



ORIGINAL ARTICLE | Received: 10th August, 2025 | Revised: 27th August, 2025 | Accepted: 20th September, 2025 | Published: 15th December 2025

Inclusive Development in India's Marginalized Muslim Communities: A Bibliometric and Topic Modeling Analysis of Financial, Digital, and Health Inclusion Towards Viksit Bharat@2047

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ABSTRACT

The research examines the multifaceted exclusion of excluded Muslim society in India specifically in the fields of financial, digital, and health inclusion under the larger vision of Viksit Bharat@2047. Using both Latent Dirichlet Allocation (LDA) topic modeling and bibliometric analysis of 200 peer-reviewed papers listed in the Web of Science, this study identifies six recurring thematic categories: financial exclusion, digital divides, healthcare disparities, gender-based inequities, socio-cultural barriers, and educational deficits. The results point to key issues of limited financial literacy, unavailability of Sharia-compliant banks, negative digital infrastructure, and system health delivery prejudices with specific focus on Muslim women. By tracing research patterns and research gaps, the article inserts an integrative review of mainstream research streams and determines so far under-investigated areas which need policy intervention. Based on this analysis, the paper suggests interventions such as gender-sensitive digital literacy, community health services provided by women, and culturally suitable microfinance models. These are meant to transcend intersectional challenges and drive more inclusion.

The report provides an evidence-based platform to steer inclusive policymaking and social development based on national priorities. Through this initiative, it seeks to mainstream India's most excluded Muslim communities into the socio-economic fabric, thus enabling the country's vision of equity, oneness, and sustainable development by 2047.



Keywords: Financial inclusion, Digital inclusion, Health inclusion, Topic modeling, Bibliometric analysis



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INTRODUCTION

Social inclusion has been one of the key pillars of human development that is inclusive at its core in the Sustainable Development Goals (SDGs), namely SDG 10: Reduced Inequalities and SDG 3: Good Health and Well-being. In an increasingly interconnected world, access to financial, digital, and health ecosystems is no longer the privilege of the elite but a right to dignity, agency, and socioeconomic progress. For India, national vision Viksit Bharat@2047 a vision and strategy for reshaping the country in its 100th year of freedom puts inclusive growth at the centre of national development. Realizing this vision, however, calls for a deep re-appraisal of the left-behinds, most prominently the nation's largest religious minority: Muslims.

Financial inclusion means provision and use of low-cost banking, savings, credit, and insurance by the whole range of society with a particular emphasis on the excluded (Zulkhibri, 2016; Allen et al., 2016; Ozili, 2020). Digital inclusion means giving the same possibility of making use of and having access to information and

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communication technology, internet, digital literacy, and mobile services ([Correa et al., 2020](#); [Tsatsou, 2022](#); [Ahiase et al., 2024](#)). Health inclusion means people having access to quality, affordable, and responsive health services without limitation or difficulty ([Grugel et al., 2024](#); [Maeda et al., 2014](#); [Hensher et al., 2020](#); [Elemuwa et al., 2024](#)). These three fields are interrelated and form the basis of any strategy that covers inclusive development.

Even making up 14.2% of India's population ([Census of India, 2011](#)), Muslim communities remain structurally disconnected from such crucial services as banking, digital technology, and quality healthcare systems ([Sachar Committee Report, 2006](#)). Various government schemes like the Pradhan Mantri Jan Dhan Yojana (PMJDY), Digital India, Ayushman Bharat, and the National Digital Health Mission (NDHM) have tried to bridge gaps in coverage. Notwithstanding that, data from [NITI Aayog \(2021\)](#), [Government of India \(2024\)](#) and NFHS-5 (2019–21) show that these initiatives have not managed to reach adequately the marginalized segments. Ongoing differentials across access to financial services, internet usage, and health outcomes reflect a sensed necessity for policy interventions targeted specifically ([Hassan, 2015](#); [Kiran & Singh, 2025](#); [Maeda et al., 2014](#); [Hensher et al., 2020](#)).

Empirical studies also persist to show that Muslim families remain vulnerable to economic insecurity through lower incomes, asset poverty, and underemployment ([Islam & Chowdhury, 2025](#)). Formal banks remain out of reach despite microfinance and electronic banking networks expansion ([Anakpo et al., 2023](#); Allen et al., 2016; [Ozili, 2020](#)). Infrastructural constraints, digital illiteracy, and linguistic barriers further intensify digital exclusion, especially among Muslim women ([Pew Research Center, 2021](#); [Tsatsou, 2022](#)). In the same vein, aspects of health such as maternal health, child immunization, and institutional care remain disproportionately low in Muslim-majority areas, particularly peri-urban and rural areas ([Boundioa & Thiombiano, 2024](#); [Sabin et al., 2024](#)).

These exclusions are interdependent. Economic access triggers digital connectivity, which can in turn propel enhanced healthcare delivery. A clear appreciation of this relationship is paramount in developing inclusive, cross-cutting policies. However, with growth in the development of research, scholarly literature is still dispersed with studies tending to be in silos of particular disciplines or qualitative or case studies alone. There is no systematic, evidence-based representation of how scholarly publishing has changed at the intersection of financial, digital, and health inclusion for Indian Muslims.

This existing research seeks to do away with the gap by conducting a bibliometric and topic modeling analysis of the scholarly publishing. While single studies have attempted to examine different facets of minority exclusion, no systematic effort has been made to synthesize these findings using computational tools. Bibliometric analysis enables one to quantify research trends, citation behavior, and contribution at the institution level, whereas Latent Dirichlet Allocation (LDA) enables one to discover hidden thematic patterns in an enormous corpus of scholarly literature. Together, these approaches provide a rich empirically informed mapping of intellectual space, uncovering pervasive themes and under-researched areas of the inclusion literature.

The following questions are set as a basis to this research:

How has scholarship on financial, digital, and health inclusion for Muslims developed in India and across the world over time?

Which scholars, institutions, and journals are leading this scholarship?

What are the primary themes and concept clusters that are revealed by topic modeling?

The research has both academic and public policy implications. It marries bibliometric methods with machine learning based topic modeling ([Blei et al., 2003](#)) in order to provide an accessible and replicable method for social inclusion studies' meta-research. Conceptually, it expands the discussion by combining how financial, digital, and health inclusion overlap to determine developmental implications for religious minorities within India. Policy-wise, results here can be used to inform evidence-informed implementation of initiatives such as PMJDY, PMGDISHA, and Ayushman Bharat, most importantly in Muslim-majority areas.

The research draws on the Capability Approach, i.e., the definition of development as enhancing freedom and opportunity for human beings. Financial services, ICTs, and health systems are conceptualized as instrumental capabilities to enable human agency and flourishing. Intersectionality theory ([Crenshaw, 1991](#)) is applied to examine how intersecting systems of marginalization based on gender, geography, religion, and economic and social location create exclusion. This two-theory framework allows for a more nuanced examination of inclusion, addressing not only access but quality, usability, and equity as well.

While doing so, this study will establish a fact-based platform for holistic policy overhaul for the benefit of *Viksit Bharat@2047*. It will assist in establishing a country where no section of society remains left behind and money, digital, and health services are a fundamental right, not a privilege irrespective of religion, caste, or class.

LITERATURE REVIEW

This literature review brings together important scholarship on financial, digital, and health exclusion among marginalized Muslim communities in India. Based on empirical research, institutional accounts, and theoretical literature, it develops key barriers, identifies intersectional vulnerabilities, assesses current policy interventions, and outlines methodological constraints. The argument is structured in four topic areas: (1) financial exclusion and institutional access, (2) digital marginalization, (3) healthcare inequality, and (4) the interlinked nature of exclusion along these axes.

Financial Inclusion and Structural Barriers

Financial inclusion has now been identified as a pillar of economic empowerment and poverty alleviation, and specifically of the poor ([Demirgüç-Kunt & Klapper, 2013](#)). Pradhan Mantri Jan Dhan Yojana (PMJDY) schemes of the government have done quite a lot to enhance the availability of financial services by opening lakhs of savings bank accounts all over India. But the advantages of such schemes have not been shared equally among Muslim populations. The [Sachar Committee Report in 2006](#) was perhaps one of the earliest large reports that highlighted that Muslims were underrepresented in the formal banking system, because they are residentially segregated, financially illiterate, and lack documentation.

Later research has supported this. [Hussen & Mohamed \(2023\)](#) find that Muslim families are much less likely than other families to hold saving accounts or utilize credit. Gender inequalities also contribute to the dynamics, with Muslim women subject to sociocultural pressures limiting their economic autonomy ([Lussier & Fish, 2016](#)). Despite programs of financial inclusion that profess universality, they rarely have provisions for addressing cultural, religious, and gendered subtleties that compromise effective engagement by marginalized Muslim populations. This absence of coverage emphasizes the necessity for extra context-led policy designs combining Islamic finance concepts and local financial literacy initiatives.

Digital Exclusion and Socio-spatial Disparities

Digital inclusion has become an essential part of socio-economic engagement, particularly with growing reliance on digital media for financial services, education, and health. Though national initiatives under the aegis of Digital India are underway, Muslim digital access continues to be disproportionately low. Rural and poor community Muslims are among those least likely to have smartphones or use the internet based on [Pew Research Center \(2021\)](#) and [National Statistical Office \(2019\)](#) data.

Digital disparities among Muslims are more complex. [Van Deursen and Van Dijk \(2015\)](#) come up with four dimensions access, affordability, digital competences, and actual use and contend that each presents different challenges to Muslim communities. Geographic clustering in under-served districts commonly used to describe "urban ghettos" ([Jaffrelot & Gayer, 2012](#)) facilitates limited access to digital infrastructure. Even where it exists, low digital literacy, fear of data misuse, and suspicion of government-controlled digital platforms hinder use ([Hernandez-Ramos et al., 2021](#)). These are further exacerbated for Muslim women, who are not only technologically excluded but also excluded by patriarchal social values preventing their use of digital resources.

Healthcare Inequities and Religious Identity

Health inclusion, in the form of equal access to cheap and quality healthcare services, has been a chronic issue for religious minorities in India. Various studies find that Muslims are healthier in terms of worse health, lesser use of institutional healthcare, and weaker access to health insurance cover than other groups ([Jeffery & Jeffery, 2006](#); [Ohlan, 2020](#)). Although national schemes like Ayushman Bharat and NDHM are universal coverage-oriented, utilization is disproportionately low among Muslims.

The reason is complex. [Selvaraj et al. \(2022\)](#) attribute low utilization to the absence of proper outreach, paperwork problems, and institutional bias. [Mander \(2015\)](#) supplements on paper that mass distrust towards government agencies also deters Muslim families from receiving care. For Muslim women, maternal and reproductive healthcare is severely curtailed on grounds of low decision-making autonomy, mobility restrictions, and avoidance of ill-treatment in public facilities. Although some community-based interventions, for instance, NGO-run clinics or religion institution-based services, have been tried, these are under-documented and under-studied in the literature.

Interlinkages and Compounded Exclusion

While money, digital, and health inclusion are typically most often thought of as discrete policy and analytical areas, they are very interconnected. Digital access, for instance, is increasingly necessary for financial transactions nowadays, and participation in schemes such as health involves digital identification. Exclusion in one area can thus have a cascading impact on membership in other areas, exacerbating inequalities.

Interdependencies have been recognized in recent research. [Alonso et al. \(2023\)](#) argue that digital literacy is required for families to be in a position to access governmental health benefits, especially under schemes of cashless insurance. Similarly, [Qizam et al. \(2025\)](#) note that Islamic financial products are underutilized by Muslims not only because there is minimal awareness but also because digital platforms are not culturally designed. These findings show that a model of inclusion in isolation is not sufficient; instead, an in-depth and intersectional strategy will be needed in order to understand and address multiple, intersecting disadvantages.

Methodological Gaps and the Need for Quantitative Synthesis

In spite of mounting academic attention to inclusion, most current scholarship is still qualitative, localized, or thematically dispersed. There is no quantitative record across financial, digital, and health inclusion how they have been theorized in the academy particularly for India's Muslim populations. Combining bibliometric analysis with topic modeling methods like Latent Dirichlet Allocation (LDA) provides an ideal way of filling this gap by uncovering patterns, clusters, and blind spots in the scholarship.

Few have used such approaches in this field. This study fills the gap by doing a bibliometric and topic model analysis of 200 peer-reviewed studies, aiming to map intellectual development, identify research gaps, and inform future interdisciplinarity and culturally sensitive inclusion policies.

Integrated Framework for Multidimensional Inclusion

The study draws on a cumulative and intersectional model of inclusion under which gender inclusion is obtained as the first stage of constructing empowerment that is multi-dimensional. The theoretical framework presented recognises that education, mobility, and decision-making empower women and provide them with access to money systems, which is the second important layer of inclusion. If women receive access to economic opportunities and financial services, they will utilize digital technologies and platforms in a spirit of digital inclusion. With expanded digital access, disadvantaged communities and women are better positioned to take advantage of telehealth, health insurance, and mobile health services, promoting health inclusion (Figure 1).

Each point of inclusion is cumulative over the other, indicating step-wise facilitative interaction. Interdependence of this nature allows inclusive and sustainable development where individuals and communities are as well off as one another from services, opportunities, and information. The model also illustrates cumulative logic of development whereby each dimension is in interaction. It illustrates the essence of Sen's Capability Approach,

intersectionality theory, and India's commitment to Sustainable Development Goals and Viksit Bharat@2047 vision (Sen, 2014).

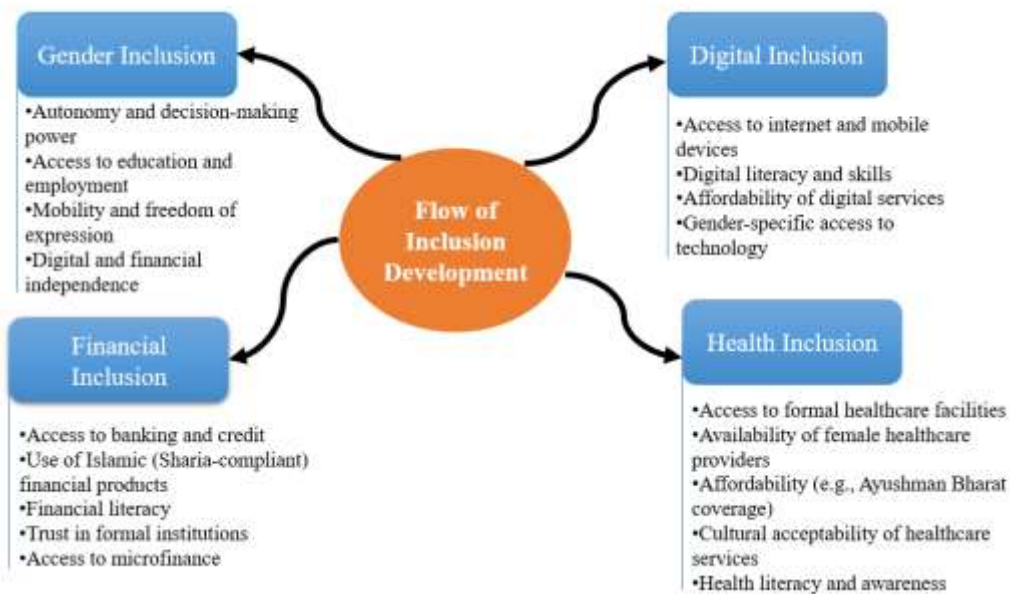


Figure 1: Ecosystem Map of the causal flow of inclusion leading to sustainable development

RESEARCH METHODOLOGY

The study employs bibliometric examination (Aria & Cuccurullo, 2017) and topic modeling to examine financial, digital, and health inclusion among marginal Muslim communities in India, based on research trends, gaps, and policy recommendations for Viksit Bharat@2047. The research methodology includes data collection, text preprocessing, and topic modeling to facilitate a sound and systematic method.

Data Collection

Data were extracted from the Web of Science (WoS) Core Collection, chosen for its comprehensive coverage of peer-reviewed social sciences, economics, and public health journals to provide a good dataset for topic modeling and bibliometric analysis (Clarivate, 2023). Systematic searching was applied by using Boolean operators to search the keywords as a cluster, e.g., "Financial inclusion," "Digital inclusion," "Health inclusion," "Muslim," "India," and keywords such as "Vulnerable," "Marginalized," or "Poverty." Ex-situ strategies, like wildcards (e.g., "inclus*") and truncation, expanded the universe of search. Filters limited results to English-language documents between 1992 and 2024, the period of commencement for including inclusions following liberalization in India and completeness of information (Mukherjee et al., 2022). This provided an initial dataset of 350 articles.

Manual screening reduced the dataset to 200 relevant articles. Inclusion criteria demanded articles to report on a minimum inclusion domain (financial, digital, health) and to be centered on Muslim communities in India, both conceptual and empirical studies. Exclusion criteria eliminated duplicates, non-peer-reviewed articles, and irrelevant studies (e.g., where the focus was completely on other communities). Two researchers independently marked abstracts and keywords as relevant with an inter-rater agreement of 0.85 (Cohen's kappa), validating dataset quality (Landis & Koch, 1977).

Text Preprocessing

Text mining pre-processed and extracted text data of the 200 articles to increase analytical distinction. Text was tokenized into words, and stop words (such as "the" and "and") were discarded to reduce noise. Stemming and lemmatization normalized words (i.e., "financing" to "finance") for improved consistency (Aggarwal & Zhai, 2012). Punctuation, special characters, and numerical information not related to the research purpose were

removed. A document-term matrix (DTM) was built with document rows and columnar singular terms, as term frequency was obtained. Bigrams like "financial inclusion" were maintained in order to preserve contextual phrasing, improving topic modeling effectiveness (Blei et al., 2003).

Topic Modeling

Latent Dirichlet Allocation (LDA), as a probabilistic unsupervised model, was utilized in order to find latent topics in the corpus (Blei et al., 2003; Chang et al., 2021). LDA represents documents as mixtures of topics and topics as distributions over words, based on word co-occurrence patterns (Mo et al., 2015). Optimal number of topics was found through coherence scores (C_v) that identify semantic similarity of topics and dissimilarity between them and are 0.62 for high topic quality (Röder et al., 2015). Hyperparameters (alpha and beta) were iteratively set to achieve best document-topic and topic-word distributions, balancing model fit with interpretability (Griffiths & Steyvers, 2004). LDAvis visualizations supported interactive topic-term exploration for theme detection (Sievert & Shirley, 2014). Topics were manually labeled from highest terms and contextually reading authentic documents, with cross-validation that ensured thematic consistency with inclusion literature (Asmussen & Møller, 2019). This offers a data-grounded foundation for policy intervention.

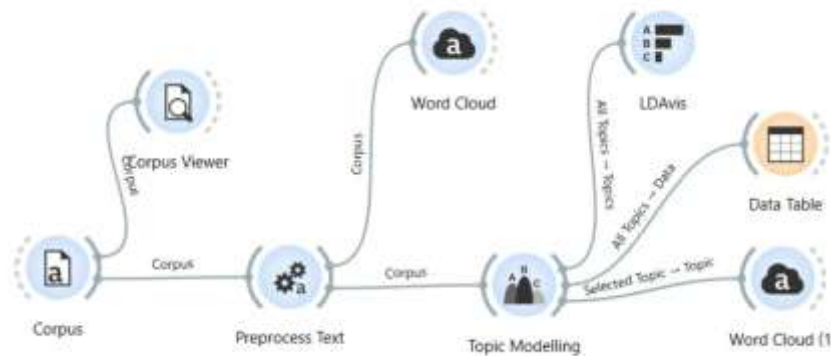


Figure 2: Text-mining workflow.

RESULTS AND DISCUSSION

The findings are given in two parts. The first part gives a bibliometric overview of all 200 papers, and it states the main research question, the yearly publication patterns by journal, and a word cloud presentation, wherein words that commonly appear are given larger font sizes. This overview is utilized to note major trends and patterns between the gathered papers. After this analysis of the world, Latent Dirichlet Allocation (LDA) generated themes are charted and described. The next step is to choose a representative article for every one of the found topics and perform a close read to see if the trends according to the topic classification of the results are consistent with the insight offered in the representative article.

Expansion and Trends in Research Publications

Figure 3 (a) indicates rising research attention to the subject from 1992 to 2025. The initial years, 1992–2007, witnessed hardly any publications; while it was on the uptrend since 2009, there was a sudden surge from after 2015, and much more sharply after 2021 to an all-time peak of 32 articles in 2024. This trend can perhaps be a pointer to heightened scholarly saliency in wake of policy concern, global issues, and technological progress. The small decrease in 2025 could be owing to partial data. This necessitates further studies to understand what caused such an increase and thematic changes in the literature.

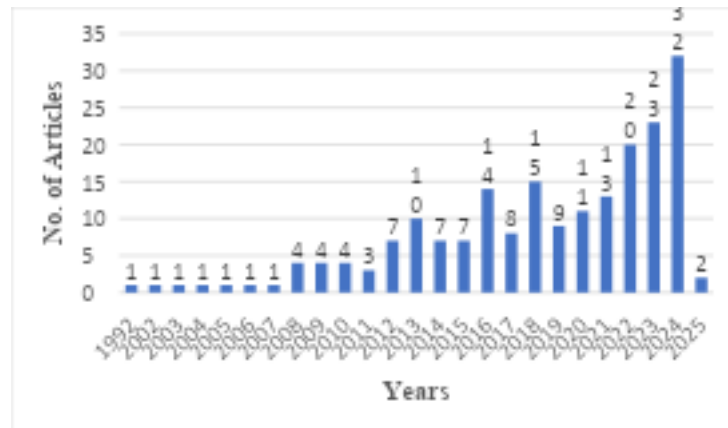


Figure 3 (a). Articles per Year: 1992-2025

Figure 3 (b) depicts the frequency distribution of articles in some of the journals of this field and credits them with the highest highest frequencies. 7 articles for PLOS ONE are identified to have extremely high multidisciplinary scope and extremely high research output. Second, BMC Public Health, the Journal of Policy Modeling, Modern Asian Studies, and Religions all contain 4 articles, perhaps a sign of active concern with public health, policy modeling, and socio-religious research. All the other journals contain 3 articles each, including Applied Economics, Contemporary South Asia, International Journal for., Journal of Asian and African Studies, and Journal of the Knowledge., thus demonstrating the wide range of disciplinary provision. Such apportionment highlights the interdisciplinary nature of the research covering from economics, public health, policy, to socio-cultural studies.

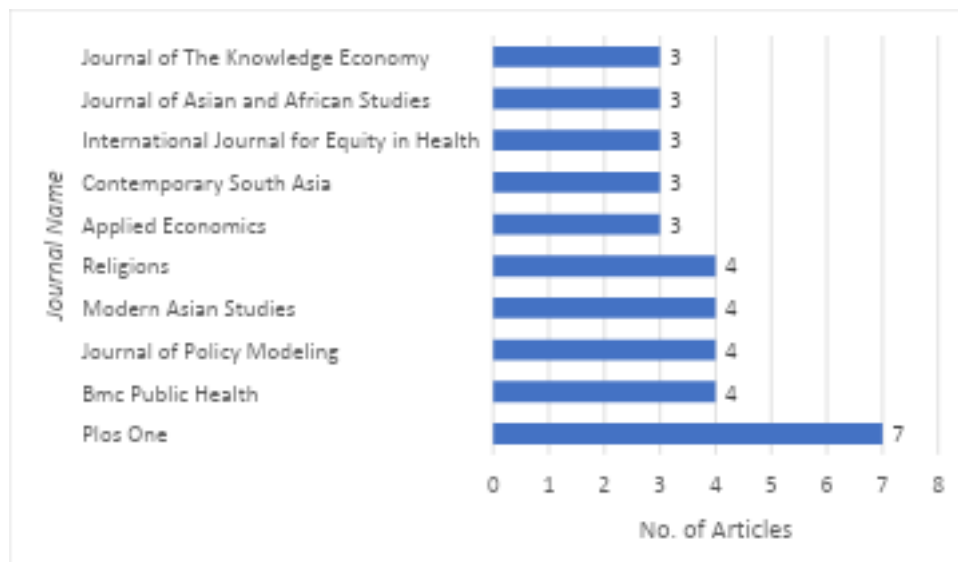


Figure 3 (b): Journal publishing distribution.

Topic Modelling

Latent Dirichlet Allocation (LDA) visualization via LDAvis is a very mature method of comprehending topic-term dynamics. The core of the tool is the novel dual-bar representation model: corpus-wide term frequency is denoted by gray bars and topic-specific term frequency by red bars (Sievert & Shirley, 2014). This visual interaction enables tracing down terms that most define certain topics in the analysis.

Additional flexibility in the system is provided by incorporating its λ (lambda) parameter, through which the user can modify the balance between term frequency and relevance (Hu et al., 2014). Referring to the visualization shown: the ratio red-to-gray bar high denotes high topic specificity, where absolute red bar width denotes

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information regarding the probability of terms in the topics (Sievert & Shirley, 2014). This provides additional indication of term importance and topic characterization.

LDAvis far exceeds simple visualization to exploratory analysis through its sophisticated topic exploration power; users can interactively browse term distribution by topics and untangle complex semantic relationships, not otherwise perceivable. This actually proves to be extremely useful while verifying coherence of topics to comprehend a document corpus' structure better. For application, the models have exhibited promising performance on six topics with log perplexity of 243.1 and topic coherence of 0.33, which are measures of good separation between topics and good term clustering (Wu et al., 2024).

New development also further improved the ability of LDAvis with some additional features: it includes hierarchical topic structures, clustering similar topics based on their term distributions to identify higher-level themes and sub-topics; and it now also includes temporal analysis of tracing changes in topics over time, which is beneficial for topic dynamics understanding and giving meaningful context to topic dynamics and trend analysis of document collections.



Figure 4: Word cloud for topic 1



Figure 5: Word cloud for topic 2



Figure 6: Word cloud for topic 3



Figure 7: Word cloud for topic 4

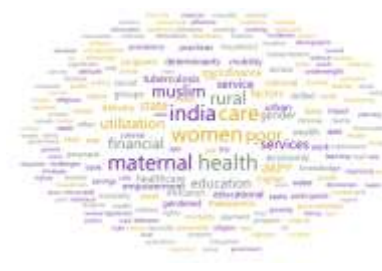


Figure 8: Word cloud for topic 5



Figure 9: Word cloud for topic 6

Based on these word clouds, develop at least six positive topic titles pertaining to some of the most striking issues evolving in this text analysis.

Topic 1: Financial Inclusion and Economic Empowerment of Muslim Communities

Topic modeling outcome indicates that financial inclusion has been an ongoing and dynamic research agenda in Muslim economic empowerment discourses. The major terms that are derived from document-term matrix are access: to financial services, digital payments, Islamic finance, microfinance, banking, economic growth, empowerment, savings, and investment (Figure 10). Overall, these terms point towards a scholarly agreement on the indispensable role of financial infrastructure in influencing inclusion and development outcomes.

One of the key observations constructed from literature is the irony in between traditional financial institutions and religious doctrines that influence the participation of Muslims in traditional banks (Beck et al., 2013). Whereas financial inclusion has been welcomed almost everywhere as a poverty reduction and economic development tool (Mohieldin et al., 2015), it has been observed from research that mainstream models fail to incorporate socio-religious beliefs among Muslim communities. The absence of Shariah-compliant financial products available is

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still a major barrier, especially in environments where traditional banking products are not applicable to Islamic principles (Abiola-Adams et al., 2023).

Several studies document that Islamic microfinance and mobile banking innovations have assisted in offering culturally appropriate alternatives. For example, Iqbal & Mirakhor (2011) show that interest-free credit and profit-sharing models encouraged increased financial inclusion of poor Muslim communities. Similarly, Sarofim et al. (2020) argue that one has more trust in banks if they do business in accordance with Islamic ethical principles increasing saving and investment behavior.

But the research also points out a generalized gap in knowledge and outreach. Abasimel (2023) contends that even when Islamic financial products are available, low levels of financial literacy and minimal exposure deter extensive use. This calls for specially targeted, locally focused financial literacy initiatives that not only provide instruction in alternatives available but also create confidence in institutions.

Collectively, these findings imply that financial inclusion in Muslim communities necessitates more than infrastructural availability. It necessitates cultural, religious, and trust considerations influencing financial behavior. Policy responses must be effective by leveraging inclusive design principles in the form of diversified products, localized outreach strategies, and institutionally reformative measures sensitive to socio-religious concerns. In that sense, financial systems can be made more inclusive in favor of higher economic empowerment and sustainable development objectives for India's marginalized and poor masses.

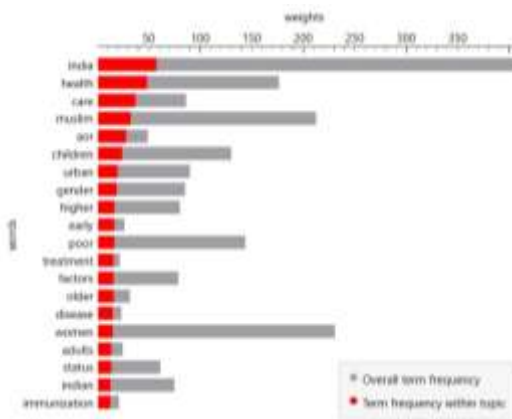


Figure 10: LDAvis for topic 1

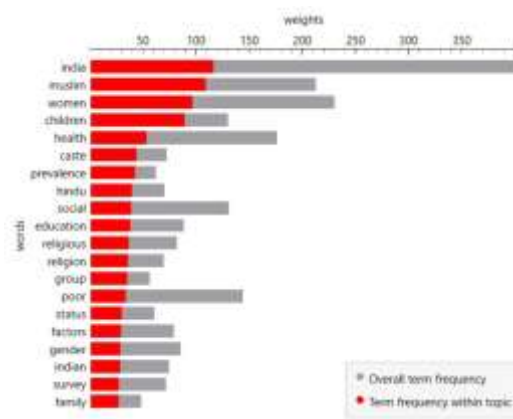


Figure 11: LDAvis for topic 2

Topic 2: Digital Inclusion and Access Barriers in Disadvantaged Groups

Digital inclusion is increasingly accepted as the bedrock of inclusive development, but access is still radically unequal across India's marginalized groups. The topic modeling analysis results label persistent digital exclusion among Muslim, Scheduled Caste (SC), and Scheduled Tribe (ST) groups. Major topics like digital access, literacy, poverty, and marginalization point out that the digital divides are inevitably embedded in structural inequalities (Tsatsou, 2022; Ahiase et al., 2024) (Figure 11).

Pradhan & Pradhan (2023) observe that rural Muslim and SC/ST children have disproportionately high rates of multidimensional child poverty, which directly affects access to digital services like online education and health. Bhusal (2022) also finds that mother's education and rural residence have positive effects on child health outcomes factors that also affect digital participation. Arias López et al. (2023) contend that social disadvantage and poverty are factors that contribute to women's lower digital literacy, especially among vulnerable populations.

Digital exclusion is not merely the result of infrastructure but also of socio-cultural forces and institutional neglect. Sensarma et al. (2012) encounter caste- and religion-based access disparities to public services, which extend to digital space. The findings illustrate that digital inequality reproduces and sustains pre-existing social stratification.

To address these gaps, efforts towards digital inclusion need to address affordability, literacy, and trust. Local content delivery, gender-sensitive design, and community-driven digital literacy can be used to help counter exclusion. Digital empowerment for the overall marginalised groups requires joined-up policies that align digital access with other social inclusion and development objectives.

Topic 3: Muslims' Access to Healthcare and Social Determinants of Health

Topic modeling analysis reveals that Muslims' access to healthcare is shaped by a sophisticated system of social determinants such as political processes, religious identity, digital access, and economic security (Figure 12). Its ongoing influence by historical government and modern-day political processes in subtle yet significant ways on healthcare outcomes. [Chaudhary & Rubin \(2016\)](#) contend that religious affiliations of earlier rulers shaped traditions of public provision of service, promoting private Islamic schooling while closing out Hindu public schools a legacy of unequal investment carried over into contemporary state institutions.

Modern-day exclusion is normally driven by communal politics and violence. For example, [Akram et al. \(2021\)](#) attribute increased cow vigilantism and communal polemic to Muslims' physical and psychological insecurity, creating exclusionary walls to health access and well-being. In the same way, digital exclusion fuels the divides: [Haenssger \(2018\)](#) established that mobile-based health interventions in Indian villages inadvertently favor digitally connected individuals, at the expense of poor rural Muslims who have no mobile phones.

Financial insecurity also constrains access to healthcare. [Markose et al. \(2022\)](#) demonstrate that PMJDY accounts tend to be inactive because of banking constraints, shrinking financial buffers for out-of-pocket medical spending. Ethnic violence, such as the 2002 Gujarat riots, causes long-term geographic and psychological segregation, with [Dhattiwala \(2016\)](#) demonstrating how local area neighbourhood composition influences vulnerability and access to public services.

Together, these findings establish that Muslim health disparities are not simply a case of gaps in service, but also of deeper socio-political and economic systems requiring multi-sectoral policy interventions that bring together health, financial, and digital inclusion.

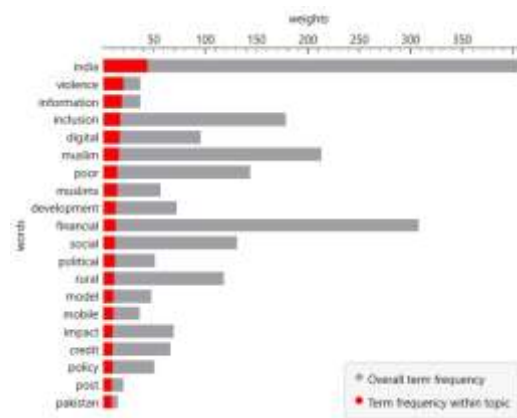


Figure 12: LDAvis for topic 3

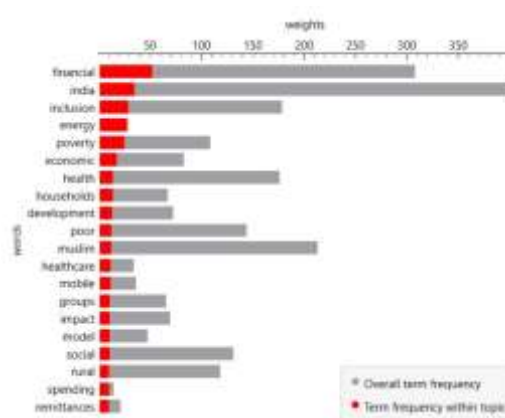


Figure 13: LDAvis for topic 4

Topic 4: Socioeconomic and Gender Disparities among Muslim Populations

Topic modeling outcomes highlight the persistent socioeconomic and gender disparities among Muslim populations and have a significant bearing on healthcare access, financial services, and energy security (Figure 13). The disparities are especially acute in lower- and middle-income countries such as India, where Muslim women, rural dwellers, and poorer households are disproportionately hit by exclusion from the system.

Financial inclusion has been a key means of addressing such disparities. [Xie et al. \(2024\)](#) posit that credit availability, financial literacy, and green technologies are at the core of alleviating energy poverty, especially in weak economies like Turkey, Brazil, South Africa, and India. However, women and marginalized groups are at the periphery of economic spaces because of their illiteracy, limited education, and low mobility ([Kamble et al., 2024](#)). Financial insecurity, which is representative of poor digital competence and low social capital, increases economic exposure for Muslim women.

Health inequities also cut across economic exclusion. [Dwivedi & Pradhan \(2017\)](#) find, though more urban, non-Muslim, and affluent populations pay more for health, out-of-pocket cost burdens in marginalized groups are worse since they lack coverages and are not able to afford. This represents a disproportionated landscape of access and not use only.

In order to bridge such disparities, policies have to aim at increasing public spending on healthcare and stimulating greater access to culturally tailored financial and digital literacy programs. Gender-sensitive and community-level interventions have the prospect of minimizing structuring and facilitating inequalities. Interventions can make inclusive development among India's Muslim community possible.

Topic 5: Religious and Cultural Influences on Social and Economic Engagement

Topic modeling findings indicate that religious and cultural axes are key drivers of social and economic participation among Muslim communities, particularly where there is structural disadvantage and access to services (Figure 14). These drivers are not simply articulated through individual decision-making but also in the representation of marginal identities by institutions and media discourses.

[Banerjee et al. \(2024\)](#) illustrate how India's national media reporting of the COVID-19 migrant crisis perpetuated caste hierarchies through the erasure of the organizational work of Muslim and Dalit women. Their paper silenced their agency in international accounts, but local accounts blew their central roles in service provision and resistance up. This refers to how religious and cultural identity tend to be used in order to delegitimize marginalized voices on systemic levels.

Religious beliefs and cultural values influence directly health-seeking behavior. [Sk et al. \(2022\)](#) and [Withers et al. \(2018\)](#) describe how decisions on maternal health among Muslim women are frequently mediated by socio-cultural factors so that limited education, lower exposure to the mass media, and trust in family or traditional healers decrease access to institutional care. [Singh et al. \(2012\)](#) also discover that Muslim and lower-caste adolescent girls in rural India are much less likely to use safe delivery services.

Outside of healthcare, religious identity also affects broader access to services. [Mawani \(2023\)](#) demonstrates how exclusionary urban planning in Ahmedabad generates uneven access to water through religious segregation. All these studies therefore suggest that cultural and religious scripts not only construct individual behaviors but also intersect with institutional planning both supporting systemic exclusion and restricting Muslim communities from full socio-economic integration.

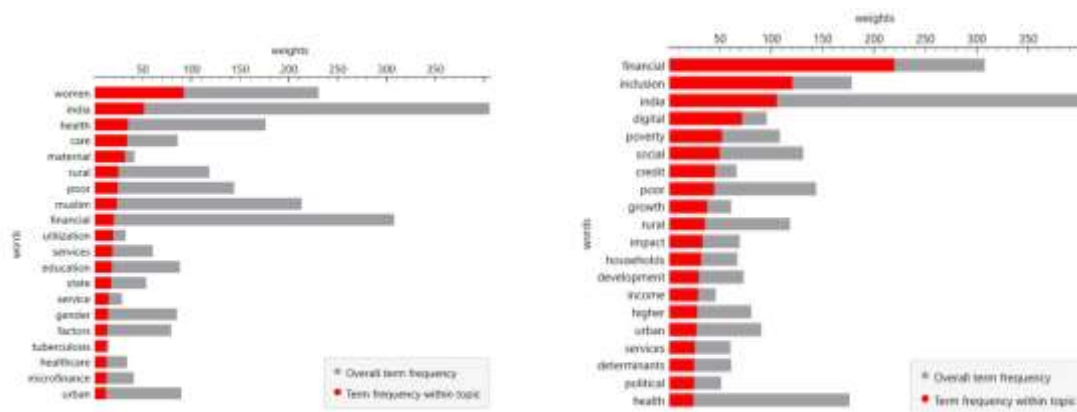


Figure 14: LDAvis for topic 5

Figure 15: LDAvis for topic 6

Topic 6: Education Level and Jobs in High-Risk Groups

Topic model findings pinpoint education as the central role of education in coordinating access to employment and financial services, particularly in socioeconomically exposed and urbanized settlements (Figure 15). The formation of education, employment opportunity, financial literacy, health behavior, and informal work indicates the crucial interlink between human capital development and transitions to inclusive economic progress.

[Singh & Singh \(2024\)](#) identified that in the case of slum residents, social welfare-oriented credit consumption tends to turn futile owing to inadequate financial literacy and undue exploitation by the receivers. This suggests that there should be robust policy frameworks and field-level checks to ensure credit schemes become effective in terms of generating sustainable employment benefits. This is supported by [Pradhan et al. \(2025\)](#), who write that education, and particularly young people's education, is a primary driver of e-financial inclusion and the use of digital financial instruments essential in obtaining jobs in modern labor markets.

There are also local trends that are reinforced by these trends. [Kumar & Pradhan \(2024\)](#) conclude that in South Asia, financial inclusion is significantly linked with education, with higher-income, older, more educated individuals. This indicates system-level discrepancies for young, lower-income, less educated Muslims in accessing work and financial services. Health behaviors also cut across education levels. [Halder et al. \(2024\)](#) explain lower education to be the result of higher tobacco use, which in turn lowers labor productivity and employment opportunities in the middle age.

Collectively, these results indicate a powerful case for integrated policies that coordinate education, financial and Internet literacy, and health awareness prevention. Such cross-cutting interventions are necessary in a bid to enhance employability and socioeconomic mobility among India's most vulnerable populations.

Table 1: Summary of Primary Themes, Research Gaps, Proposed solution, and References from Topic Modeling Analysis

Topic No.	Theme	Key Terms	Research Gap	Proposed Solution	References
1	Financial Inclusion and Economic Empowerment of Muslim Communities	Islamic finance, microfinance, credit, savings, empowerment, banking, trust	Scarcity of Sharia-compliant financial services and products; low trust and awareness of Muslim women	Increase Islamic microfinance; use culturally appropriate financial literacy initiatives; community savings plans	Mohieldin et al., 2015 ; Zulkhibri, 2016 ; Basheer et al. (2021)
2	Digital Inclusion and Barriers of Access among Marginalized Groups	Internet penetration, mobile phones, education, gender gap, connectivity, mobile penetration	Availability of digital devices and education constraints by gender; absence of localized digital adoption figures	Supply subsidized mobile phones; establish women-only digital education institutions; achieve digital inclusion through schools & SHGs	Mahanani et al., (2024) ; Lal, (2021) ; Tabassum et al. (2024)
3	Access to Healthcare and Social	Health equity, traditional medicine,	Knowledge gaps regarding Muslim women's	Utilize mobile health clinics; increase	Padela & Zaidi, (2018) ; Nasreen et al.

	Determinants of Health Among Muslims	institutional care, exclusion, mobility	healthcare-seeking behavior; restricted access to female providers	recruitment of other female health care workers; integrate traditional medicine into primary care systems	(2024); Sk et al. (2022)
4	Gender and Socioeconomic Disparities among Muslim Populations	Energy poverty, financial resilience, health expenditure, literacy, access	Intersectional evidence deficit on the gender-class-inclusion nexus; resilience data gap on women during crises	Promote inclusive policy measures for women's financial and digital inclusion; hike subsidies to access to healthcare for poor women	Kamble et al. (2024); Xie et al. (2024); Dwivedi & Pradhan (2017)
5	Religious and Cultural Impacts on Social and Economic Engagement	Caste, religious belief, trust, access, norms, identity	Limited studies on intersection of urban planning and caste/religious bias in determining access	Think faith-sensitive urban planning; establish trust with local religious leaders and participatory governance	Mawani (2023); Singh et al. (2012); Banerjee et al. (2024)
6	Educational Attainment and Jobs in High-Risk Groups	Education, employment, youth, awareness, training, computer skills	Lack of proper understanding of the link between education and employment among Muslim youth	Provide sector-specific scholarships, vocation and skill training; include financial and computer training in education policy	Pradhan et al. (2025); Halder et al. (2024); Singh & Singh (2024)

CONCLUSION

This research adds to the existing literature on inclusive development by exploring India's marginal Muslim communities' financial, digital, and health inclusion through the support of a systematic bibliometric and topic modeling analysis. Through the examination of 200 peer-reviewed articles in the Web of Science database, the study finds endemic disparities in healthcare access, digital technology, and financial services provisioning exacerbated by gender exclusions, socio-economic marginalization, cultural, and religious sensitivities. The research shows that even with government initiatives like the Pradhan Mantri Jan Dhan Yojana and Ayushman Bharat, huge gaps exist in outreach, awareness, and implementation among Muslim citizens, especially rural Indian women.

This article is on the embracing of culturally sensitive, gender-aware, and region-specific policies in accordance with the vision of Viksit Bharat@2047 and the Sustainable Development Goals (SDGs), namely SDG 1 (No Poverty), SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 10 (Reduced Inequalities). Islamic finance principles, mobile digital literacy projects, and systemic healthcare delivery systems are crucial in bridging gap areas and facilitating equitable access. Additionally, bibliometric and topic modeling approaches yield evidence-based guidance for researchers and policymakers in determining thematic priorities, revealing underemphasized issues, and guiding follow-up evidence-based interventions.

Beyond its empirical value, the research intimates a paradigm shift in development approaches shifted from universalist to intersectional and community-centered paradigms, but sensitive to the lived experience of marginalized groups. In steering India towards its 2047 vision, building an inclusive society will need increased coordination between governments, academia, civil society, and local communities. Future research shall continue this endeavor through empirical field research, longitudinal evaluation, and participatory methods to capture policy effects and listen to the otherwise marginalized from the development discourse. Doing so, India can move toward a more equal, just, and robust developmental path wherein no group is left behind.

IMPLICATIONS, LIMITATIONS and FUTURE DIRECTION

Practical Implications

Our initial bibliometric and topic model examinations of 200 papers in this study offer practical recommendations to improve further financial, digital, and health inclusion of poor Muslim communities to realize Viksit Bharat@2047. Policymakers need to initiate Sharia-compliant banking instruments and microfinance programs to improve financial access, especially in Uttar Pradesh, where the low inclusion ratio remains. Digitally empowered gender-targeted literacy programs, enabled by low-cost internet infrastructure, can empower socio-culturally disadvantaged Muslim women in rural Bihar. Community-based programs of women healthcare providers can enhance access in Muslim-dominated areas to ensure schemes such as Ayushman Bharat succeed. Urban planning reforms in cities such as Ahmedabad have to address discriminatory behavior to enhance accessibility of services. Scholarship and vocational training expansion will enhance Muslim youth employability, leading to economic inclusiveness and social harmony.

Theoretical Implications

The research adds depth to inclusion scholarship through tracking inter-disciplinary research trends, revealing lacunae in rolling into one financial, digital, and health spaces for Muslim communities. The research critiques universalist development theory by invoking intersectional driver religion, gender, and region of exclusion, which are illustrated in Kerala's comparatively higher levels of inclusion vis-à-vis Uttar Pradesh. The research promotes theoretical paradigms that give precedence to localized socio-cultural dynamics and systemic biases. By illustrating quantitative methods like topic modeling in informing culturally responsive policymaking, it offers a reproducible model for examining marginalized groups across the globe, adding to theoretical debate regarding equitable development.

Limitations

Although the present study is informative regarding financial, digital, and health inclusion among vulnerable Muslim communities in India, it suffers from limitation. For starters, the study utilizes only secondary data downloaded from the Web of Science (WoS) database. As much as the source guarantees the academic quality and peer-reviewed prestige of the articles, it can exclude relevant regional studies, non-English articles, government publications, and gray literature that can provide localized and policy-relevant information.

Second, the specific technique of topic modeling employed Latent Dirichlet Allocation (LDA) ([Han, 2020](#)) draws on co-occurrence and word frequency in text data. Although this facilitates detection of latent themes, methodology is susceptible to its own limitations in the capture of contextual richness and interpretive subtlety.

Human theme labeling by algorithmically derived keywords makes thematic interpretation inconstant through a subjective input.

Third, lack of primary data restricts the validation of findings with first-hand experience with impacted communities. Viewpoint triangulation and richer understanding of ground realities, particularly gender relations, religious factors, and dominant society norms defining membership, would be facilitated by field-based collection of data.

Lastly, the results, although generally indicative, cannot be necessarily extrapolated across the entirety of Muslim populations in India because of variations in socio-economic factors, governance quality, and cultural practices at the regional level. Subsequent studies are required to include mixed-method designs, community-level case studies, and longitudinal measures in order to establish a more comprehensive, context-specific, and inclusive evidence base.

Future Research Directions

Subsequent studies need to apply empirical examination to assess policy impact, cross-referencing results between religious and socio-economic groups in order to isolate scalable interventions. AI-based fintech and blockchain technologies can increase service coverage, matched to cultural requirements. Locality-led participatory design will integrate interventions into local agendas, making them embedded and sustainable. Long-term policy evaluation studies will increase evidence-based practice. Synthesis of economics, sociology, and public health will improve inclusion research. By bridging these lacunas, researchers can enable India's inclusive development with Muslim communities being fairly integrated into social and economic progress by 2047.

AUTHOR DECLARATIONS

CRedit Author Statement / Author contributions

Rahisha: Conceptualisation; Methodology; Formal Analysis; Investigation; Data Curation; Writing – Original Draft; Visualisation.

Mohammed Jamshed: Conceptualisation, Supervision; Writing – Review & Editing; Resources.

Acknowledgement: The authors would like to state that no specific funding or support was received for this study.

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

AI statement: Grammarly was used for grammar, spelling, and language improvement. All ideas, analyses, and conclusions are solely the responsibility of the authors.

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 and the reviewers. This journal remains neutral with regard to jurisdictional claims in published institutional affiliation.

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