

ORIGINAL ARTICLE | Received: 3<sup>rd</sup> February 2026 | Revised: 10<sup>th</sup> March, 2026 | Accepted: 08<sup>th</sup> April, 2026 | Published: 11<sup>th</sup> May 2026

# Inclusion Policies and Household Well-Being: Evidence from Pasmada Muslims in India

Naushadul Haque Mullick<sup>1</sup>, Taufeeque Ahmad Siddiqui<sup>2</sup>, Kashif Iqbal Siddiqui<sup>3</sup>, Tosib Alam<sup>4</sup>, Prashant Ranjan<sup>5</sup>

## ABSTRACT

This study examines the joint effects of financial inclusion, digital inclusion, and health inclusion on household well-being in India, with a specific focus on the moderating role of Pasmada Muslim identity. Primary household-level data are collected from 2,400 households across six Indian states -Uttar Pradesh, Bihar, West Bengal, Kerala, Assam, and Jammu & Kashmir—and the study employs Partial Least Squares–Structural Equation Modeling (PLS-SEM) to estimate both direct and moderating effects. Moderation analysis reveals that Pasmada Muslim identity significantly conditions inclusion outcomes. Financial inclusion yields stronger welfare gains for Pasmada households, indicating high marginal returns to formal financial access. In contrast, the welfare impact of health inclusion is weaker for Pasmada Muslims, highlighting persistent structural and institutional barriers in converting health access into improved well-being. Digital inclusion does not exhibit significant differential effects by social identity, suggesting that digital constraints affect vulnerable households more broadly. The findings underscore the importance of integrated, identity-sensitive inclusion strategies. The study contributes to the literature by advancing a multidimensional and intersectional understanding of inclusion and provides policy-relevant insights for designing equitable and effective inclusion frameworks in India. This study is the first of its kind to incorporate identity-sensitive moderation analysis. The study responds to growing calls in development research to move beyond universalist inclusion models and account for structural inequality.



**Keywords:** financial inclusion; digital inclusion; health inclusion; pasmanda muslims; household well-being; PLS-SEM.



This article is published under the **Creative Commons Attribution-Non-commercial (CC BY-NC) License**. Readers are free to share, adapt, and reproduce the material for non-commercial purposes, with appropriate credit to the author(s) and the source. Permission is required for any commercial use.

## INTRODUCTION

Inclusive development has emerged as a core principle of India's long-term socio-economic vision, particularly under Viksit Bharat @2047, which seeks to ensure that economic growth translates into equitable improvements in human well-being. Contemporary development thinking increasingly recognizes that exclusion is not merely a moral or ethical concern but an economic constraint, as persistent inequalities weaken productivity, undermine social cohesion, and limit the sustainability of growth (NITI Aayog, 2022). In this context, India's inclusion agenda is closely aligned with the United Nations Sustainable Development Goals (SDGs), especially those related to poverty reduction, health, financial security, and inequality (United Nations, 2015).

<sup>1</sup> Professor, Department of Management Studies, Jamia Millia Islamia, New Delhi

<sup>2</sup> Associate Professor, Department of Management Studies, Jamia Millia Islamia, New Delhi, [taufeeque@gmail.com](mailto:taufeeque@gmail.com)

<sup>3</sup> Assistant Professor, Centre for Distance and Online Education, Jamia Millia Islamia, New Delhi, [kshfsiddiqui@gmail.com](mailto:kshfsiddiqui@gmail.com)

<sup>4</sup> Assistant Professor, Department of Economics, Centre University of Kashmir, Ganderbal, Jammu and Kashmir

<sup>5</sup> Research Scholar, Department of Management Studies, Jamia Millia Islamia, New Delhi, [prashant0005@gmail.com](mailto:prashant0005@gmail.com)

The inclusion architecture developed in India has taken several domains allied to it such as financial inclusion, digital inclusion and health inclusion. In spite of the fact that these three spheres have pursued different policy paths, recent academic works and policy frames seem to be focusing more on their interdependence. These dimensions are a self-reinforcing ecosystem, which determines the quality of life in households.

Inequality in outcomes of inclusion still exists, regardless of the extensive proliferation of policy efforts in large-scale efforts. The disparities between awareness, effective use, and benefit realisation are usually overridden by an improvement in the aggregate indicators (e.g. bank account ownership, digital connectivity, or insurance coverage). Access by itself does not convert into better well-being to many households, especially those who are historically and structurally disadvantaged. Rather, the lack of literacy, low service quality and institutional obstacles pose a constraint on transforming inclusion to welfare gains.

Not much analysed category in inclusion discourse in India is Pasmanda Muslims. The Pasmanda term is a Persian word that is translated to mean left behind communities in terms of social and economic aspects. The Pasmanda are mostly artisan and service oriented as well as occupational groups that have been historically marginalised, and form a good percentage in India among the population of Muslims. The Sachar Committee formally reported their socio-economic deprivation by showing that Muslim communities had low standards of education, employment, financial access and use of a public service with more acute lack of disadvantage amongst backward Muslim communities (Sachar Committee, 2006).

Nevertheless, the empirical literature and policy-making still largely views Muslims as a homogenous category in spite of the fact that they are not without intra-community stratification. This simplistic analysis refines the explanatory explanation of the inclusion studies and undermines the policy targeting. In terms of intersectionality, Pasmanda Muslims have intersecting disadvantages based on caste-like work orders, religion, economic insecurity, and being location-based (Crenshaw, 1989). The overlapping identities do not only determine who can access inclusion initiatives, but also how well this can be delivered in enhancing the welfare of households.

### **Financial Inclusion and Household Well-Being**

The phenomenon of financial inclusion has received extensive studies as an essential tool to reduce poverty and improve welfare in the developing and emerging economies. The initial cross-country research reveals that exposure to formal financial infrastructure helps enhance savings, consumption smooth and exposure to income shock (Beck et al., 2007; Beck et al., 2009). Micro-level data also indicate the inclusion of financial system allows households to deal better with risk, and also invest in education and health and leads to better long-term well-being (Banerjee and Duflo, 2011; Karlan and Morduch, 2010).

Financial inclusion in India has had a history that has been marked by state-driven intervention with nationalisation of banks, regional rural banks and priority sector lending that have led to the mega efforts within the post-2000 era. A clear definition of financial inclusion was given by the Rangarajan Committee (2008) with affordability and suitability to the disadvantaged groups. Empirical research on Indian situation indicates that even though access to bank accounts has increased, there are inequitable gains in terms of utilization and welfare (Burgess and Pande, 2005; Chakravarty and Pal, 2013). There is evidence of strong suggestion that social marginalised groups are not frequently integrated into credit, insurance, and savings instruments even when they are officially included (Thorat and Newman, 2012).

Financial literacy has now become a major mediating variable. Literature results of experimental and quasi-experimental research findings indicate that financial education leads to substantial financial behaviour improvements and welfare gains (Cole et al., 2011; Lusardi and Mitchell, 2014). These advantages, however, will depend on institutional trust and local delivery mechanisms, which are different in social groups.

Theoretically, the Capability Approach is an excellent conceptual underpinning to the heterogeneous outcomes of inclusion. According to [Sen \(1999\)](#), by being available to financial resources, access to them is said to add value to welfare when they may be turned into desirable functionings. [Nussbaum \(2011\)](#) also regards the ability to exercise control over material environment as a fundamental capability and this explains the reason why financial inclusion can bring greater marginal benefits to the households in deep acute deprivation.

### **Digital Inclusion as an Enabling Dimension**

Development strategies are now much more digital as the development of digital infrastructure and platform-based service delivery has grown to the center. The evidence of this is global indicating that the use of digital technologies helps in the lowering of transaction costs, increases access to information and delivery of financial and welfare services ([Aker and Mbiti, 2010](#); [World Bank, 2016](#)). The advantages of digitalisation are however not equally distributed because of the differences in education, connectedness and institutional capability ([van Dijk, 2005](#)).

Digital inclusiveness has become institutionalised in the Indian context as a result of, among other things, the [National e-Governance Plan \(2006\)](#) and [Digital India \(2014\)](#). According to empirical evidence, digital financial services can reinforce financial inclusion but in many cases multiply disparities in the face of a lack of digital literacy ([Gabor and Brooks, 2017](#); [Heeks, 2017](#)). The theory to understand the influence of socio-economic features on the adoption of digital technologies and its consequential stratified welfare outcomes is the Diffusion of Innovations by [Rogers \(2003\)](#).

The recent literature claims that digital inclusion is more of an enabling infrastructure that magnifies the impact of financial and health inclusion instead of having standalone well-being benefits ([World Bank, 2021](#); [UNDP, 2019](#)). This school of thought can serve to offer an explanation as to why access to digital technology is not normally associated with better household wellbeing in vulnerable groups.

### **Health Inclusion and Household Well-Being**

Health inclusion has been broadly considered as a determinant of well-being of individuals. There exists a large literature base that indicates health shocks are one of the key causes of poverty, indebtedness, and downward mobility in developing economies ([Wagstaff and van Doorslaer, 2003](#)). Affordable healthcare and insurance can minimize disastrous spending on healthcare and enhance economic stability ([Kruk et al., 2018](#)).

Health inclusion in India has developed with the help of the policy framework, working on [national health mission \(2013\)](#), on the [national health policy \(2017\)](#), and [Ayushman Bharat \(2018\)](#). Empirical researches reveal that coverage has increased but uneven in the regions and social groups in terms of utilisation and service quality ([Balarajan, Selvaraj, & Subramanian, 2011](#); [Drèze, and Sen, 2013](#)). Research on universal health coverage also adds to the focus that the social Village Ostracism and institutional obstacles undermine the welfare effects of health programmes to marginalised populations ([Reddy et al., 2011](#)).

In the Capability Approach, the concept of health is seen as a base level of capability, which is prerequisite to the realisation of other economic and social objectives ([Sen, 1999](#); [Nussbaum, 2011](#)). The reason why health inclusion tends to have stronger welfare implications than financial or digital inclusion is explained by this theoretical framing especially when it comes to high vulnerability.

### **Social Identity, Exclusion, and Intersectionality**

An emerging body of literature highlights how social identity plays an important role in determining access to resources and effectiveness of the public policy. The works on social exclusion show that caste, religion and ethnicity collide to create a long-running disadvantage ([Silver, 1994](#); [Thorat and Newman, 2012](#)). Systematic evidence of the socio-economic deprivation of Muslims especially in the education, employment and financial access was presented by the [Sachar Committee \(2006\)](#) in India.

Such combined disadvantage can be analysed with the help of a strong framework Crenshaw (1989) has developed, the intersectionality theory. It has been found that through institutional discrimination, social capital and institutional bias the marginalised groups tend to enjoy less returns to inclusion policies (Bourdieu, 1986; Putnam, 1994). Literatures devoted to minority welfare also indicate that there tend to be gaps in the design of uniform policy to reflect intra-community differences (Kabeer, 2010; Deshpande, 2011).

The example of Pasmanda Muslims is an instance of intersectional disadvantage where they are excluded based on occupational hierarchy, and economic exclusion. Current empirical research sources seldom break down Muslim populations, which causes the little knowledge of the impact of inclusion policies on various sub-groups.

### **Integrated Inclusion Framework and Research Gap**

Global and national policy frameworks increasingly recognise the interconnected nature of inclusion dimensions. The United Nations Sustainable Development Goals link poverty reduction, health, financial security, and technological access within a unified development agenda (United Nations, 2015). India's Viksit Bharat @2047 vision similarly emphasizes multidimensional inclusion as a pathway to sustainable and equitable growth (NITI Aayog, 2022).

However, empirical studies often examine financial, digital, and health inclusion in isolation and rarely incorporate social identity as a moderating factor. Moreover, methodological reliance on linear regression limits the ability to capture complex, mutually reinforcing relationships among inclusion dimensions. There remains limited evidence on how these interactions shape household well-being for marginalised groups such as Pasmanda Muslims.

Existing studies on inclusion and welfare in India exhibit three major limitations. First, they often focus on single dimensions of inclusion—most commonly financial inclusion—without accounting for interactions with digital and health inclusion. Second, social identity variables such as caste and religion are rarely incorporated as moderating factors, implicitly assuming that inclusion pathways operate uniformly across populations. Third, methodological reliance on linear regression approaches limits the ability to capture complex, interdependent relationships among inclusion dimensions and welfare outcomes.

This study contributes to the literature and policy discourse by adopting an integrated multidimensional inclusion framework and empirically examining its relationship with household well-being. Using large-scale primary household data collected across six Indian states and applying Partial Least Squares–Structural Equation Modelling (PLS-SEM), the study estimates both the direct effects of financial, digital, and health inclusion and the moderating role of Pasmanda Muslim identity. By incorporating identity-sensitive moderation analysis, the study responds to growing calls in development research to move beyond universalist inclusion models and better account for structural inequality.

## **DATA AND METHODOLOGY**

The study is based on primary household-level data collected from six Indian states and Union Territories with relatively high Muslim population shares, as identified by Census of India (2011). These include Uttar Pradesh, Bihar, West Bengal, Kerala, Assam, and Jammu & Kashmir. The selection of these states reflects both demographic significance and regional diversity in terms of economic development, institutional capacity, and inclusion outcomes, as highlighted in national policy documents and development reports (Census of India, 2011; NITI Aayog, 2022).

The structured household schedule was used as the primary data collection tool, and it was created to measure several dimensions of inclusion and well-being. The family was considered a unit of analysis, in line with the strategies followed in research on welfare, consumption, and access to social services (United Nations, 2015). The survey instrument had a financial, digital, health, participation in government schemes and household well-being module.

Multi-stage probability sampling was used, which guaranteed the representativeness both at the state level, district and block level. The six states were picked in the first stage according to the concentration of Muslims. In the second phase, one district of a state was randomly chosen, followed by the choice of another district with a higher percentage of the Muslim population than that of the state. During the third step, two blocks and four villages were randomly chosen in each district. Lastly, the Kish Grid Method was used to select the households so as to reduce the respondents selection bias (Kish, 1949).

The survey conducted was on 2,400 households and 400 households per state. The selected sample size is more than the minimum threshold to use in multivariate analysis and Structural Equation Modelling, especially Partial Least Squares-SEM, which works adequately with large models (Hair et al., 2017).

Considering the intricacy of the conceptual framework and the existence of several formative variables, the research will use the empirical analysis method of Partial Least Squares-Structural Equation Modelling (PLS-SEM). PLS-SEM is preferred in such research when the method is aimed at exploration and prediction, when the model of the study involves a lot of complexity in the cause and effect relationships, and when the theoretical formulation of the study is in the form of an emerging form (Hair et al., 2017). The covariance-based SEM has a number of disadvantages compared to PLS-SEM in the contemporary scenario. To begin with, it does not force restrictive assumptions on the relationships among the indicators when it comes to accommodating formative measurement models. Second, it works well when the models are large and the interactions are noted. Third, it does not need multivariate normality that is frequently not met among household survey data (Hair et al., 2017). Inclusion constructs are all designated as formative constructs because all the indicators have a combined definition of the construct instead of an underlying latent trait. This specification is theoretically well-grounded, in that the field of literacy, access and usage reflect different, yet complementary aspects of inclusion.

In a bid to investigate heterogeneity on inclusion-well-being relations, the research proposes a moderating variable of Pasmanda Muslim identity. The coding of Pasmanda status is following caste and the occupational classification that is consistent with socio-economic differences in the literature of the past. Moderation analysis is done by generating interaction terms of Pasmanda identity and each inclusion dimension (FI, DI, HI). The method allows the study to evaluate the difference between the strength or direction of the effect of inclusion on the well being of the households of Pasmanda Muslims and other social groups. To measure statistical significance of interaction effects, bootstrapping using 5,000 resamples is used.

The research follows the social science research ethics. All respondents volunteered informed consent resulted in participation and confidentiality of the responses was guaranteed. No information that can be linked to a particular individual was revealed or utilized outside of the bounds of the study.

## RESULTS AND DISCUSSION

This section integrates the empirical findings from the Structural Equation Modelling (SEM) analysis with theoretical interpretation and policy-relevant discussion. The analysis examines the effects of financial inclusion (FI), digital inclusion (DI), and health inclusion (HI) on household well-being (HWL), and the moderating role of Pasmanda Muslim identity.

### Sample Characteristics and Socio-Economic Context

The research relies on the sample of 2,400 households selected in six states. The size of families are quite large as indicated in Table 1 where 53.8 percent of households have between four to six people. Employment pattern indicates the high reliance on informal work and 22.7 percent of the workers are occupied with casual labour and 18 percent of the workers are non- agricultural self-employed. There is also a high level of educational deprivation, 15.8 percent of respondents are illiterate and only 12.7 percent hold graduate level education which supports a long-standing pattern of structural disadvantage.

**Table 1: Socio-Demographic Profile of Sampled Households (N = 2,400)**

| Variable              | Category                 | Percentage (%) |
|-----------------------|--------------------------|----------------|
| <b>Household size</b> | 2–3 members              | 21.4           |
|                       | 4–6 members              | 53.8           |
|                       | 7+ members               | 24.8           |
| <b>Education</b>      | Illiterate               | 15.8           |
|                       | Primary                  | 18.4           |
|                       | Secondary                | 35.3           |
|                       | Graduate & above         | 12.7           |
| <b>Occupation</b>     | Casual Labour            | 22.7           |
|                       | Agricultural Labour      | 11.7           |
|                       | Self-employed (non-Agri) | 18.0           |
|                       | Salaried                 | 11.9           |
| <b>Social group</b>   | Pasmanda Muslims         | 34.6           |
|                       | Others                   | 65.4           |

### Status of Inclusion across States

Pasmanda Muslim inclusion indices on a state-wise basis exhibit some drastic inter-regional inequalities (Table 2). Kerala has the highest level in terms of composite inclusion score (73.32), whereas Jammu and Kashmir has the lowest level (31.47). In West Bengal and Jammu & Kashmir, the scores of digital inclusion are the poorest thus indicating serious lack of digital capability.

**Table 2: State-wise Financial, Digital, and Health Inclusion Indices for Pasmanda Muslims**

| State                      | Financial Inclusion | Health Inclusion | Digital Inclusion | Composite Index |
|----------------------------|---------------------|------------------|-------------------|-----------------|
| <b>Uttar Pradesh</b>       | 69.48               | 71.17            | 58.75             | 66.06           |
| <b>Kerala</b>              | 72.98               | 77.50            | 70.08             | 73.32           |
| <b>West Bengal</b>         | 56.48               | 62.05            | 42.18             | 52.95           |
| <b>Bihar</b>               | 65.93               | 59.62            | 44.25             | 56.00           |
| <b>Assam</b>               | 71.84               | 52.94            | 44.00             | 55.72           |
| <b>Jammu &amp; Kashmir</b> | 42.72               | 31.83            | 21.34             | 31.47           |

These disparities reflect uneven institutional capacity and infrastructure development, as highlighted in national development frameworks ([NITI Aayog, 2022](#)).

### Measurement and Structural Model: Direct Effects on Household Well-Being

As our study follows the formative constructs, the measurement model is assessed through specific guidelines for formative measurement models. [Hair et al. \(2019\)](#) recommended three criteria that must be fulfilled while assessing a formative model, i.e., redundancy analysis, multicollinearity among indicators through Variance Inflation Factor (VIF) score, and the significance and relevance of indicator weights.

Basically, VIF is generally used to assess the collinearity of the constructs and indicators. [Hair et al. \(2019\)](#) suggested that an ideal VIF score should be 3, and a score above 5 shows a critical level of multicollinearity among

indicators. In our outer model, the highest VIF score is 2.948, and all the VIF scores are far below the maximum score of 5 and the ideal score of 3.

For assessing the contribution of formative indicators to their respective constructs, we have followed the last criterion of the formative measurement model, i.e., significance and relevance of the indicator weight. Further, for obtaining the outer model weight values, we have executed bootstrapping at 5000 iterations, a significance level at 0.05, two-tailed testing, and the percentile bootstrap confidence interval method in the standard algorithm bootstrapping option. After analysing the results of formative indicators, we found that indicators of all four constructs are statistically significant, as their p-values are below 0.05.

All three inclusions dimensions found in the SEM results have a positive and significant impact on the well-being of households (Table 3). Health inclusion is the construct with a large effect with a score of ( $\beta = 0.125$ ,  $p < 0.050$ ), then there is the digital inclusion ( $\beta = 0.087$ ,  $p < 0.050$ ), and lastly, there is financial inclusion ( $\beta = 0.060$ ,  $p < 0.050$ ). Health domination is compatible with the Capability Approach, in which health is considered a fundamental capability in order to engage in the economy and be well ([Sen, 1999](#); [Nussbaum, 2011](#)).

**Table 3: Structural Path Estimates Predicting Household Well-Being**

| Paths                     | $\beta$ | T values | P values |
|---------------------------|---------|----------|----------|
| Digital Inclusion ->HWL   | 0.087   | 10.309   | 0.000    |
| Financial Inclusion ->HWL | 0.060   | 6.190    | 0.000    |
| Health Inclusion ->HWL    | 0.125   | 11.524   | 0.000    |

### Model Fit, Effect Sizes, and Predictive Power

The explanatory strength of the model is substantial. As shown in Table 4, the three inclusion dimensions explain 48.8 percent of the variance in household well-being ( $R^2 = 0.488$ ), with small to medium predictive relevance of all seven indicators mentioned in Table 5.

**Table 4: Model Explanatory Power and Predictive Relevance**

| Indicator                    | Value |
|------------------------------|-------|
| $R^2$ (Household Well-Being) | 0.488 |
| Adjusted $R^2$               | 0.488 |

Effect size estimates (Table 6) indicate that health inclusion has a large effect ( $f^2 = 0.118$ ), showing a small to moderate contribution. Digital Inclusion and Financial Inclusion showed smaller effects on Household Wellbeing, with  $f^2$  values of 0.054 and 0.025, respectively.

**Table 5:  $Q^2$  Scores**

| Indicators | $Q^2$ predict |
|------------|---------------|
| HWL1       | 0.142         |
| HWL2       | 0.130         |
| HWL3       | 0.152         |
| HWL4       | 0.126         |
| HWL5       | 0.147         |
| HWL6       | 0.127         |
| HWL7       | 0.149         |

**Table 6:** *Effect Size ( $f^2$ ) of Inclusion Dimensions*

| Predictor           | $f^2$ | Interpretation              |
|---------------------|-------|-----------------------------|
| Financial Inclusion | 0.025 | Small                       |
| Digital Inclusion   | 0.054 | Small                       |
| Health Inclusion    | 0.118 | Small to approaching Medium |

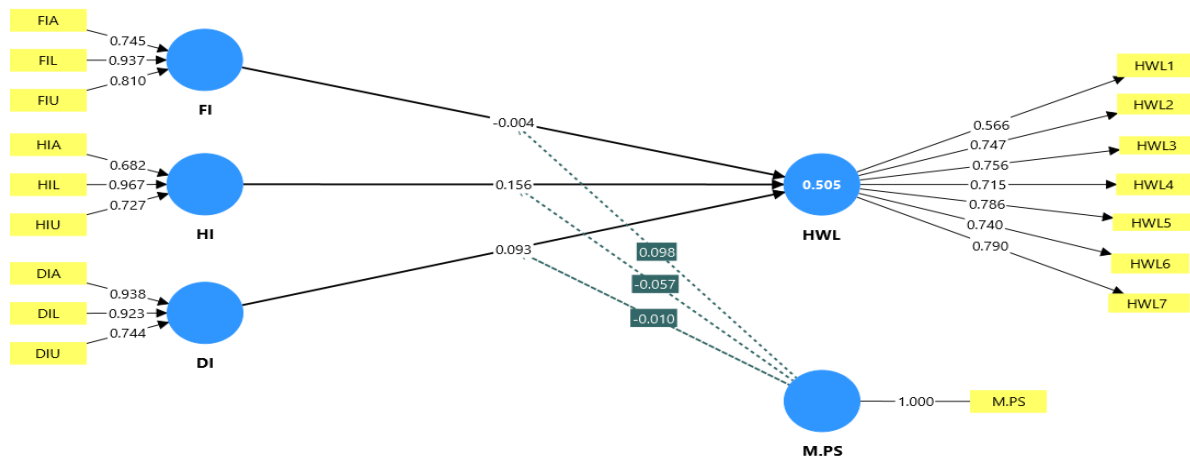
### Moderating Role of Pasmanda Muslim Identity

Under the moderating role of Pasmanda Muslim Identity (M.PS), the (Table 7 and figure 1) reveal distinct direct and interaction effects on household well-being (HWL). Digital Inclusion has a positive and statistically significant direct effect on household well-being ( $\beta = 0.093$ ,  $t = 8.609$ ,  $p = 0.000$ ; 95% CI: 0.073–0.115), indicating that improvements in digital access contribute to better household well-being. Health Inclusion shows a stronger positive and significant effect on household well-being ( $\beta = 0.156$ ,  $t = 9.218$ ,  $p = 0.000$ ; 95% CI: 0.122–0.188), confirming its critical role. In contrast, Financial Inclusion does not have a significant direct effect on household well-being ( $\beta = -0.004$ ,  $t = 0.358$ ,  $p = 0.720$ ; 95% CI: -0.027–0.018). Pasmanda Muslim Identity itself exhibits a significant negative direct effect on household well-being ( $\beta = -0.074$ ,  $t = 7.061$ ,  $p = 0.000$ ; 95% CI: -0.094 to -0.053), reflecting the structural disadvantages associated with Pasmanda households.

Regarding moderation effects, Pasmanda Muslim Identity does not significantly moderate the relationship between Digital Inclusion and household well-being ( $\beta = -0.010$ ,  $t = 0.745$ ,  $p = 0.456$ ; 95% CI: -0.036–0.014). However, it positively and significantly moderates the relationship between Financial Inclusion and household well-being ( $\beta = 0.098$ ,  $t = 5.714$ ,  $p = 0.000$ ; 95% CI: 0.064–0.132), indicating that financial inclusion yields stronger well-being benefits for Pasmanda households. Conversely, Pasmanda Muslim Identity negatively and significantly moderates the relationship between Health Inclusion and household well-being ( $\beta = -0.057$ ,  $t = 2.680$ ,  $p = 0.007$ ; 95% CI: -0.099 to -0.016), suggesting that the positive effect of health inclusion on well-being is weaker among Pasmanda households. These findings are echoed by the intersectionality theory which stresses that there are joint identities forming not just access but also outcomes (Crenshaw, 1989).

**Table 7:** *Moderation Effects of Pasmanda Muslim Identity*

| Paths            | $\beta$ | 95% CI Bias-Corrected (2.5%-97.5%) | T values | P values |
|------------------|---------|------------------------------------|----------|----------|
| DI -> HWL        | 0.093   | 0.073; 0.115                       | 8.609    | 0.000    |
| FI -> HWL        | -0.004  | -0.027; 0.018                      | 0.358    | 0.720    |
| HI -> HWL        | 0.156   | 0.122; 0.188                       | 9.218    | 0.000    |
| M.PS -> HWL      | -0.074  | -0.094; -0.053                     | 7.061    | 0.000    |
| M.PS * DI -> HWL | -0.010  | -0.036; 0.014                      | 0.745    | 0.456    |
| M.PS * FI -> HWL | 0.098   | 0.064; 0.132                       | 5.714    | 0.000    |
| M.PS * HI -> HWL | -0.057  | -0.099; -0.016                     | 2.680    | 0.007    |



**Figure 1:** Structural Model Depicting the Moderating Influence of Pasmanda Muslim on the Impact of Inclusion Dimensions on Household Well-Being

## POLICY IMPLICATIONS

The findings of this study yield several important policy implications for India's inclusion agenda under Viksit Bharat @2047. By empirically demonstrating the differentiated effects of financial, digital, and health inclusion on household well-being, and the moderating role of Pasmanda Muslim.

### Reframing Inclusion as an Integrated Policy Architecture

The high interoperability that is witnessed between financial, digital, and health inclusion dimensions implies that inclusion policies cannot nor should be created and executed in vacuum. As observed in the SEM outcomes, the digital inclusion has a strong impact on strengthening both financial and health inclusion whereas financial inclusion also promotes health inclusion. These findings support why a systems based inclusion architecture is needed in which ministries and implementing agencies are coordinated in their efforts, as opposed to acting alone. This strategy complies with the embedded integrated vision of development in Sustainable Development Goals ([United Nations, 2015](#)) and the long-term development vision in India ([NITI Aayog, 2022](#)). The overall welfare effect of inclusion initiatives can be increased in policy co-ordination mechanisms including shared beneficiary databases, interoperable platforms and joint outreach programmes. In the absence of such integration, the gains in one area are likely to be compromised by the lack of gains in another realm.

### Prioritising Health Inclusion as a Welfare Anchor

The strongest influence with the greatest level of effect size and explanatory impact is the inclusion of health within the household. This conclusion supports the theoretical concept of health as a background ability that predetermines economic involvement and social operations ([Sen, 1999](#); [Nussbaum, 2011](#)). The challenge of policymakers, however, lies in viewing health inclusion as part of inclusive development and not as a secondary element of welfare.

Although the coverage has been enlarged under programmes like the National Health Mission and Ayushman Bharat, there is still some evidence of negative moderation effect towards Pasmanda Muslims meaning that there have been conversion barriers pitting health access as well as gains in well-being. The emphasis of the policies should be on enhancing the quality of care, geographic coverage, culturally competent care and confidence in healthcare facilities, especially in areas and communities that have a low rate of utilisation in the past. To ward off health shocks that can undermine gains in finances and livelihoods, it is important to address these barriers.

### **Targeted Financial Inclusion for Marginalised Communities**

The moderating positive and significant role of financial inclusion in the context of Pasmanda Muslims indicates that returns to marginal welfare of financial access are high as it is in the case of the economically misfortunate households. The observation confirms the initial meaning of financial inclusion that was proposed by the Rangarajan Committee (2008) which placed an emphasis on affordability, access, and relevance to the vulnerable groups.

Prioritization of policy should thus focus on tailored financial inclusion plan that targets Pasmanda Muslims, through simplified financial products, community based financing outreach and trust building systems. Welfare gains can be further improved by connecting financial services and livelihood programmes as well as social protection schemes. Notably, it is essential to go beyond owning accounts to long-term consumption and building financial capabilities as these are essential in converting access to long-term well-being.

### **Rethinking Digital Inclusion: From Infrastructure to Capability**

Even though digital inclusion has a positive impact on the well-being of households, the strength of its impact is relatively low, and its moderation power is not significant, which implies that digital infrastructure is not enough on its own. Digital inclusion mainly acts as a facilitating force that increases the efficacy of financial and health inclusion. This observation can be related to previous digital governance models like the National e-Governance Plan and Digital India, which also focused on access and connectivity but did not pay much attention to digital literacy and assisted use ([NeGP, 2006](#); [Digital India, 2014](#)). The policy development should hence change to assisted forms of digitalisation, especially among marginalised communities. These are the local facilitation centres, the digital intermediaries, vernacular interfaces, and the trust-based community support systems. Otherwise, digital systems will run the risk of isolating the groups they are meant to empower.

### **Identity-Sensitive and Intersectional Policy Design**

The most important policy implication of the research perhaps is how the social identity has been proven to have a controlling role on the results of inclusion. The varying moderation effects of the Pasmanda Muslims confirm that it is not socially neutral to regard inclusion pathways. Standardized policies based on caste-religion intersections may serve to support the current injustices, as has been highlighted by the intersectionality theory ([Crenshaw, 1989](#)) and shown patterns of social exclusion ([Sachar Committee, 2006](#)). The policymakers ought to thus revert to identity-sensitive targeting, through the inclusion of disaggregated monitoring, community-particular outreach, and including audit of assessing not only the access but also the outcome transformation among the social groups. These methods are necessary to make sure that the inclusion policies positively promote equity as opposed to expanding the coverage.

## **CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH**

This paper aimed at exploring the impact of financial inclusion and digital inclusion on household well-being in India, alongside health inclusion and considering the moderating effect of Pasmanda Muslim identity. This analysis is founded on the sample size of 2400 households from six Indian states. Through a multidimensional inclusion framework and Structural Equation Modelling, the analysis goes beyond the single-sector and access-based assessment which has dominated the previous research on inclusions.

In line with previous policy-focused and theoretical literature, the results validate the fact that inclusion is an issue to well-being in households. Previous research based on the Capability Approach has held the position that access to resources increases welfare amid situations where it increases the substantive freedoms within people ([Sen, 1999](#); [Nussbaum, 2011](#)). The current findings are empirical confirmation of this suggestion because they reveal that the three dimensions of inclusion, namely financial, digital, and health, are positively and statistically significant on household well-being. Yet, it varies significantly across spheres in the extent of these effects.

Similar to previous studies conducted on health and welfare, health inclusion becomes, by far, the most significant influence on the well-being of a household. This observation provides support to the established claims that health is a capability on which economical and societal participation is limited unless comparable services are maintained (Sen, 1999; National Health Policy, 2017). Though previous research and policy frameworks like the National Health Mission and Ayushman Bharat focused on coverage expansion, the current analysis contributes a new twist because implementation of health inclusion is more welfare-improving than financial or digital inclusion, which justifies once again the leading role of healthcare in inclusive development.

Financial inclusion also shows a positive relationship with household well-being, which validates the intentions expressed by the Rangarajan Committee (2008), considering financial access as another instrument of vulnerability alleviation and economic inclusion. Nevertheless, in contrast to previous access-based studies, this research indicates that welfare effect of financial inclusion does not apply to social groups in a proportional way. The positive moderation effect of Pasmanda Muslims means that the marginal welfare gains to households having lower financial security levels initially are higher which should not be overlooked by an aggregate analysis.

The relative impact of digital inclusion, though considerable, is found to have a lesser direct impact on the household well-being. This observation is in line with the previous models of digital governance like the National e-Governance Plan and Digital India that visualised digitalisation as an enabling infrastructure as opposed to a direct welfare delivery (NeGP, 2006; Digital India, 2014).

One of the contributions of this research is its identity-sensitive analysis. Previous studies of the socio-economic status of Muslims such as the Sachar Committee (2006) reported general disadvantages but did not empirically test the impact of inclusion policies on the engagement of welfare outcomes of the various Muslim sub-groups. Using the moderator of Pasmanda Muslim identity, this study is able to empirically prove the socially differentiated inclusion pathways. The current structural and institutional barriers to inclusion of the Pasmanda Muslims, despite the expanded formal coverage, have been clearly seen in the negative moderation on the health inclusion-well-being relationship. This observation is echoed by intersectionality theory, which focuses on the fact that identity convergence does not merely determine access, but also outcome conversion (Crenshaw, 1989).

The study, in general, contributes to the existing literature since it incorporates various dimensions of inclusion where their interdependence is empirically proven and that social identity is a strong influencer of the results of welfare. By doing that, it puts to question the universalist assumptions found in previous studies of inclusion and highlights the importance of intersectional policy assessment.

While the study provides robust empirical evidence, it also opens several avenues for future research. It analyses cross-sectional data. Future investigations by adopting longitudinal or panel designs can investigate the interaction of financial, digital, and health inclusiveness regionally over time especially in relation to change of policy like expansion of health to cover or increase in digital financial service provision. Though the study brings in social identity with the help of Pasmanda Muslim status, there is a possibility of broadening the intersectional framework of the study to gender, migration status, disability, and intra-household dynamics in the future. These analysis would enhance knowledge of how the layers of disadvantage relate to influence the outcome of inclusion. Further, the direct impact of digital inclusion was found to be relatively less, indicating that qualitative and mixed research studies involving behavioural, cultural, and institutional obstacles to effective digital use are required. Ethnography, focus group discussion, and case study may be useful in adding to quantitative results by shedding light on the reasoning as to why digital access does not always lead to welfare gains in marginalised households.

## AUTHOR DECLARATIONS

### CRediT author statement / Authors Contribution

**Naushadul Haque Mullick:** Funding acquisition, Visualization, Supervision, Project administration.

**Taufeeque Ahmad Siddiqui:** Conceptualization, Methodology, Validation, Investigation, Writing - Original Draft.  
**Kashif Iqbal Siddiqui:** Methodology; Software; Formal analysis.  
**Tosib Alam:** Data Curation; Supervision; Resources; Methodology Software; Data Curation.  
**Prashant Ranjan:** Writing - Review & Editing.

**Acknowledgment:** A grant from the Indian Council of Social Science Research funded this research. Project title: Positive Impacts of Intersecting Dimensions of Digital, Health, and Financial Inclusion for Pasmada Muslims: Steps towards Viksit Bharat, File No: 65/VVB@2047/2024-871/ISD-A/SCD, awarded to Prof. Naushadul Haque Mullick as principal investigator.

**Conflict of interest:** The author(s) declare no conflicts of interest.

**AI statement:** No artificial intelligence tools were used in the preparation of this work, apart from Grammarly, which was employed solely for grammar and language enhancement.

**Publisher's Note:** All claims expressed in this article are solely those of the authors and do not necessarily represent those of the publisher, the editors, or the reviewers. This journal remains neutral with regard to jurisdictional claims in published institutional affiliation.

## REFERENCES

- Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in africa. *Journal of Economic Perspectives*, 24(3), 207–232. <https://doi.org/10.1257/jep.24.3.207>
- Ayushman Bharat. (2018). Ayushman Bharat—Pradhan Mantri Jan Arogya Yojana (PM-JAY): Operational guidelines. Ministry of Health and Family Welfare, Government of India.
- Balarajan, Y., Selvaraj, S., & Subramanian, S. (2011). Health care and equity in India. *The Lancet*, 377(9764), 505–515. [https://doi.org/10.1016/S0140-6736\(10\)61894-6](https://doi.org/10.1016/S0140-6736(10)61894-6)
- Banerjee, A., & Duflo, E. (2011). Poor economics. A radical rethinking of the way to fight global poverty'. *Society and Economy*, 35(4), 573–587.
- Beck, T., Demirguc-Kunt, A., & Honohan, P. (2009). Access to financial services: Measurement, impact, and policies. *The World Bank Research Observer*, 24(1), 119–145. <https://doi.org/10.1093/wbro/lkn008>
- Beck, T., Demirguc-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of Economic Growth*, 12(1), 27–49. <https://doi.org/10.1007/s10887-007-9010-6>
- Bourdieu, P. (1986). The forms of capital. *JG Richardson's Handbook for Theory and Research for the Sociology of Education*.
- Burgess, R., & Pande, R. (2005). Do rural banks matter? Evidence from the indian social banking experiment. *American Economic Review*, 95(3), 780–795. <https://doi.org/10.1257/0002828054201242>
- Census of India. (2011). Census of India 2011: Primary census abstract. Office of the Registrar General & Census Commissioner, Government of India.
- Chakravarty, S. R., & Pal, R. (2013). Financial inclusion in India: An axiomatic approach. *Journal of Policy Modeling*, 35(5), 813–837. <https://doi.org/10.1016/j.jpolmod.2012.12.007>
- Cole, S., Sampson, T., & Zia, B. (2011). Prices or knowledge? What drives demand for financial services in emerging markets? *The Journal of Finance*, 66(6), 1933–1967. <https://doi.org/10.1111/j.1540-6261.2011.01696.x>
- Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum*, 1989(1), 139–167.
- Deshpande, A. (2011). *The grammar of caste: Economic discrimination in contemporary India*. Oxford University Press.
- Digital India. (2014). Digital India programme: Vision and strategy. Ministry of Electronics and Information Technology, Government of India.
- Drèze, J., & Sen, A. (2013). An uncertain glory: India and its contradictions. In *An uncertain glory*. Princeton

- University Press.
- Gabor, D., & Brooks, S. (2017). The digital revolution in financial inclusion: International development in the fintech era. *New Political Economy*, 22(4), 423–436. <https://doi.org/10.1080/13563467.2017.1259298>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (Pls-sem)* (2nd ed.). Sage Publications Inc.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Heeks, R. (2017). *Information and communication technology for development (Ict4d)* (1st ed.). Routledge. <https://doi.org/10.4324/9781315652603>
- Kabeer, N. & others. (2010). *Can the MDGs provide a pathway to social justice?: The challenge of intersecting inequalities*. Institute of Development Studies Brighton.
- Karlan, D., & Morduch, J. (2010). Access to finance. In *Handbook of Development Economics* (Vol. 5, pp. 4703–4784). Elsevier. <https://doi.org/10.1016/B978-0-444-52944-2.00009-4>
- Kish, L. (1949). A procedure for objective respondent selection within the household. *Journal of the American Statistical Association*, 44(247), 380–387.
- Kruk, M. E., Gage, A. D., Arsénault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., Doubova, S. V., English, M., García-Elorrio, E., Guanais, F., Gureje, O., Hirschhorn, L. R., Jiang, L., Kelley, E., Lemango, E. T., Liljestrand, J., ... Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, 6(11), e1196–e1252. [https://doi.org/10.1016/S2214-109X\(18\)30386-3](https://doi.org/10.1016/S2214-109X(18)30386-3)
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. <https://doi.org/10.1257/jel.52.1.5>
- National e-Governance Plan (NeGP). (2006). National e-Governance Plan. Ministry of Electronics and Information Technology, Government of India.
- National Health Mission. (2013). Framework for implementation. Ministry of Health and Family Welfare, Government of India.
- National Health Policy. (2017). National Health Policy 2017. Ministry of Health and Family Welfare, Government of India.
- NITI Aayog. (2022). *India@2047: Vision for a developed India*. Government of India.
- Nussbaum, M. C. (2011). *Creating capabilities: The human development approach*. Harvard University Press.
- Putnam, R. D., Nanetti, R. Y., & Leonardi, R. (1994). *Making democracy work: Civic traditions in modern Italy*.
- Rangarajan Committee. (2008). Report of the Committee on Financial Inclusion. Ministry of Finance, Government of India.
- Reddy, K. S., Patel, V., Jha, P., Paul, V. K., Kumar, A. S., & Dandona, L. (2011). Towards achievement of universal health care in India by 2020: A call to action. *The Lancet*, 377(9767), 760–768. [https://doi.org/10.1016/S0140-6736\(10\)61960-5](https://doi.org/10.1016/S0140-6736(10)61960-5)
- Rogers, E. (2003). *Diffusion of Innovations 5th*. Free press.
- Sachar Committee. (2006). Social, economic and educational status of the Muslim community of India. Prime Minister's High Level Committee, Government of India.
- Sen, A. (1999). *Development as freedom*. Oxford University Press.
- Silver, H. (1994). Social exclusion and social solidarity: Three paradigms. *Int'l Lab. Rev.*, 133, 531.
- Thorat, S., & Neuman, K. S. (2012). *Blocked by caste: Economic discrimination in modern India*. Oxford University Press.
- United Nations Development Programme (UNDP). (2019). Human development report 2019. UNDP.
- United Nations. (2015). Transforming our world: The 2030 agenda for sustainable development. United Nations General Assembly.
- Van Dijk, J. (2005). *The deepening divide: Inequality in the information society*. Sage.
- Wagstaff, A., & Doorslaer, E. V. (2003). Catastrophe and impoverishment in paying for health care: With applications to Vietnam 1993–1998. *Health Economics*, 12(11), 921–933. <https://doi.org/10.1002/hec.776>
- World Bank. (2016). World development report 2016: Digital dividends. World Bank.
- World Bank. (2021). Financial consumer protection and digital financial services. World Bank.