 215 Agree) described the system as intuitive. However, 71 remained Neutral and 23 expressed dissatisfaction, suggesting that interface usability may still present challenges for users with limited technological experience.

This is echoed in the work of Zallio et al. (2020), who advocate for inclusive and participatory design in digital financial platforms, especially in rural and aging populations. They argue for progressive disclosure, simplified navigation, and contextual support to reduce technological anxiety and increase digital confidence.

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The indicator *"I feel comfortable using the Cash Card ID on my own, without external assistance"* received a weighted mean of 3.79, indicating a generally favorable level of digital self-efficacy. While 281 respondents felt confident (61 *Strongly Agree*, 220 *Agree*), 39 disagreed, and 50 remained *Neutral*.

These findings imply that while digital confidence is growing, a segment of the population still experiences self-doubt or operational dependency. This aligns with findings in the Technology Acceptance Model (TAM) framework, which posits that *perceived ease of use* and *self-efficacy* are core drivers of system adoption (Davis, 1989).

The indicator *"I can easily get help or support when I face difficulties using the FIMC card"* scored a high weighted mean of 3.87. With 275 respondents *Agreeing* and 43 *Strongly Agreeing*, it is evident that the support infrastructure—likely through Agricultural Extension Workers and LGU personnel—is performing well.

Nonetheless, 28 respondents expressed dissatisfaction, citing likely issues such as lack of prompt assistance, resource constraints, or limited on-site help. The findings align with a McKinsey & Company (2021) report, which emphasized the importance of blending digital-first solutions with human-centered support models, especially in semi-rural contexts where self-service models alone may not suffice.

The indicator *"The process of registering for the FIMC is simple and straightforward"* receive a weighted mean of 3.76. A majority (254 *Agree*, 37 *Strongly Agree*) expressed satisfaction with the registration experience. However, 41 respondents reported difficulties, while 38 remained *Neutral*. These figures suggest that while the registration framework is generally effective, complexity, unclear steps, or inconsistent support during onboarding could have hindered some users.

This finding is consistent with the Nielsen Norman Group (2021), which emphasized that the *perceived simplicity* of a digital registration process significantly impacts user satisfaction and long-term engagement. Moreover, Fogg and Preece (2020) argue that *frictionless onboarding* increases trust and enhances system usability, particularly for non-expert users.

The final indicator, *"Overall, I find using the FIMC card a simple and hassle-free process,"* scored one of the highest means at 3.89. A large majority (255 *Agree*, 46 *Strongly Agree*) affirmed the efficiency and overall effectiveness of the system. Importantly, no respondent *Strongly Disagreed*, and only 17 *Disagreed*, indicating minimal dissatisfaction. The 52 *Neutral* responses may reflect irregular system usage or limited user engagement at the time of the survey.

The high satisfaction rate suggests that key elements such as card activation, usage in various services (e.g., availing of aid or subsidies), and overall system reliability are performing well. A simple and seamless experience is crucial, especially in programs involving financial transactions and government support, where efficiency directly affects user trust and program success.

Perceived Usefulness

The results on the perceived usefulness of the yielded a grand mean of 3.94, which corresponds to the descriptive interpretation of "Agree", as presented in Table 5. This result reflects a generally positive assessment from farmer-beneficiaries, suggesting that the FIMC system is viewed as a valuable tool in facilitating key agricultural processes. Specifically, respondents indicated that the card system is accessible, manageable, and functionally beneficial in enabling transactions such as withdrawing financial assistance, accessing agricultural inputs (e.g., seeds and fertilizers), and updating or registering farming records.

The high level of perceived usefulness is a critical indicator of system relevance and effectiveness in addressing the operational needs of end users. This aligns with established theoretical models such as the Technology Acceptance Model (TAM), which posits that perceived usefulness is a primary determinant of users' intention to adopt and continue using a technological innovation. In this context, the favorable perception of the FIMC underscores its potential to support more efficient and transparent delivery of government agricultural interventions.

Table 5: Farmers perceived usefulness of the FIMC

ITEMS	*Mean*	*Description*

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1	The "Cash Card ID" helps me receive financial assistance more conveniently.	4.10	Agree
2	The "Cash Card ID" improves my ability to purchase agricultural inputs.	4.03	Agree
3	The "Cash Card ID" simplifies the process of applying for financial assistance.	4.01	Agree
4	The has improved my ability to receive timely agricultural inputs like fertilizer and rice seeds.	3.88	Agree
5	The provides me with better access to financial assistance for my farm.	3.92	Agree
6	The FIMC has improved my access to quality seeds, fertilizers, and other farming inputs.	3.77	Agree
7	Using the "Cash Card ID" has increased my overall productivity.	3.85	Agree
8	The financial support from the "Cash Card ID" has positively impacted my household income.	3.92	Agree
9	The FIMC has made it easier for me to plan and manage my farm resources effectively.	3.96	Agree
10	I believe that the FIMC has helped me make better decisions regarding agricultural investments.	3.94	Agree
	Grand Mean	*3.94*	*Agree*

The first indicator, *"The 'Cash Card ID' helps me receive financial assistance more conveniently,"* achieved a weighted mean of 4.10, reflecting strong agreement among respondents. A substantial majority of respondents (251 *Agree*, 83 *Strongly Agree*) affirmed that the system has improved access to financial support, indicating that the Cash Card ID simplifies and expedites what were previously more cumbersome aid delivery processes. Notably, there were no "Strongly Disagree" responses, only 10 respondents disagreed, and 25 remained neutral. This lack of major negative feedback suggests that the FIMC system has largely succeeded in overcoming barriers associated with traditional disbursement mechanisms such as long queues, manual paperwork, delayed releases, and possibly even issues around transparency.

This finding aligns with studies on digital financial inclusion. Jack and Suri (2021) emphasized in their research that mobile money systems and digital financial tools greatly enhance the speed, convenience, and security of delivering government support, especially in developing regions. Similarly, Demirgüç-Kunt et al. (2022) in the Global Findex Database highlighted how digital payment systems can reduce leakages, improve targeting, and boost user satisfaction in public benefit programs.

The second indicator, *"The 'Cash Card ID' improves my ability to purchase agricultural inputs,"* with a mean of 4.03, confirms that users perceived the system as significantly beneficial in facilitating agricultural transactions. A

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large majority (260 *Agree*, 68 *Strongly Agree*) believe inputs like seeds, fertilizers, and other essential resources are more accessible under the Cash Card ID system. Only a small minority (15 *Disagree*, 26 *Neutral*) reported concerns or reservations. These may stem from vendor issues (not all merchants accepting the card), delays in validating card transactions, or logistical issues in input supply factors which are often salient in rural, remote farming contexts.

This result is supported by findings in recent studies on digital agriculture and financial tools. Kosec et al. (2022) emphasized that digital subsidies and card-based systems in agriculture lead to greater transparency, improved access to inputs, and reduced corruption. Similarly, Aker et al. (2020) found that digitized aid mechanisms significantly reduced transaction costs and increased farmer satisfaction, particularly when accompanied by adequate training and vendor coordination.

The third indicator, *"The Cash Card ID simplifies the process of applying for financial assistance"* shows that respondents strongly believe the system reduces complexity in application procedures. Of the sample, 248 Agree and 67 Strongly Agree with this item, indicating that the system is perceived as effectively cutting down bureaucratic steps, reducing documentation burdens, and making the process more transparent. A small number of participants (9 Disagree, 45 Neutral) suggest that while improvements are broad-based, some farmers still face obstacles likely due to gaps in training, awareness, or technical infrastructure (e.g., poor internet or card reader access), or occasional delays in system processing.

According to Gelb and Mukherjee (2020), observed that digital ID systems and smart cards significantly reduce administrative costs and speed up the delivery of welfare programs when well-integrated with backend databases. Additionally, Hanna and Olken (2021), highlighted how digital platforms can increase transparency and user satisfaction in government-to-person (G2P) programs, particularly when beneficiaries are given autonomy and easy-to-use tools.

The fourth indicator, *"The* garnered a mean of 3.88. This is positive, though slightly lower than some of the other indicators of usefulness. A majority (240 Agree, 54 Strongly Agree) agree, but a minority (5 Strongly Disagree, 14 Disagree) expressed dissatisfaction. Neutral responses (55) also suggest inconsistent experiences among some users, potentially due to logistical delays, supply chain issues, or under-resourced local delivery points. Because timely access is critical for farming cycles, this indicates an area where implementation needs to be optimized*. has improved my ability to receive timely agricultural inputs like fertilizer and rice seeds"*

The fifth indicator, *"The* received a weighted mean of 3.92, indicating a strongly positive perception of the FIMC's effectiveness in enhancing financial accessibility for farmers. A majority of respondents (264 agreed and 48 strongly agreed) affirmed that the card has improved their ability to access financial support. This suggests that the system is generally fulfilling its intended role as a streamlined, efficient platform for delivering agricultural aid. *provides me with better access to financial assistance for my farm"*

Timely and adequate financial assistance is critical for smallholder farmers, especially in preparing for planting seasons, purchasing inputs, or addressing unforeseen challenges such as crop failure or market disruptions. The FIMC seems to bridge gaps in previous manual or paper-based systems by offering a digitized, trackable, and standardized method of fund distribution. This not only reduces delays but also enhances transparency and user trust in the system.

However, a small portion of respondents (5 strongly disagreed and 10 disagreed) expressed dissatisfaction, and 41 selected neutral, suggesting that while most users have benefited, a minority may have encountered challenges such as delayed disbursement, technical barriers, or insufficient understanding of how to use the card effectively.

This finding aligns with research on digital agricultural finance, such as the work of Demirgüç-Kunt et al. (2022) in the *Global Findex Database*, which underscores the potential of digital financial tools to expand inclusion, reduce transaction costs, and enhance delivery efficiency in public assistance programs. Similarly, Jack and Suri (2021) emphasize that digitized aid systems, when properly implemented, lead to more secure, convenient, and impactful service delivery, particularly in developing rural contexts where traditional systems often fail to meet the dynamic needs of the agricultural sector.

The survey statement *"The FIMC has improved my access to quality seeds, fertilizers, and other farming inputs"* received a weighted mean of 3.77, indicating a generally favorable perception of the card's role in improving access to essential agricultural resources. A clear majority 239 agreed and 35 strongly agreed reported that the system has made it easier to obtain subsidized farm inputs.

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This result suggests that the is effective in streamlining input distribution by reducing bureaucratic delays, enhancing transparency, and simplifying procedures. Its digital design likely improves coordination between farmers and input suppliers, enabling faster and more reliable disbursement.

These findings are consistent with previous research. For example, Aggarwal et al. (2021) emphasize that digital subsidy systems improve access when paired with real-time tracking and data-driven targeting. Likewise, USAID (2022) noted that e-voucher programs in East Africa increased input access, especially when logistics and farmer training were well supported.

However, 24 respondents disagreed and 71 remained neutral, suggesting that not all users benefited equally. Possible reasons include supply limitations, uneven distribution across regions, or lack of information on how to use the system effectively. This indicates a need to address implementation gaps and strengthen communication and support systems for broader impact.

In sum, the FIMC has shown positive results in improving input accessibility but requires continued refinement and targeted interventions to ensure its benefits reach all intended users.

The indicator *"Using the 'Cash Card ID' has increased my overall productivity"* received a weighted mean of 3.85, suggesting a generally positive perception among farmers regarding its influence on farming efficiency and output. A substantial majority 266 agreed and 36 strongly agreed reported that the system positively affected their productivity.

This implies that the Cash Card ID system, by streamlining access to financial aid and agricultural inputs, supports more efficient farm operations. The reduction in administrative burdens such as manual paperwork, long queues, and unclear processes likely enables farmers to devote more time to essential fieldwork, improve input timing, and enhance overall yield potential.

Nevertheless, 5 respondents strongly disagreed, 15 disagreed, and 47 remained neutral, suggesting that a minority did not perceived a productivity benefit. This may stem from factors such as inconsistent input availability, limited system familiarity, connectivity challenges, or external variables like weather conditions or market fluctuations, which can impact productivity irrespective of digital support.

The indicator *"The financial support from the 'Cash Card ID' has positively impacted my household income"* received a weighted mean of 3.92, indicating a strongly positive perception among respondents. A significant majority 277 agreed and 41 strongly agreed acknowledged that the system contributed to improving their household income, suggesting that the Cash Card ID effectively helps alleviate financial burdens, support essential needs (e.g., food, education, farm inputs), and promote economic stability.

This result reinforces the value of digital financial inclusion in rural and agricultural contexts, where timely, transparent, and direct access to government support can influence both short-term well-being and long-term resilience. By minimizing delays and inefficiencies typical of manual disbursement systems, the Cash Card ID strengthens the link between beneficiaries and institutional support.

However, a minority (5 strongly disagreed, 9 disagreed, and 37 remained neutral) did not report the same level of benefit. This variance may reflect differences in support amount, disbursement frequency, household size, or financial literacy. Neutral responses could also suggest limited awareness of the card's impact or minimal engagement with the system.

The indicator *"The FIMC has made it easier for me to plan and manage my farm resources effectively"* yielded a weighted mean of 3.96, indicating a strongly positive perception among respondents. A large majority 276 agreed and 45 strongly agreed affirmed that the FIMC significantly enhanced their capacity to plan and allocate farm resources efficiently.

This finding suggests that the FIMC plays a vital role in supporting informed decision-making by providing timely access to financial aid and agricultural inputs. Through streamlined processes for acquiring seeds, fertilizers, and funding, the system appears to empower farmers to align their purchases and resource management with seasonal and operational demands ultimately contributing to improved productivity and sustainability.

This outcome aligns with the work of Aker et al. (2020), who emphasized that digital agriculture tools improve operational efficiency by minimizing transaction costs and enhancing farmers' ability to plan. **y** found that digital subsidy systems, when effectively implemented, lead to improved input management and more strategic decision-making. By reducing bureaucratic delays and enabling real-time access to support, the FIMC functions as a strategic tool

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for resource planning in a dynamic agricultural environment.

However, 5 respondents strongly disagreed, and 43 remained neutral, indicating that a subset of farmers may not fully benefit from the system. These perceptions may reflect technological barriers, limited awareness or training, or context-specific challenges, such as varying farm sizes, geographic disparities, or uneven implementation across regions.

Lastly, the indicator *"I believe that the FIMC has helped me make better decisions regarding agricultural investments"* yielded a weighted mean of 3.96, reflecting a strongly positive perception among respondents. Specifically, 253 agreed and 57 strongly agreed that the FIMC has supported their ability to make more informed and strategic investment decisions in agriculture.

This result suggests that the FIMC's facilitation of timely access to financial support and essential inputs enables farmers to better plan their expenditures, invest in quality seeds, fertilizers, and modern technologies, and optimize returns. The presence of a structured, digital support system appears to enhance farmer confidence, allowing for improved financial planning, risk management, and sustainability of farm operations.

These findings are consistent with the study by Zhang et al. (2020), which demonstrated that digital financial inclusion enhances farmers' access to capital, enabling long-term investments in technologies such as irrigation and high-yield seeds. Additionally, Khan et al. (2021) found that mobile financial services contribute to better investment decisions by offering real-time data on input prices, market trends, and weather forecasts tools critical for informed resource allocation.

However, a notable minority 20 strongly disagreed, 39 disagreed, and 57 remained neutral indicates that some farmers may not have experienced the same level of benefit. This could be due to factors such as limited digital literacy, technical or infrastructural constraints, delayed support, or a lack of awareness of how to fully utilize the system for investment-related purposes. These findings point to the need for targeted capacity-building efforts, especially *in under-resourced areas, to ensure equitable access and impact.*

Willingness to Use

As presented in Table 6, the farmers' willingness to use the registered a grand mean of 4.22, corresponding to the descriptive interpretation of "Agree." This score reflects a strong overall inclination among farmer-beneficiaries to continue using the FIMC as a key tool for accessing agricultural inputs, financial support, and other government assistance services.

This finding is significant when viewed through the lens of the Technology Acceptance Model (TAM) by Davis (1989), which posits that perceived usefulness and perceived ease of use are critical predictors of a user's intention to adopt and continue using a technological innovation. The high willingness score reinforces earlier findings in this study, where respondents reported favorable perceptions of both the system's utility and ease of operation. In this context, willingness serves as a proxy for behavioral intention, which is a strong predictor of actual usage in future agricultural cycles.

Furthermore, this result aligns with broader literature on digital inclusion in agriculture, where trust in the system, user satisfaction, and demonstrated benefits have been shown to increase technology uptake and sustain engagement (Aker et al., 2016; Kosec et al., 2022). The FIMC appears to meet critical user expectations timely access to inputs, reduced bureaucratic delays, and simplified processes which enhances farmers' confidence in the system.

Table 6: Farmers Willingness to use the FIMC

Indicators	Mean	Description
1. Would you be willing to use the Cash Card Id for monitoring and accessing government assistance?	4.25	Agree
2. I am willing to use the even if it requires learning new processes or steps.	4.18	Agree
3. I would prefer using the "Cash Card ID" to obtain rice seeds instead of other methods.	4.22	Agree

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4.	The convenience of using the makes me willing to adopt it for receiving agricultural inputs and financial aid.	4.24	Agree
5.	I would feel comfortable using the for all future applications for financial support.	4.17	Agree
6.	I would be willing to recommend the to other farmers for availing fertilizer, rice seeds, and financial assistance.	4.32	Agree
7.	The benefits of using the FIMC outweigh any potential challenges I may face in using it.	4.12	Agree
8.	I would continue using the FIMC if it helped me increase the profitability of my farm.	4.26	Agree
	Grand Mean	*4.22*	*Agree*

The first indicator, *"Willingness to use the Cash Card ID for monitoring and accessing government assistance,"* yielded a high weighted mean of 4.25, indicating strong overall user acceptance. A majority of respondents agreed (224) or strongly agreed (126) with the statement, suggesting that the Cash Card ID is widely perceived as a reliable and efficient means of accessing government support. This finding supports the broader trend of increasing digital financial inclusion in public service delivery, as highlighted by the World Bank (2020) and Jung et al. (2021).

However, a small subset of respondents expressed reservations, with 5 strongly disagreeing, 5 disagreeing, and 9 remaining neutral. These responses may reflect concerns related to privacy, technological barriers, or unfamiliarity with digital systems. Schou and Groeneveld (2022) emphasize that trust, perceived usefulness, and ease of use are critical factors influencing the adoption of digital government tools insights that may help explain the hesitancy among this minority.

The second indicator, *"Willingness to use the* received a weighted mean of 4.18, indicating a strong overall willingness among respondents to adopt the system despite potential learning demands. A majority expressed positive intent, with 224 agreeing and 111 strongly agreeing—demonstrating readiness to adapt in order to access improved services *even if it requires learning new processes.*

This suggests that respondents recognize the value of the FIMC and are willing to invest time and effort in learning new procedures if it enhances access to agricultural inputs or financial support. The finding aligns with broader trends in agricultural digitization, where stakeholders increasingly view digital tools as catalysts for improved efficiency and productivity, even when a learning curve is involved.

However, a minority of respondents indicated hesitation: 10 strongly disagreed, 24 disagreed, and 20 remained neutral. This suggests that some users may face barriers such as limited digital literacy, access to training, or concerns over system complexity factors that could inhibit full adoption despite the perceived benefits.

The third indicator, *"Preference for using the* recorded a high weighted mean of 4.22 on a 5-point Likert scale, indicating a strong overall preference for the FIMC system over traditional distribution methods such as manual listings, voucher systems, or in-person registration *(Cash Card ID) to obtain rice seeds over other methods.*

A substantial majority of respondents expressed support, with 200 agreeing and 127 strongly agreeing. This reflects broad endorsement of the card-based approach, likely due to its perceived advantages in efficiency, transparency, accessibility, and reduced bureaucratic burden. The near absence of negative responses only 5 respondents disagreed and none strongly disagreed further underscores the system's positive reception and suggests minimal resistance, reinforcing its potential for sustained implementation and broader scalability.

However, 37 respondents selected a neutral response. This may indicate uncertainty stemming from limited exposure, lack of familiarity, or insufficient understanding of the FIMC's benefits relative to conventional methods. Targeted information campaigns, training, or demonstration activities may help address this knowledge gap and further enhance user confidence in the system.

The fourth indicator, *"The convenience of using the* yielded a high weighted mean of 4.24 on the 5-point Likert scale. This result reflects a strong positive inclination among respondents to adopt the FIMC, with convenience emerging as a critical driver of acceptance. Specifically, 222 respondents agreed, and 123 strongly agreed with the

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statement, indicating that ease of use significantly contributes to their willingness to engage with the system *to adopt it for receiving agricultural inputs and financial aid.*

This finding underscores the importance of user-centric design in digital agricultural platforms. The high level of agreement suggests that when digital tools are perceived as convenient and accessible, users are more inclined to accept and integrate them into their routines. This is consistent with the Technology Acceptance Model (TAM), which identifies *perceived ease of use* as a fundamental determinant of behavioral intention toward technology adoption (Davis, 1989). In the context of agricultural aid distribution, where users may have varying degrees of digital literacy, the perceived convenience of the FIMC likely reduces psychological and operational barriers to adoption.

Moreover, the minimal procedural burden associated with using the FIMC may enhance its appeal relative to traditional, often bureaucratic, processes such as manual registration or in-person verification. These findings align with broader research on digital transformation in service delivery, which emphasizes that system usability not only influences initial adoption but also affects sustained engagement over time (World Bank, 2020).

The fifth indicator *"I would feel comfortable using the* elicited a strong positive response. The weighted mean was 4.17, evidencing high comfort and trust among respondents. Specifically, 228 respondents agreed and 109 strongly agreed, indicating confidence in the FIMC's functionality, usability, and relevance in application for all future applications for financial support.

Only 19 respondents selected a neutral response; this likely reflects respondents who are newer to the system, have had limited exposure or training, or remain uncertain about long-term benefits. This group represents a critical target for engagement through training, demonstrations, or capacity-building.

Resistance was minimal: no one strongly disagreed, and only 13 disagreed. This limited pushback underscores broad acceptance, suggesting that the FIMC is already well integrated into users' practices, and that barriers to adoption are small and potentially manageable.

These findings mirror prior work on technology adoption using models such as TAM (Technology Acceptance Model), which highlight *perceived usefulness*, *ease of use*, and *trust* as central drivers of behavioral intent. For example, studies in agricultural ICT adoption have found that perceived ease of use and trust significantly influence farmers' willingness to use digital tools.

The indicator *"I would be willing to recommend the* achieved a high mean of 4.32, showing very strong willingness among users to advocate for the FIMC. Specifically, 211 respondents agreed and 140 strongly agreed, revealing that the tool has earned substantial trust, especially in facilitating access to other farmers for availing fertilizer, rice seeds, and financial assistance to critical agricultural inputs and aid. Negative responses were minimal: only 5 disagreed, and none strongly disagreed. A small neutral group (13 respondents) likely represents users still developing experience with the system or unsure of its full benefits.

Willingness to recommend is often used in technology adoption studies as a proxy for user satisfaction and perceived impact, aligning with constructs from TAM and UTAUT regarding *social influence* and *performance expectancy*. Research in e-government / digital service adoption repeatedly shows that when users are willing to recommend a system, it signals high satisfaction and strong perceived utility (Noura Aleisan, 2023).

The indicator *The benefits of using the outweigh any potential challenges I may face in using it,* achieved a high mean score of 4.12, indicating that the majority of respondents perceived the advantages of the FIMC to significantly surpass any potential challenges. Specifically, 233 respondents selected a score of 4, and 98 selected a score of 5, reflecting a strong consensus on the tool's net benefits.

Only 14 respondents disagreed, and none strongly disagreed, suggesting that while minor concerns exist, they are not widespread or significant enough to overshadow the perceived benefits. A small neutral group (24 respondents) likely represents users still developing experience with the system or unsure of its full benefits.

This positive perception aligns with findings in digital technology adoption literature, where perceived benefits often drive adoption despite potential challenges. For instance, a study highlighted that despite facing barriers, many MSMEs decided to adopt digital technologies due to perceived benefits, changes in the business environment, the owner's IT experience, and perceived competitive pressure. This underscores the importance of addressing challenges to maximize the benefits of digital systems (ResearchGate, 2024).

Lastly, the indicator *"I would continue using the FIMC if it helped me increase the profitability of my farm* achieved

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a high mean score of 4.26, indicating a strong willingness among respondents to sustain usage of the FIMC based on its perceived economic benefits. Specifically, 231 respondents selected "Agree," and 119 selected "Strongly Agree," reflecting a clear consensus that the tool's advantages are closely linked to enhanced farm profitability.

Only 5 respondents expressed disagreement, and none strongly disagreed, suggesting minimal resistance to continued use if profitability improves. A small neutral group (14 respondents) likely represents users still developing experience with the system or uncertain about its financial impact.

These findings underscore that economic return is a primary driver in the adoption and sustained use of agricultural technologies. Farmers are highly motivated to continue using tools like the FIMC when they perceived a direct link to income generation and farm efficiency. The almost non-existent opposition suggests a readiness among users to embrace digital innovation, especially when such tools contribute to performance and profitability.

Conclusion

The findings show a high level of acceptance of the Farmers' Intervention Monitoring Card (FIMC) among farmer-beneficiaries. The grand mean for Perceived Ease of Use (3.81) indicates that, in general, farmers find the Cash Card ID/FIMC easy to learn, manageable, and user-friendly, especially in terms of registration, understanding instructions, and using the card to access subsidies. Some difficulties are still felt in withdrawing cash and availing fertilizer and seeds, which appear to be linked more to infrastructure and logistical issues (e.g., ATM problems, delays in distribution) than to the system itself. These concerns point to the need for continuous improvement of support services, clearer procedures, and localized assistance, particularly for older or less digitally literate farmers.

The results on Perceived Usefulness (grand mean = 3.94) further confirm that farmers regard the FIMC as a valuable and beneficial tool. They believe it makes receiving financial assistance more convenient, improves access to agricultural inputs, supports better planning and management of farm resources, and has positive effects on productivity and household income. In other words, the FIMC is not only easy enough to operate but also helps farmers do important farming and financial tasks more efficiently and transparently, which strengthens their trust in government interventions.

Finally, the dimension on Willingness to Use (grand mean = 4.22) reveals a very strong intention to continue using and even recommending the FIMC. Most farmers are willing to keep using the card, learn new steps if needed, and endorse it to fellow farmers because they feel that its benefits outweigh the challenges and can potentially increase farm profitability. Taken together, the three dimensions ease of use, usefulness, and willingness indicate that the FIMC has achieved strong acceptance among its intended users. With targeted improvements in infrastructure, user training, and logistical coordination, the system is well-positioned to remain a key platform for delivering agricultural support and strengthening digital financial inclusion in the farming sector.

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