

DECODING CONSUMER BEHAVIOUR IN HEALTH INSURANCE: UNDERSTANDING HIGHS AND LOWS OF CONSUMER SATISFACTION THROUGH RIGOROUS TREND ANALYSIS MODEL

Jolly Masih, BML Munjal University
Arup Majumdar, UPES
Sourav Kumar Mondal, BML Munjal University
Kushal Goyal, BML Munjal University
Samarth Badar, BML Munjal University

ABSTRACT

Purpose – This study aims to provide a comprehensive analysis of the global health insurance market, focusing on consumer behaviour and trends. The study also enhances understanding of highs and lows of consumer satisfaction levels during evolution of health insurance landscape globally. Study undertakes a case study of India to report which areas lag in health insurance awareness and the underlying reasons.

Design/methodology- This research adopts a mixed-methods approach, integrating qualitative and quantitative methodologies. The systematic literature review (SLR) spans 60 papers from 1998 to 2023, utilizing a seven-point Likert scale to assess the relevance of ten key variables from Google Scholar database. Additionally, the study introduces the Trend Impressions Model, which maps the movement of keywords across four zones to capture their prevalence and importance over time. The trend analysis examines Google search data from 2004 to 2024 from Google Trends, normalized on a scale from 0 to 100 and presented through a heat map to show regional variations.

Findings – Systematic Literature Review (SLR) highlights ten critical keywords and their relative contribution: “medical coverage”, “insurance coverage”, “payout ratio”, “frauds”, “maturity benefits”, “public awareness”, “government initiatives”, “accessibility”, “ease of understanding” and “government vs. private policies”. These findings elucidate the core components of health insurance and underscore challenges and opportunities for system enhancement. Trend Impressions Model categorizes keywords into four zones based on their relevance and frequency: Zone of Popping In, Zone of Excellence, Zone of Popping Out and Zone of All Time Favourite. This model provides insights into the evolving trends within the health insurance sector, highlighting which aspects are gaining traction and which are declining in importance. The Google Trends analysis uncovers regional disparities in the popularity of health insurance terms across India from 2004 to 2024.

Practical implications – Understanding consumer satisfaction levels and preferences is crucial for insurers to design targeted strategies. Incorporating these insights enables stakeholders in the health insurance industry to make informed decisions, fostering a more equitable and responsive healthcare system that caters to the diverse needs of consumers.

Keywords: Health Insurance, Medical Coverage, Insurance Coverage, Consumer Satisfaction, Trend Impressions Model, Google Trends.

INTRODUCTION

Over the past decade, the global health insurance market has undergone significant transformation driven by rising healthcare expenditures, changing customer expectations and dynamic demographic trends (Smith et al., 2021). These shifts have compelled insurers and healthcare providers to adapt rapidly, reshaping the landscape through notable changes in consumer behaviour, market dynamics and regulatory frameworks. In India, the world's most populous nation, the healthcare sector presents vast potential and formidable challenges (Dafny, 2019). Anticipating future developments and responding strategically to changing customer needs and preferences is crucial for insurers to sustain success in this competitive market (Armaroli & Balzani, 2006).

The global health insurance market encompasses a wide array of products and services offered by public and private insurers, providing financial protection against medical expenses incurred by policyholders. This includes services such as hospitalization, outpatient care, prescription drugs, preventive care and sometimes dental and vision care. The market was valued at approximately USD 1.2 trillion in 2023 and is projected to reach USD 2.5 trillion by 2030, growing at a compound annual growth rate (CAGR) of 8.2% (IRDAI, 2024). This growth is driven by increasing healthcare costs, the rising prevalence of chronic diseases and greater awareness about the benefits of health insurance.

In India, the health insurance market has shown robust growth, driven by a large and increasingly health-conscious population. The market was valued at approximately INR 58,000 crore (USD 7.7 billion) in 2023 and is expected to grow at a CAGR of 15% over the next five years, reaching INR 1.17 lakh crore (USD 15.6 billion) by 2028 (IRDAI, 2024). Factors such as rising healthcare costs, increasing incidence of lifestyle diseases and a growing middle class with greater disposable income propel this growth (Ahlin et al., 2016).

A comprehensive understanding of the health insurance market is essential to navigate its complexities and make informed decisions. This necessity underscores the importance of a systematic literature review (SLR) and trend analysis in this study. An SLR offers a structured and thorough examination of existing research on health insurance, identifying consistent patterns, key themes and significant gaps in the current knowledge base (Johnson et al., 2020). By uncovering these gaps, the SLR guides future research efforts and highlights opportunities for innovation in insurance products and services.

The papers by Crim (2021), and Sum and Nordin (2018), collectively explore various aspects of the health insurance landscape, emphasizing the interplay between insurance coverage, consumer behaviour, and the health insurance market. Crim (2021) examines the challenges posed by rising health insurance costs, highlighting that insurance companies' control over treatment decisions can adversely affect patient outcomes. The paper discusses financial metrics such as the Payout Ratio and Medical Loss Ratio under the Affordable Care Act, noting their role in increasing premiums and limiting consumer choice. Crim also addresses issues of fraud and treatment delays, advocating for heightened public awareness and a balanced approach between government and private insurance policies to enhance accessibility and improve patient outcomes.

Sum and Nordin (2018) focus on the decision-making process of consumers when purchasing health insurance, emphasizing psychological and emotional factors over logical considerations. They identify biases that influence consumer decisions, such as heuristic and decision framing biases, and highlight the complexity of insurance terms that can impact decision-making.

The authors call for public education to ensure informed choices and acknowledge the role of government policies in shaping consumer behaviour. Meanwhile, Dafny (2019) investigates the impact of an insurer's profit status on the health insurance industry, using data from the Large Employer Health Insurance Dataset. The study reveals that a switch to for-profit status results in higher premiums and altered insurance conditions, potentially affecting consumer access and costs. Dafny underscores the importance of public awareness and governmental efforts in driving insurance demand, emphasizing the need for equitable access to care through balanced policy approaches (Yadav & Mohania, 2013).

An evidence-based approach, facilitated by the SLR, ensures that decisions are based on a robust and comprehensive evidence base, reducing the risk of bias and providing an accurate picture of the health insurance landscape. Complementing the SLR, trend analysis offers dynamic insights into the evolution of the health insurance market over time, including real-time changes in consumer behaviour, level of satisfaction and preferences, essential for understanding the current state of the market and anticipating future developments (White & Brown, 2018).

Trend analysis also highlights regional and temporal variations, allowing stakeholders to tailor strategies to address specific local needs and temporal shifts (Dafny, 2019). This targeted approach enhances policy and intervention effectiveness. Additionally, trend analysis helps understand the impact of external factors such as economic fluctuations, regulatory changes and global events like the COVID-19 pandemic on the market (Crim, 2021). These insights are crucial for developing resilient strategies that can withstand external shocks.

LITERATURE REVIEW

Systematic reviews deploy a series of steps to minimize the bias and keep the review free of error through exhaustive literature searches of the extant research in the field (Table 1) (Tranfield et al., 2003).

The table presents a comprehensive summary of numerous studies examining various aspects of health insurance. These studies cover topics such as legal cases, private healthcare, trends in health insurance, fraud prevention and detection, governmental actions on healthcare issues, the financial status of the insurance industry, the use of expert systems in medicine, and public awareness and accessibility (Prinja et al., 2023). A timeline from 1998 to 2023 illustrates the changes and challenges in health insurance, as well as innovations in countries like India, China, South Africa, and the Philippines, among others. Key topics include governmental initiatives, fraud issues, financial protection, and universal coverage, the influence of neoliberal policies, community-based schemes, and responses to medical tourism. Collectively, these studies provide insights into the functioning of health insurance systems, highlighting their benefits and drawbacks within the socio-economic contexts that affect these systems (Prince & Roche, 2014).

Study	Relevance to Parameter	Parameter	Year
Sage (1998)	Reviews judicial opinions involving health insurance coverage, discussing public awareness issues.	Judicial Opinions	1998
Berman (1998)	Discusses private health care provision in India, emphasizing healthcare system reform.	Private Health Care Provision	1998
Carrasquillo et al.	Analyzes trends in health insurance coverage from 1989–1997, highlighting accessibility issues.	Health Insurance Coverage Trends	1999

Sparrow (1999)	Examines innovations and obstacles in controlling Medicaid fraud and abuse.	Fraud Control	1999
Ellis et al. (2001)	Reviews the financial terms and extent of health insurance coverage in India, highlighting prognosis and prospects.	Insurance Coverage (Financial Terms)	2001
Gumber (2001)	Discusses extending health insurance to the poor through the SEWA scheme in India, focusing on government initiatives.	Govt. Initiatives & Benefits	2001
Murphy (2001)	Analyzes the benefits of expert system technology in the insurance industry, focusing on policy clarity.	Expert System Technology	2001
Bhat & Reuben (2002)	Explores the management of claims and reimbursements in the Medclaim insurance policy, highlighting fraud issues.	Fraud	2002
Ericson et al. (2000)	Discusses the moral hazards of neoliberalism through lessons from the private insurance industry, focusing on fraud.	Moral Hazards	2000
Mavalankar & Bhat (2020)	Discusses the opportunities, challenges and concerns in accessing health insurance services in India.	Health Insurance Opportunities	2000
Shi (2000)	Analyzes the quality of primary care experiences across different types of health insurance, focusing on clarity and simplicity of terms.	Primary Care Experience	2000
Doherty & Singer (2003)	Discusses the benefits of a secondary market for life insurance policies, focusing on payout ratios.	Life Insurance Policies	2003
Ranson (2003)	Reviews community-based health insurance schemes in India, emphasizing government initiatives and benefits.	Community-Based Schemes	2003
Krause (2004)	Analyzes regulatory, guiding and enforcement mechanisms in healthcare fraud.	Health Care Fraud	2004
Ekman (2004)	Systematically reviews the evidence on community-based health insurance in low-income countries, focusing on service accessibility.	Low-Income Countries	2004
Kaushal & Kaestner (2005)	Analyzes the impact of welfare reform on health insurance coverage and accessibility for immigrants.	Health Insurance for Immigrants	2005
Acharya & Ranson (2005)	Reviews community-based health insurance schemes in Gujarat, India, focusing on government initiatives and benefits.	Community-Based Schemes	2005
Shisana et al. (2006)	Evaluates public perceptions of national health insurance in South Africa and its movement towards universal health coverage.	Universal Health Coverage	2006
Kohli (2006)	Analyzes the secondary market for life insurance policies and its regulatory environment, focusing on pricing and payout ratios.	Life Insurance Market	2006
Dror et al. (2007)	Explores the willingness to pay for health insurance among rural and impoverished populations in India.	Willingness to Pay	2007
Kaplan (2007)	Highlights the gap in retirement planning for funding long-term care, focusing on public awareness.	Retirement Planning	2007
Quinn (2008)	Investigates the moral and market transformations in the exchange of life insurance policies, focusing on payout ratios.	Life Insurance Policies	2008
Oster et al. (2008)	Investigates the fear of health insurance loss among individuals at risk for Huntington's disease, highlighting public awareness.	Public Awareness	2008
Chou et al. (2009)	Investigates health care coverage and industry dynamics, focusing on accessibility and utilization.	Health Care Coverage	2009
Sun et al. (2009)	Evaluates the financial protection of patients with chronic diseases by health insurance in rural China.	Financial Protection	2009
Bannick & Granger (2009)	Reviews the TRICARE health benefits program as part of the federal platform for healthcare reform.	Health Benefits Program	2009
Vijaya (2010)	Critically examines the implications of medical tourism on health service accessibility and quality.	Medical Tourism	2010

Kumar et al. (2011)	Discusses the challenges and opportunities in financing healthcare for all in India, focusing on universal health coverage.	Universal Health Coverage	2011
Hodek et al. (2011)	Provides methodological recommendations for evaluating the economic burden of preterm births on children and their caregivers.	Economic Consequences	2011
Eggleston (2012)	Provides an overview of China's health system, emphasizing government initiatives and benefits.	Health System Overview	2012
Vellakkal (2012)	Compares the financial protection offered by the Mediclaim policy and the CHAT scheme in India.	Financial Protection	2012
Shahi (2013)	Analyzes the origin, growth pattern and trends in the Indian health insurance sector, highlighting government initiatives.	Health Insurance Trends	2013
Pendzialek et al. (2014)	Conducts a systematic review of price elasticities of demand for health insurance, discussing financial protection elements.	Insurance Coverage (Financial Terms)	2014
Wang et al. (2014)	Compares inpatient care and financial protections provided by different types of medical insurance before and after healthcare reform in China.	Insurance Coverage (Financial Terms)	2014
Dormont & Péron	Tests the hypothesis that health insurance encourages rising medical prices through a balance billing analysis in France.	Insurance Coverage (Financial Terms)	2016
Koch (2014)	Investigates the impact of risk and age on medical insurance pricing, emphasizing the scope of healthcare services covered.	Medical Coverage	2014
Samal & Dehury (2015)	Explores the status and trends of third-party administrators in India's health insurance sector.	Third-Party Administrators	2015
Besanko et al. (2016)	Examines the role of insurance in pharmaceutical pricing, focusing on the financial protection provided.	Pharmaceutical Prices	2016
Miraldo et al. (2018)	Investigates the impact of publicly subsidized health insurance on access, risk factors and disease management.	Govt. Initiatives & Benefits	2018
De La Hoz-Correa et al. (2018)	Analyzes past themes and future trends in medical tourism research, focusing on healthcare service accessibility.	Medical Tourism Trends	2018
Lahariya (2018)	Examines the "Ayushman Bharat" program and its role in advancing universal health coverage in India.	Universal Health Coverage	2018
Erlangga et al. (2019)	Systematically reviews the impact of public health insurance on healthcare utilization and financial protection in low- and middle-income countries.	Public Health Insurance	2019
Umemoto et al. (2019)	Analyzes big data from medical insurance claims to understand the financial aspects of prescription trends.	Insurance Coverage (Financial Terms)	2019
Dutta	Analyzes the performance of the health insurance sector in India, focusing on policy clarity and understanding.	Performance Analysis	2020
Song et al. (2020)	Studies the association between health insurance and various mortality risks, focusing on financial protection aspects.	Insurance Coverage (Financial Terms)	2020
Siongco et al. (2020)	Analyzes the reduction in inequalities in health insurance coverage and healthcare utilization among older adults in the Philippines.	Public Awareness	2020
Kreutzburg et al. (2019)	Examines the patterns of comorbidity and treatment coverage for peripheral arterial occlusive disease using health insurance claims data in Germany.	Medical Coverage	2019
Dong et al.	Reviews the benefits of China's social health insurance schemes since health reform, emphasizing government initiatives.	Govt. Initiatives & Benefits	2021
Khan et al. (2021)	Studies multilevel population and socioeconomic variations in health insurance coverage in India, focusing on public awareness.	Health Insurance Coverage	2021
Atake	Assesses how different types of health insurance affect	Provider Choice &	2020

	provider choice, healthcare utilization and expenditures.	Utilization	
Chen et al.	Compares healthcare utilization, costs and catastrophic health expenditures among middle-aged and older adults with different health insurance types in China.	Healthcare Utilization	2022
Dubey et al.	Reviews the evolution of government-funded health insurance for universal health coverage in India.	Govt. Funded Insurance	2023

METHODOLOGY

Research Design

The research design employed in this study is characterized by a mixed-methods approach, seamlessly integrating qualitative and quantitative methodologies to provide a comprehensive understanding of the global health insurance landscape (see Figure 1). The objectives include an extensive literature review analysis from Google Scholar Database and trend analysis using data from Google Trends (Venkatesh, 2013).

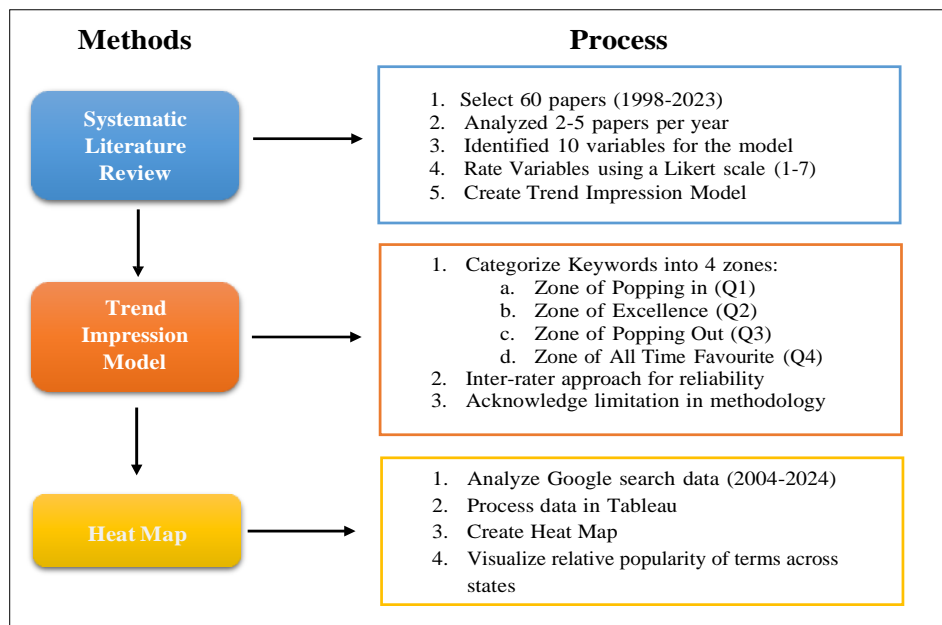


FIGURE 1

METHODOLOGY FOR ANALYSING TRENDS IN GLOBAL HEALTHINSURANCE SECTOR AT A TIMELINE OF (1998-2024)

Objectives

1. Exploring Consumer Behaviour and their satisfaction level in the Global Health Insurance Sector: A Comprehensive Literature Review.
2. Trend Analysis of the Indian Health Insurance Sector: Unveiling Emerging Patterns Through Google Trends Data with special focus on laggard regions.

Data Sources

Secondary data was collected from sources such as Google Trends and Google Scholar (Acharya & Ranson, 2005).

Sample Size

60 research papers were selected within the time-period ranging from the year 1998 to the year 2023.

Technique

Systematic Literature Review of Consumer Behavior and their Satisfaction Level in the Global Health Insurance Sector

A systematic process was followed, involving the selection of 60 papers spanning two decades (1998-2023). Two papers per year were chosen, supplemented by additional representation for the year 2023 to capture recent developments (Nadanamoorthy et al., 2011)

These variables were “*Medical Coverage*”, “*Insurance Coverage (Financial Terms)*”, and “*Payout Ratio*”, “*Frauds*”, “*Maturity Benefits*”, “*Public Awareness*”, “*Government Initiatives & Benefits*”, “*Accessibility*”, “*Ease of Understanding and Government versus Private Policies*”. A seven-point Likert scale (1 = least relevance to 7 = highest relevance) was used to measure the relevance of each variable in the research papers, facilitating a quantitative evaluation of their prevalence and depth within the literature. This rating process resulted in a Trend Impression Model, visually representing trends in the sector by leveraging aggregate ratings to highlight emphases and potential gaps (Masih et al., 2017).

Trend Impression Model

The Trend Impression Model studies the average movement of keywords for each parameter on a scale of $\mu=1$ to 7, categorized into four zones:

- a) **Zone of Popping In:** This zone encompasses average values of keywords below $\mu=1.82$, representing the lower range of performance. Keywords in this zone have emerged recently and are likely to gain prominence in the future.
- b) **Zone of Excellence:** Values falling between $\mu=1.82$ to 2.42 are categorized in this zone indicating a slightly higher range of performance compared to Zone of Popping In. This zone includes the most popular keywords that attract significant attention from readers, whether new or established.
- c) **Zone of Popping Out:** Ranging from $\mu=2.42$ to 3.02 , this zone represents a moderate to high level of performance. This zone covers keywords that initially had high attention but have since declined in importance.
- d) **Zone of All Time Favourite:** Values exceeding $\mu=3.02$ are part of this zone, indicating the highest level of performance. Keywords in this zone have consistently performed well over the designated time frame and are stable in nature.

To ensure methodological reliability, an inter-rater approach was adopted, with multiple assessors independently rating a subset of papers to enhance consistency and mitigate subjective biases. The research methodology acknowledged potential limitations, such as scope and biases, providing transparency about the study's constraints. This approach not only facilitated a comprehensive analysis of the literature but also established a robust foundation for extracting meaningful insights into the current state of the Global Health Insurance Sector (Masih et al., 2017).

Trend Analysis of Health Insurance

The methodology included exploratory data analysis of Google search-based data points for the keywords “*Health Insurance*.” The analysis covered the period from 2004 to 2024 in India. To enhance visualization, the data was processed using the Tableau tool. By employing latitude and longitude coordinates, the search data was normalized on a scale from 0 to 100. A score of 100 indicates the highest prevalence of the term, 50 represents half as popular and 0 denotes insufficient data.

The trend analysis focused on identifying peaks and troughs in public interest, providing valuable insights into the evolving landscape of health insurance in India over the specified timeframe. The accompanying heat map visually illustrates the relative popularity of these terms across states, offering a nuanced understanding of regional variations. This approach enhances comprehension of the dynamic nature of health insurance trends in India (Google Trends, 2023).

RESULTS

Objective 1: Exploring Consumer Behaviour and their satisfaction level in the Global Health Insurance Sector: A Comprehensive Literature Review

We aim to identify and analyze key indicators affecting Global Health Insurance Sector by reviewing 60 research papers spanning the years 1998 to 2023. This approach ensures a comprehensive understanding of the evolution and current state of consumer behaviour and their satisfaction level in the Global Health Insurance Sector (Johnson et al., 2020).

Identification of Keywords

Our approach involves a thorough review of research papers to identify pertinent keywords relevant to the Global Health Insurance Sector (Table 2). The ten identified keywords—Medical Coverage, Insurance Coverage (Financial Terms), Payout Ratio, Frauds, Maturity Benefits, Public Awareness, Government Initiatives & Benefits, Accessibility, Ease of Understanding and Government vs Private Policies—encapsulate critical elements shaping discussions in the health insurance landscape. This systematic identification aligns with the keyword extraction methods used in comprehensive literature reviews to highlight key research themes.

Keywords	Description
Medical Coverage (MC)	Encompasses the range of healthcare services and treatments covered by an insurance policy.
Insurance Coverage (Financial Terms) (ICFT)	Refers to the extent and specifics of financial protection provided by an insurance policy.
Payout Ratio (PR)	The proportion of claims paid out by an insurance company relative to the premiums collected.
Frauds (FR)	Instances of deceptive practices or misrepresentation within the insurance sector.
Maturity Benefits (MB)	Benefits received upon the policy reaching its maturity date, usually applicable to life insurance policies.
Public Awareness (PA)	The level of knowledge and understanding among the public regarding insurance options and benefits.
Govt. Initiatives & Benefits (GIB)	Government-led programs and advantages designed to promote and support insurance coverage.
Accessibility (AC)	The ease with which individuals can obtain and utilize insurance services.
Ease of Understanding (EU)	The clarity and simplicity of insurance policy terms and conditions for policyholders.
Govt. vs Private Policies (GPP)	A comparison of insurance policies offered by government entities and private insurance companies.

The rating of keywords involved a comprehensive review of each research paper pertaining to health insurance. The average ratings assigned to different categories based on the concept of topic coverage are as follows: Rating (1) corresponds to 'Very Low Concept Coverage' and Rating (7) is associated with 'High Coverage' (Figure 2).

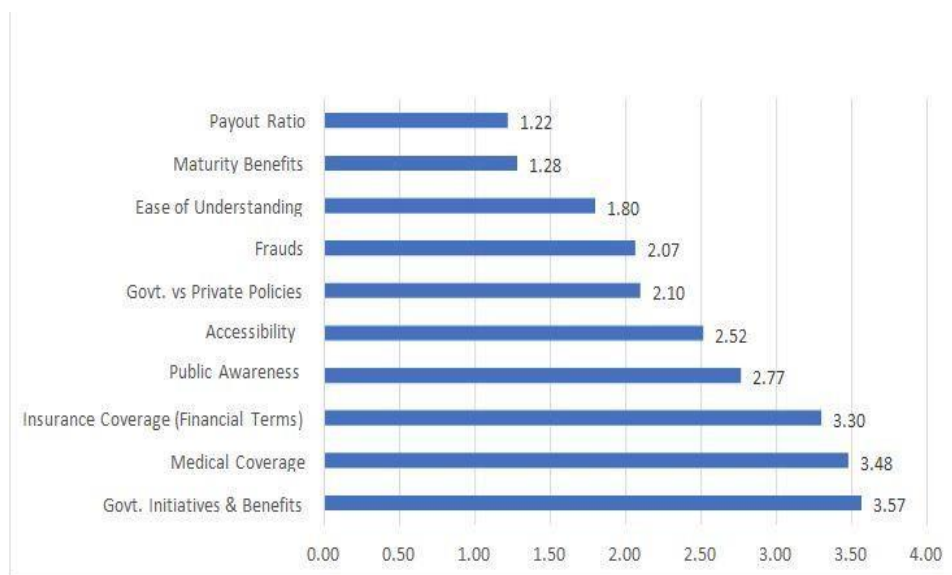


FIGURE 2

THE AVERAGE RATINGS ASSIGNED TO DIFFERENT KEYWORD THEME

These ratings provide a systematic classification of concept coverage across various levels, facilitating a nuanced evaluation of the extent to which concepts are addressed in each context.

In the systematic literature review, the average rating for “*Medical Coverage*” was $\mu=3.48$, indicating its perceived importance (Ambade et al., 2023) “*Insurance Coverage*”, specifically in financial terms, received an average rating of $\mu=3.30$ (Dutta, 2020) “*Payout Ratio*” was rated relatively low at $\mu=1.22$, suggesting a potential area of concern or limited emphasis in the literature (Smith et al., 2021). “*Frauds*” garnered an average rating of $\mu=3.05$, highlighting the attention given to this aspect in the reviewed studies (Bhat et al., 2023) (Figure 2).

“*Maturity Benefits*” had a modest rating of $\mu=1.28$, while “*Public Awareness*” received a rating of $\mu=2.77$, indicating a moderate level of attention in the literature (Atake, 2020). “*Government Initiatives & Benefits*” stood out with a high average rating of $\mu=3.57$, suggesting a substantial focus on this aspect (Dubey et al., 2023) “*Accessibility*” received a rating of $\mu=2.52$, reflecting a moderate level of consideration (TechSci Research, 2021) (Figure 2).

“*Ease of Understanding*” had a relatively low rating of $\mu=1.80$, suggesting potential challenges or limitations in the clarity of the literature (Carrasquillo et al. 1999). Finally, the comparison between “*Government versus Private Policies*” received a rating of $\mu=2.10$, indicating a moderate level of attention in the reviewed studies (Dormont & Péron, 2016) (Figure 2).

Trend Impression Model based on Selected Keywords

Health insurance is a crucial service that can safeguard and enhance the health and well-being of the population. However, the health insurance sector encounters numerous challenges and opportunities, which are well-documented in the research literature. The

diagram illustrates the relative importance of ten terms related to health insurance, based on their frequency and relevance in various research papers. These terms are categorized into four zones, each representing a distinct aspect of the health insurance system (Ambade et al., 2023) (Figure 3).

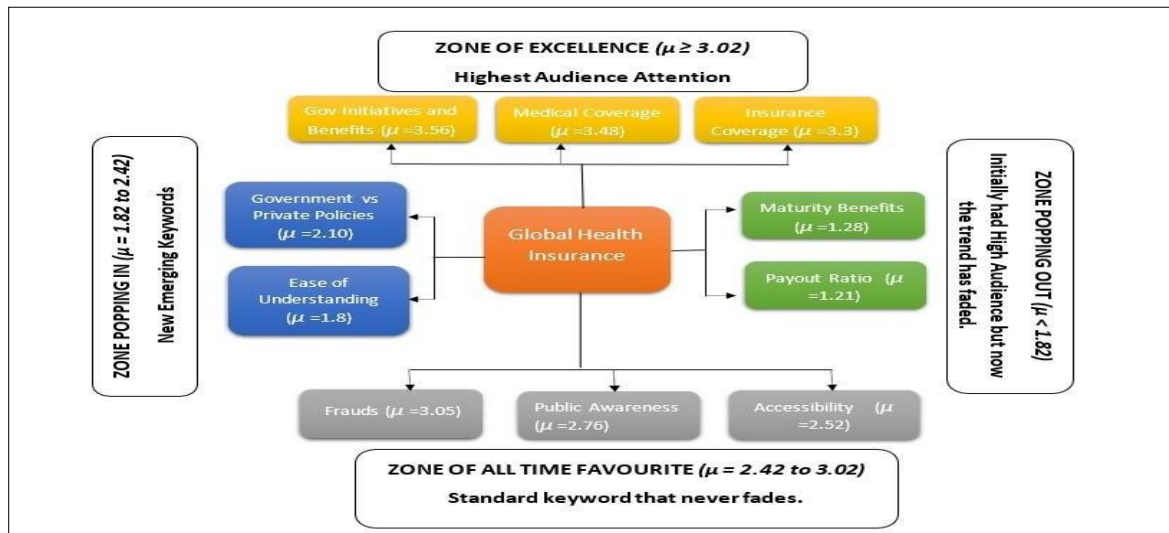


FIGURE 3

MODEL OF TREND IMPRESSIONS FOR GLOBAL HEALTH INSURANCE (1998-2023)

The **Zone of Excellence** comprises terms that are highly relevant and frequently used, such as “*Medical Coverage*”, “*Insurance Coverage*” and “*Government Initiatives & Benefits*”. These terms denote the fundamental components of health insurance, encompassing the scope of services covered the cost of the service and the regulation and support provided by the government. The papers employing these terms focus on analyzing and evaluating the status and performance of the health insurance system, proposing ways to enhance its quality, affordability and accessibility (Atake, 2020).

The **Zone of All Time Favourite** includes terms that are moderately relevant and frequently used, such as “*Frauds*”, “*Public Awareness*” and “*Accessibility*”. These terms underscore the challenges and opportunities for improving the health insurance system, such as reducing fraud and malpractice, increasing public awareness and education and enhancing accessibility and inclusiveness. The studies utilizing these terms aim to identify and address the gaps and barriers within the health insurance system and propose solutions and strategies to overcome them (Bhat et al., 2023; Masih et al., 2017) (Figure 3).

The **Zone of Popping in Keywords** contains terms that are highly relevant but less frequently used, such as “*Private Policies*”, “*Ease of Understanding*” and “*Government vs Private Policies*”. These terms reflect emerging trends and issues within the health insurance sector, including the role and performance of private players, the need for simplification and transparency and the comparison and competition between public and private policies. The papers using these terms explore and examine new developments and dynamics within the health insurance sector, assessing their implications and impacts on the health insurance system (TechSci Research, 2021; Chen et al., 2022).

The **Zone of Outgoing Keywords** includes terms that are less relevant and less frequently used, such as “*Payout Ratio*” and “*Maturity Benefits*”. These terms represent the methodologies, measures and outcomes of health insurance research, which may hold less interest or significance for the public or policymakers. The studies employing these terms aim to provide a comprehensive and rigorous review of the existing literature, quantifying and

comparing the financial aspects of health insurance and estimating and projecting future benefits (Carrasquillo et al., 1999) (see Figure 3).

Objective 2: Trend Analysis of the Indian Health Insurance Sector: Unveiling Emerging Patterns through Google Trends Data with Special Focus on Laggard Regions

Utilizing a scale from 0 to 100, this study evaluates the prominence of search terms in various geographic locations. The scale measures the term's popularity as a fraction of total searches, providing a relative understanding of its significance in different regions. A score of 100 signifies the highest prevalence of the term within a location, while a value of 50 indicates a location that is half as popular. A score of 0 denotes insufficient data for analysis. The analysis is conducted over a specified time frame to capture temporal fluctuations in search term preferences (Dong et al., 2021) (Figure 4).

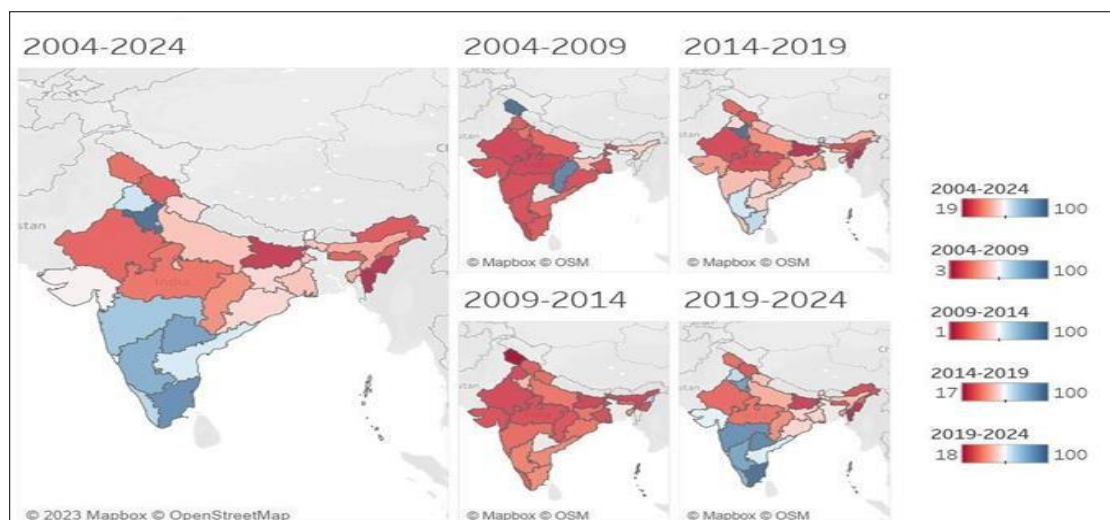


FIGURE 4

TREND ANALYSIS ON THE INDIAN HEALTH INSURANCE SECTOR USING DATA FROM GOOGLE TRENDS

As shown in Figure 4, the health insurance heat map of India from 2004 to 2024 illustrates the varying levels of health insurance popularity across states, reflecting regional disparities influenced by factors such as urbanization, income, education, and health awareness. Southern and western states, including Kerala, Karnataka, Maharashtra, and Gujarat, exhibit higher popularity due to better socio-economic indicators. In contrast, northern and eastern states like Bihar, Uttar Pradesh, West Bengal, and Assam show lower popularity, attributed to lower development indices and a reliance on traditional healthcare practices (Chakraborty, 2010). Notable exceptions include Delhi, which has high health insurance popularity due to its status as the capital, and Goa, where the tourism-driven economy influences lower popularity. This heat map is essential for understanding regional disparities and guiding tailored approaches to enhance health insurance adoption in less popular areas (Google Trends, 2023). From 2004 to 2024, the map reflects shifts in health insurance adoption across different regions in India. During 2004 to 2009, northern and central states such as Punjab, Haryana, Rajasthan, and Madhya Pradesh showed higher popularity due to favourable socio-economic factors and easier access to insurance. By 2009 to 2014, northern and western regions, including Punjab, Haryana, Rajasthan, Gujarat, and Maharashtra, maintained high adoption rates due to increased income, education, and health awareness. In contrast, states like Tamil Nadu, Andhra Pradesh, West Bengal, Orissa, and Assam consistently exhibited lower adoption rates due to lower income and limited access to insurance providers. The 2014 to 2024 period highlights continued disparities, with northern

and western states maintaining higher adoption rates. This timeline reveals regional variations and emphasizes the need for customized policies and strategies to address the diverse health insurance needs across India's socio-economic landscape (Google Trends, 2023; Singh & Bawa, 2020).

DISCUSSION

This study investigates consumer behaviour and satisfaction in the global health insurance sector by reviewing 60 research papers and analyzing Google Trends data to identify emerging patterns and regional differences. The analysis reveals key themes and highlights how various factors shape consumer preferences and satisfaction levels (Parthasarathy et al., 2023). The Theory of Planned Behaviour (TPB) explains that consumer intentions are influenced by attitudes, subjective norms, and perceived behavioural control. In health insurance, positive attitudes towards comprehensive coverage and supportive government initiatives correlate with higher satisfaction, while difficulties in understanding policy terms may decrease satisfaction (Ajzen, 1991). The Health Belief Model (HBM) suggests that individuals' health behaviours are driven by their perceptions of health risks and the benefits of preventive measures. This model explains higher insurance adoption in socio-economically developed regions due to greater perceived risks and benefits (Becker, 1974). Expectation-Confirmation Theory (ECT) focuses on the gap between expectations and actual experiences, impacting consumer satisfaction. In health insurance, satisfaction varies with coverage comprehensiveness and accessibility, as seen in the different ratings for Government Initiatives & Benefits and Payout Ratio (Oliver, 1980). The Consumer Decision-Making Process Model outlines the stages consumers go through, from problem recognition to post-purchase evaluation. This model aligns with the study's focus on Frauds and Public Awareness, emphasizing how information availability and perceived risks influence decisions (Kotler & Keller, 2016). Additionally, the Diffusion of Innovations Theory supports the Model of Trend Impressions by explaining how new concepts and technologies, such as Medical Coverage and Government Initiatives & Benefits, gain prominence over time. Emerging issues like Ease of Understanding and Government vs Private Policies, though gaining attention, are less widely adopted, reflecting evolving consumer interests (Rogers, 1962). In summary, integrating these theories with empirical findings provides a thorough understanding of consumer behaviour and satisfaction in the health insurance sector, offering insights for improving consumer engagement and addressing identified gaps.

CONCLUSION

This study provides a comprehensive analysis of the global health insurance market, focusing on consumer behaviour, satisfaction level and changing trends. By integrating qualitative and quantitative methodologies, including a systematic literature review (SLR) and trend analysis using Google Trends, the research highlights key factors influencing health insurance adoption. The SLR identifies ten critical keywords, revealing the core components of health insurance and underscoring the challenges and opportunities for system enhancement. The Trend Impressions Model offers insights into the evolving trends within the health insurance sector, categorizing keywords into four zones based on their relevance and frequency. This model highlights which aspects of health insurance are gaining traction and which are declining in importance. Additionally, the trend analysis uncovers regional disparities in the popularity of health and medical insurance terms across India from 2004 to 2024, emphasizing the need for tailored strategies to address diverse regional needs. The findings underscore the importance of considering geographical differences and socioeconomic factors when developing health insurance plans. Understanding consumer

behaviour and preferences is crucial for insurers to design targeted strategies and develop insurance packages that align with community needs, thereby enhancing insurance penetration and accessibility. This study's insights enable stakeholders in the health insurance industry to make informed decisions, fostering a more equitable and responsive healthcare system that caters to the diverse needs of consumers worldwide.

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