International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 15s, 2025
https://www.theaspd.com/ijes.php

Unlocking Financial Inclusion Through Kisan Credit Card: The Interplay Of Risk, Benefits And Institutional Trust

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ABSTRACT

The present research is a study that was carried out in 2024 into the contribution that the Kisan Credit Card (KCC) scheme had towards financial inclusion of rural families in Central India. The first one was to estimate the effect perceived risks, benefits, and institutional trust have in the adoption of the KCC and the aftermath effect on digital financial inclusion. The study used a structural equation modelling (PLS-SEM) with a systematic research design to analyse how a structured questionnaire data captured the response of 512 rural households. These results show that perceived benefits and perceived risks have a serious influence on the KCC adoption. Higher levels of financial literacy and government contribution had a positive effect on the level of perceived benefits and higher levels of the financial infrastructure and bank trust had a negative effect on the level of perceived risks. The effect of adopting KCC was concluded to bring about a significant direct effect on digital financial inclusion, and the findings emphasise the importance of the government initiative, which includes Jan Dhan Yojana and UPI, in the financial transformation. The study indicates that decreasing the perceived risks and increasing the perceived benefits are the necessary strategies of the enhanced KCC adoption on the way to better financial inclusion of rural locations.

Keywords: *Digital financial inclusion, Kisan credit card (KCC), Perceived Benefits, Perceived Risk.*

INTRODUCTION

Access to and use of financial services by the entire society to affordable means is widely understood to be a form of financial inclusion essential in the development of economies and the reduction of poverty (Mishra et al., 2024). This includes equal access to lines of credit to populations that do not have access, and affordable rates, and the introduction of a savings culture among semi-urban and rural populations, through inclusion of the low-income classes into the regular banking and insurance system, which is essential to growth of the national economy (Malladi et al., 2021; Muchandigona & Kalema, 2023). Financial inclusion became critical in the year 2008 when governments realised its applicability in economic growth through its ability to integrate the unbanked and unrepresented as well as micro, small and medium enterprises in the formal economy (Serrao et al., 2012). As much as great achievements have been observed in the gains towards financial inclusion worldwide, there are still inequalities especially in the developing nations since a considerable amount of individuals do not have access to the formal financial sector (Singh & Pushkar, 2019; Tulu, 2023).

Kisan Credit Card (KCC) scheme has a major role in improving the financial access and agricultural productivity of the farmers in India. Access to cheap credit enables farmers in the country to buy inputs, deal with risks, and boost agricultural production. Research points it out as a way to decrease the reliance on informal lenders and increasing financial inclusion in the countryside (Bharne & Yadav, 2022; Tripathi et al., 2025; Nain et al., 2017).

Agricultural sector, which forms the backbone of most developing economies, is in most instances characterized by the inability to access financial services due to the lack of sufficient investments in productivity and growth of the economies in general. Kisan Credit Card scheme in India was aimed at this gap, as it aims to equip farmers with ready and sufficient credit to meet their agriculture needs (Borgohain & Borah, 2015). But, such schemes would only succeed when a complex system of circumstance occurs, the perceived risk and benefits of farmers

and financial institutions, and the degree of institutional trust forming the basis of relations between them (Das & Patnaik, 2020). The success of the financial inclusion effort will be strongly correlated to how far the financial service providers are ready to modify their lending policies to suit the smallholder farmers, some of whom will not possess the traditional means of collateralizing their loans (Marus et al., 2020). This task is even more complicated in regions with low infrastructure, financial literacy, and regulatory barriers, as they only complicate this work of integrating rural populations into the formal financial system (Muchandigona & Kalema, 2023).
This article explores the multiple aspects of financial inclusion as in the case of the Kisan Credit Card scheme, wherein this complex interplay between perceived risks and anticipated gain involved is explained, along with the vitality of the element of institutional trust. Half of the poor population in India does not have access to the mainstream banking services and inclusiveness in the financial policy is direly needed. This paper examines the role of all this in the adoption and successful implementation of the KCC scheme, which in turn has the effect of affecting its overall objectives of financial inclusion and agricultural development. It is to illuminate the factors which make it difficult to distribute agricultural credit efficiently and suggest modifications of the KCC scheme so that it may be more generally acceptable and more readily used.

The main aim of the proposed study is to examine the complex relations between the sense of risk, expectation of gains and the degree of trust in the institution scheme on the example of the Kisan Credit Card scheme. This paper looks into how these factors influence the uptake and successful use of the scheme. Also, it focuses on the main obstacles that impede the effective use of the KCC scheme and suggest the evidence-based suggestions to make it more effective in attracting more people to financial inclusion and agricultural growth. This study will help devise more productive policies and programs in the field of financial inclusion in the agricultural sector because it will determine the main determinants of its successful implementation (Gichuki & Kamau, 2021). The study also discusses the impact of the efforts made by the government, like the Jan Dhan Yojana, Aadhaar, UPI, and India Stack, in shaping the field of financial inclusion and provide an atmosphere conducive to the flourishing of fintech solutions (Kamal et al., 2025).

METHODOLOGY

The research would examine factors that contribute to the uptake of the Kisan Credit Card and the subsequent post-adoption influences it has on financial inclusion through digital currency use among rural households in Central India that incorporate structural equations of partial least squares inherent in a systematic quantitative research design (Nga-Tam, 2023). The most appropriate sampling technique in this case was stratified random sampling where a representative sample of 512 rural households was chosen in six districts of the central Indian region giving diverse representation of different demographic and socioeconomic category of people (Gichuki & Kamau, 2021). The statistical data were carefully collected by the means of writing a pre-validated structured questionnaire with the aim to collect in-depth insights into financial literacy, perceived advantages and disadvantages under the use of digital finance, trust in financial institutions and behavioural intentions on adopting digital financial services (Srivastava, 2019). The given questionnaire was under a pilot analysis to improve its comprehensibility and guarantee that the Laver had gathered the evidence of the reliability, which was essential to set the strength of the research tool. The rationale of this research is that determining the determinants of KCC adoption is a crucial step towards improving digital financial inclusion, at least among vulnerable and marginalised populations who tend to be disadvantaged with regards to accessing formal financial services (Buteau et al., 2021).

Three stages of the construct reliability and validity were evaluated rigidly with the measures of Cronbach alpha correlation, composite reliability, and Average Variance Extracted to be applicable to valid levels of constructs postulating the internal consistency, as well as convergent validity of the constructs (Das & Patnaik, 2020). The dimension of the constructs measured in the current study consisted of various concepts, such as Financial Inclusion, Financial Literacy, Government Support, Perceived Benefits, Perceived Risks, Trust and Behavioural Intentions, Kisan Credit Card Adoption, and Digital Financial Inclusion, and all of them were clearly defined and operationalized to reflect the multidimensional essence of the respective variables. The discriminant validity that measures that every construct is unique to each other was thoroughly assessed through the Fornell-Larcker

criterion and the heterotrait-monotrait ratio. The two assessments results yielded strong evidence that supported the uniqueness of the constructs thus revealing the soundness of the measurement model. It becomes essential to know why government programs like Jan Dhan Yojana, Aadhaar, UPI, and India Stack have created the right atmosphere behind the growth of fintech and financial inclusion (Kamal et al., 2025). Such digital infrastructure has paved the way to the emergent financial services, making both more available and cheaper to the marginalised population.

A bootstrapping process that involves 5000 resamples in SmartPLS statistical software bundle, which is specially designed to conduct PLS-SEM, with a rigorous estimation of path coefficients and evaluation of the significance of the results was used to test the hypothesised relationships between constructs. Every calculation was carefully checked to statistically prove the results that were of the ultimate levels of methodological accuracy. All measurements were recorded as metric and according to internationally recognized short-forms, making the research to stick to world scientific standards to clarify and also make the study achievable by replicating it in terms of measuring. Moreover, this approach to methodology allows discovering the particular obstacles to the efficient use and consumption of digital financial services, which is particularly vital to tailor particular intervention and policy tools to prompt digital financial inclusion.

The detailed records put forward in this study describing all the modifications made in procedures particularly the adjustments made to the questionnaire makes this study to be very reproducible and leaves this study sturdy in the future to deal with similar research studies, which is of utmost necessity to running the digital financial inclusion research field. The use of PLS-SEM is especially pertinent due to its appropriateness of addressing complicated models and resistance to non-normal data (Khan et al., 2024). This fact allows one to conclude that by defining the driving forces behind the adoption of the KCC and their roles in achieving digital financial inclusion, this study can be used by policymakers, financial institutions, and other stakeholders interested in the digital financial inclusion of rural India. This study will find its results to give us a major insight into the complex interrelation between KCC adoption, digital financial inclusion, and other types of socioeconomic factors that influence it and as such help develop more efficient and specific measures to be used to improve on the financial inclusion in rural areas of India. Productivity and uptake in financial service rely on the intention and ease of using the banking services (Ibrahim et al., 2022).

RESULTS

The image of a research model shows the relationships among several latent variables of financial inclusion and use of the Kisan Credit Card (KCC). The model examines the effect of factors like financial literacy, government support, financial inclusion as well as trust in banking on the perceived benefits and risks relating to KCC adoption. It is assumed that these constructs will influence overall digital financial inclusion (DFI) in rural settings, where the KCC is central them in improving access to financial services.

It is believed that financial literacy would help in the perceived gains of using Kisan Credit Card (KCC), and government support has been termed as an obligation as far as decisions made on the gains of using a given financial product (Knowledge and Attitudes about the credit card 2016). Financial inclusion as the aspect of accessibility and usage of financial services is seen to have an influence on perceived risk as well as belief in banking institutions. The potential gain and loss are hypothesized to directly influence the uptake of the KCC that subsequently contributes considerably to the overall financial inclusion of rural households in the digital sphere. As emphasized in this model, these factors are interrelated to learn about the underpinnings of financial inclusion in rural India, especially in the perspective of digital financial services through the KCC.

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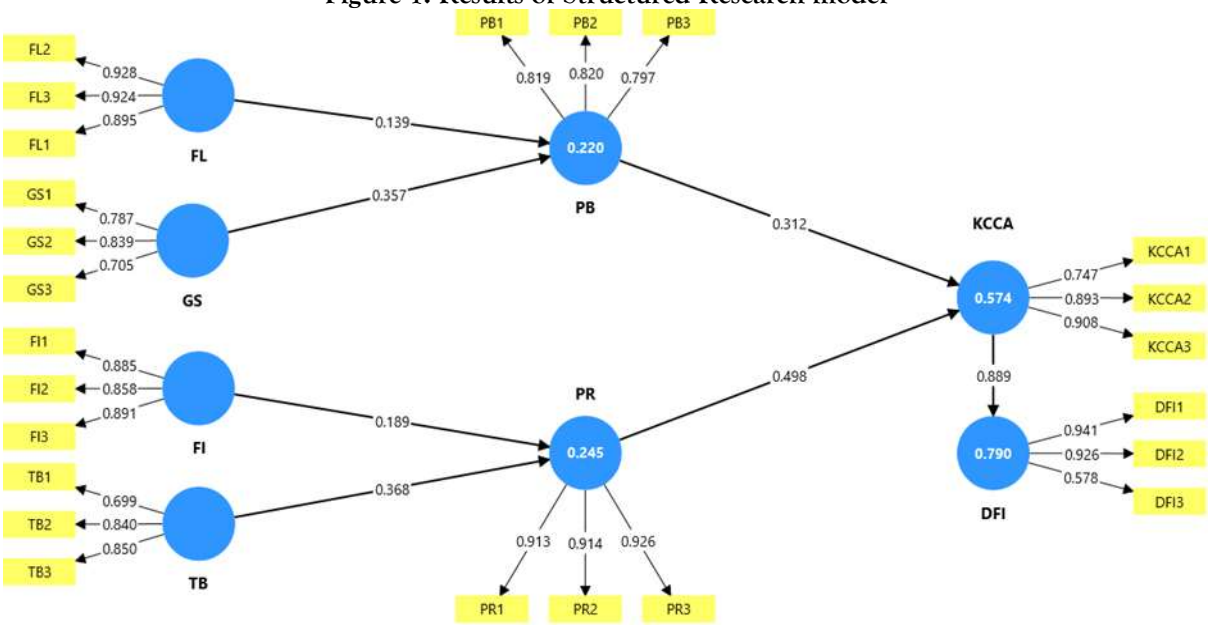
Figure 1. Results of Structured Research model



Source: Author's Calculation

Table 1. Path coefficients values

Mean, STDEV, T values, p values					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
FI -> PR	0.189	0.190	0.049	3.892	0.000
FL -> PB	0.139	0.140	0.056	2.486	0.013
GS -> PB	0.357	0.359	0.055	6.472	0.000
PB -> KCCA	0.312	0.313	0.048	6.432	0.000
PR -> KCCA	0.498	0.496	0.048	10.336	0.000
TB -> PR	0.368	0.369	0.050	7.355	0.000

Source: Author's calculation.

The path coefficient analysis reveals significant impacts of several variables on the adoption of KCC (KCCA):

- **Perceived Benefits (PB)** significantly influenced KCC adoption (β = 0.312, t = 6.432, p < 0.001). This indicates that when users perceive higher benefits associated with KCC, their adoption rate significantly increases.
- **Perceived Risks (PR)** showed a strong positive and significant impact on KCC adoption (β = 0.498, t = 10.336, p < 0.001), highlighting that lower perceived risks substantially encourage the adoption of KCC.

The antecedents influencing perceived benefits and perceived risks were also evaluated:

- **Financial Literacy (FL)** positively influenced perceived benefits (β = 0.139, t = 2.486, p = 0.013), demonstrating that higher financial literacy can increase perceived benefits and thus encourage adoption indirectly.
- **Government Support (GS)** had a significant positive effect on perceived benefits (β = 0.357, t = 6.472, p < 0.001), indicating strong governmental initiatives and support mechanisms substantially enhance the perceived benefits, thus promoting adoption.
- **Financial Infrastructure (FI)** significantly influenced perceived risk (β = 0.189, t = 3.892, p < 0.001), showing robust financial infrastructure helps mitigate perceived risks, which indirectly promotes adoption.
- **Trust in Banks (TB)** had a significant and positive effect on perceived risk (β = 0.368, t = 7.355, p < 0.001), suggesting that higher trust in banking institutions significantly reduces perceived risks associated with KCC, enhancing adoption rates indirectly.

Moreover, the model demonstrated a very strong direct influence of KCC Adoption (KCCA) on Digital Financial Inclusion (DFI) ($\beta = 0.889$, $t = 141.430$, $p < 0.001$), highlighting the critical role of KCC adoption in achieving broader digital financial inclusion objectives.

DISCUSSION

Table 2: Factor loading, Reliability, and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
DFI	0.771	0.885	0.866	0.692
FI	0.852	0.853	0.910	0.771
FL	0.904	0.906	0.940	0.838
GS	0.673	0.682	0.821	0.606
KCCA	0.807	0.816	0.888	0.726
PB	0.748	0.759	0.853	0.659
PR	0.907	0.908	0.941	0.843
TB	0.711	0.709	0.840	0.639

Source: Auth0r's calculation.

The reliability of the measurement constructs was confirmed through Cronbach's Alpha, Composite Reliability (rho_a), and Composite Reliability (rho_c). Cronbach's alpha values ranged from 0.673 (Government Support, GS) to 0.907 (Perceived Risk, PR), indicating satisfactory to excellent internal consistency. The Composite Reliability values were consistently high, surpassing the standard threshold of 0.70, thereby confirming the strong internal consistency of the constructs. The Average Variance Extracted (AVE) exceeded the recommended value of 0.50 for all constructs (ranging from 0.606 for GS to 0.843 for PR), indicating strong convergent validity.

Table 3. Fornell-Larcker Criterion.

Fornell-Larcker criterion								
	DFI	FI	FL	GS	KCCA	PB	PR	TB
DFI	0.832							
FI	0.512	0.878						
FL	0.365	0.364	0.916					
GS	0.421	0.661	0.732	0.779				
KCCA	0.889	0.417	0.320	0.376	0.852			
PB	0.564	0.404	0.400	0.459	0.679	0.812		
PR	0.543	0.385	0.329	0.405	0.728	0.738	0.918	
TB	0.569	0.533	0.353	0.436	0.489	0.741	0.469	0.799

Source: Author's Calculation.

Table 4. Heterotrait-monotrait ratio (HTMT) - Matrix

	DFI	FI	FL	GS	KCCA	PB	PR	TB
DFI								
FI	0.729							
FL	0.455	0.415						
GS	0.655	0.898	0.909					
KCCA	1.064	0.505	0.376	0.516				
PB	0.741	0.502	0.480	0.636	0.851			
PR	0.654	0.438	0.364	0.518	0.866	0.844		
TB	**0.858**	**0.677**	**0.437**	**0.632**	**0.645**	**1.056**	**0.583**	

Source: Author's Calculation.

According to the Fornell-Larcker criterion, discriminant validity is typically well established when the square root of the Average Variance Extracted (AVE) for each construct exceeds its correlation with other constructs. This

condition is largely satisfied in the model, indicating that most constructs are distinct from one another. However, the pair comprising DFI (Digital Financial Inclusion) and KCCA (Kisan Credit Card Adoption) exhibits a relatively high correlation of 0.889, suggesting a strong relationship between these two constructs. Although this high correlation implies a close relationship, it also highlights the importance of understanding the synergy between digital financial inclusion and Kisan Credit Card adoption. This strong correlation can be viewed as a positive indication of the interconnection between the constructs, emphasising the relevance of these factors working in tandem to promote financial inclusion HTMT ratio serving as a critical metric for assessing discriminant validity. An HTMT value exceeding 0.90 is generally regarded as indicative of potential issues with discriminant validity. In the present model, the DFI-KCCA pair exhibits an HTMT value of 1.064, while the trust in banking-perceived benefits (TB-PB) pair shows an HTMT value of 1.056, both surpassing the established threshold. Although these values suggest some overlap between the constructs, they also reveal a noteworthy finding: a significant conceptual relationship between these constructs, suggesting that they may be measuring closely related aspects of financial behaviour and trust. The observed overlap between DFI and KCCA implies that these two constructs may be so closely intertwined that they capture the complementary dimensions of digital financial services and their adoption, particularly in rural areas. This connection is advantageous because it indicates that KCC adoption plays a crucial role in promoting digital financial inclusion. Similarly, the overlap between TB and PB underscores the strong link between trust in banking institutions and the perceived benefits of utilising financial products, reinforcing the notion that trust is a key determinant of perceived value.

Conclusion

The findings suggest that perceived benefits and risks are central determinants of KCC adoption, significantly influenced by external variables like financial literacy, government support, financial infrastructure, and institutional trust. Stakeholders and policymakers aiming to boost KCC adoption should focus on reducing perceived risks by improving financial infrastructure and building trust in banking institutions. Concurrently, enhancing perceived benefits through government support schemes and financial literacy programs can significantly increase adoption rates.

The robustness of these constructs underpins the necessity for targeted interventions in these areas. However, the identified discriminant validity concerns imply careful reevaluation or redefinition of constructs in future research to ensure clearer conceptual distinctions.

This comprehensive analysis provides actionable insights for policymakers, financial institutions, and researchers to facilitate higher adoption rates of KCC, thereby fostering broader financial inclusion goals effectively.

HIGHLIGHTS

- Explores Kisan Credit Card's role in enhancing financial inclusion for rural farmers.
- Analyses the impact of risk perception on KCC adoption and its barriers.
- Highlights the importance of institutional trust in ensuring KCC's success.

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