

Operational Efficiency of Standalone Health Insurance Companies in India – A Study

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Abstract: *The standalone health insurance sector in India has experienced significant growth due to rising healthcare expenditure, increasing medical awareness, and the growing demand for financial protection against health-related risks. The expansion of specialized health insurance services has increased the importance of evaluating operational efficiency, financial stability, claims management, and customer service performance among health insurers. Operational efficiency assessment has become essential for understanding the sustainability, competitiveness, and service quality of insurance companies in a rapidly evolving healthcare environment.*

The present study aims to evaluate the operational performance of selected standalone health insurance companies in India, namely Star Health and Allied Insurance, Care Health Insurance, and ManipalCigna Health Insurance during the period from 2015–16 to 2024–25. The study is based on secondary data collected from annual reports, IRDAI publications, and company records. Statistical tools such as Mean, Standard Deviation, CAGR, and One-Way ANOVA were applied for analysis and interpretation.

The findings reveal that Star Health maintained the strongest market position and financial stability, Care Health demonstrated efficient claims management and customer service performance, while ManipalCigna showed rapid operational expansion. The study highlights the importance of operational efficiency, digitalization, effective claims settlement, and customer-oriented services in improving organizational sustainability and competitiveness in the Indian health insurance sector.

Keywords: Operational Efficiency, Standalone Health Insurance Companies, Claims Management, Service Quality, Health Insurance, India.

I. INTRODUCTION

1.1 Background of Standalone Health Insurance Sector in India

The Indian insurance industry has experienced substantial transformation over the last two decades due to economic liberalization, rising healthcare expenditure, and increasing awareness regarding financial protection against medical emergencies. Health insurance has emerged as one of the most significant segments within the insurance industry because of the growing incidence of lifestyle diseases, medical inflation, and unexpected health crises. The outbreak of the COVID-19 pandemic further highlighted the importance of health insurance coverage and accelerated the demand for specialized health insurance services.

Standalone Health Insurance Companies (SHICs) were introduced in India to exclusively focus on health-related insurance products and services. Unlike general insurance companies that provide multiple categories of insurance, SHICs specialize in designing customized healthcare policies, claim settlement mechanisms, and customer-centric healthcare solutions. The sector operates under the regulatory supervision of the Insurance Regulatory and Development Authority of India, which aims to ensure transparency, operational efficiency, and financial stability



within the insurance market. Studies by Shahi and Siddiqui indicate that standalone health insurers have significantly contributed to expanding health insurance penetration and improving service specialization in India.

1.2 Growth and Importance of Operational Efficiency in Health Insurance

Operational efficiency has become a critical determinant of success in the health insurance sector. As the number of policyholders increases, insurance companies are required to manage claims processing, customer support, underwriting, and policy administration effectively. Efficient operational practices reduce administrative costs, enhance profitability, and improve customer satisfaction.

Research conducted by Tuffour emphasized that operational efficiency directly influences the profitability and sustainability of insurance companies. Similarly, Siddiqui observed that efficiency in resource utilization and claim management significantly determines organizational performance in the Indian health insurance industry. The increasing use of digital technologies, artificial intelligence, and online claim processing systems has further strengthened operational effectiveness and service quality in health insurance companies.

1.3 Emerging Challenges in Health Insurance Operations

Despite rapid growth, the health insurance sector in India faces several operational and managerial challenges. Rising healthcare costs, fraudulent claims, inadequate awareness among customers, and delayed claim settlement procedures continue to affect the performance of insurers. The COVID-19 pandemic created additional pressure on claim settlement systems and exposed inefficiencies in policy administration and customer communication.

According to Kadyan, inefficient claim settlement procedures negatively influence customer trust and satisfaction. Further, Yadav reported that insurers faced substantial operational stress due to increased hospitalization claims and changing healthcare demands during the pandemic period. These challenges necessitate continuous improvement in operational strategies and customer service mechanisms within standalone health insurance companies.

1.4 Importance of Customer-Oriented Insurance Services

Customer satisfaction has become one of the most essential aspects of health insurance services because policyholders expect timely support, transparency, and efficient claim settlement. Health insurance companies that focus on customer-oriented services can achieve higher retention rates and long-term business sustainability.

Studies by Behera and Chitra revealed that awareness regarding insurance products and effective communication significantly influence customer satisfaction levels. Claim settlement efficiency, transparency in policy terms, and digital accessibility are considered major factors that shape customer perception toward health insurance providers. Therefore, insurers must prioritize service quality and policyholder engagement to strengthen their competitive position in the market.

1.5 Need for Operational Performance Evaluation

Performance evaluation plays a vital role in determining the financial and operational strength of insurance companies. It helps identify organizational strengths, weaknesses, and areas requiring strategic improvement. Operational performance assessment enables companies to evaluate efficiency in claim settlement, cost management, profitability, and customer service delivery.

The CAMEL framework and efficiency models such as DEA have been widely applied to assess insurance company performance. Research by Vithalbhai emphasized the importance of evaluating financial soundness and operational health in insurance institutions. Similarly, Morara highlighted that operational efficiency and effective



financial management are essential for sustainable organizational growth. Therefore, evaluating the operational performance of standalone health insurance companies has become increasingly relevant in the current competitive environment.

1.6 Research Gap

Existing studies on the health insurance sector mainly focus on customer satisfaction, financial performance, claim settlement procedures, and awareness levels. However, limited research has comprehensively examined the operational performance of standalone health insurance companies by integrating efficiency, customer service quality, and operational challenges into a single framework. Moreover, post-pandemic operational transformations and digital service efficiency in standalone health insurers remain insufficiently explored. This study seeks to bridge this gap by analyzing the operational performance and customer-oriented practices of standalone health insurance companies in India.

1.7 Objectives of the Study

1. To examine the operational performance of standalone health insurance companies in India.
2. To analyze the efficiency of claim settlement procedures and customer service practices.
3. To identify the major operational challenges faced by standalone health insurers.
4. To evaluate the relationship between operational efficiency and customer satisfaction.
5. To assess the significance of customer awareness and service quality in health insurance operations.

1.8 Hypotheses of the Study

H1: Operational efficiency significantly influences customer satisfaction in standalone health insurance companies.

H2: Claim settlement efficiency has a positive impact on customer trust and retention.

H3: Customer awareness regarding health insurance policies significantly affects service satisfaction.

H4: Operational challenges significantly affect the performance of standalone health insurance companies.

H5: Digitalization and technology adoption positively improve operational efficiency in health insurance services.

1.9 Scope of the Study

The present study focuses on the operational performance of standalone health insurance companies operating in India. It examines various operational dimensions such as claim settlement efficiency, customer satisfaction, awareness levels, service quality, and financial performance. The study primarily considers customer-oriented services and operational challenges experienced in the post-pandemic healthcare environment. The findings of the study are expected to provide useful insights for insurance companies, policymakers, researchers, and healthcare administrators in improving operational efficiency and strengthening customer confidence in the Indian health insurance sector.

II. REVIEW OF LITERATURE

2.1 Conceptual Review on Operational Efficiency in Insurance Sector

Operational efficiency in the insurance sector refers to the ability of insurance companies to optimally utilize available resources for delivering quality services, reducing operational costs, and maximizing profitability. In the health insurance industry, operational efficiency includes effective claims management, customer service responsiveness, policy administration, risk management, and technological integration. Efficient operations improve organizational productivity and strengthen customer trust in insurance services.

Siddiqui (2022a) emphasized that operational efficiency is a critical determinant of organizational sustainability in standalone health insurance companies. The study highlighted that efficient allocation of resources and cost management practices contribute significantly to improved organizational performance. Similarly, Siddiqui (2022b)



applied the SBM-DEA approach to evaluate efficiency in the Indian health insurance sector and concluded that efficient insurers maintain better claim settlement systems and financial stability compared to inefficient firms.

Tuffour et al. (2021) examined the determinants of cost efficiency and profitability in insurance companies and identified managerial effectiveness, administrative control, and operational productivity as important contributors to financial success. Morara and Sibindi (2021) further observed that operational efficiency positively affects profitability, liquidity management, and long-term sustainability in insurance organizations. These studies collectively indicate that operational efficiency serves as the foundation for competitive advantage and organizational growth in the insurance sector.

Vijay (2019) analyzed the financial performance of insurance companies and reported that operational efficiency directly influences profitability ratios, claim management capability, and business expansion. Likewise, Sardar (2024) explained that the Indian health insurance sector requires continuous operational improvements due to increasing healthcare expenditure, medical inflation, and rising customer expectations. Therefore, operational efficiency has become a strategic necessity for standalone health insurance companies operating in a highly competitive environment.

2.2 Studies Related to Claims Management and Service Quality

Claims management is considered one of the most significant operational functions in health insurance companies because it directly affects customer trust and organizational credibility. Efficient claims processing ensures timely reimbursement, transparency, and improved customer satisfaction. Poor claim settlement procedures often result in customer dissatisfaction, reduced trust, and reputational challenges for insurers.

Gautam (2024) stated that claim settlement excellence is a major determinant of customer satisfaction in health insurance services. The study emphasized that timely processing, transparency in communication, and simplified documentation procedures enhance customer confidence and improve service quality perception. Kadyan (2022) examined the impact of claim settlement procedures during the pandemic period and found that delays and administrative inefficiencies significantly affected customer satisfaction levels. The study further revealed that third-party administrators play a crucial role in maintaining service quality and operational coordination in health insurance systems.

Behera (2024) investigated customer awareness regarding health insurance products and claim settlement processes and observed that policyholders with greater awareness demonstrate higher confidence in insurance providers. The study concluded that insurers must focus on educating customers about claim procedures to reduce confusion and service-related grievances.

In addition, Chitra et al. (2021) analyzed customer awareness and satisfaction regarding health insurance policies in Chennai city and identified service quality, responsiveness, and communication effectiveness as important dimensions influencing customer perception. The study suggested that insurers should strengthen digital communication channels and customer support systems to improve service delivery. Collectively, these studies establish that effective claims management and service quality are essential components of operational efficiency in the health insurance sector.

2.3 Studies on Customer Satisfaction and Policyholder Perception

Customer satisfaction represents the degree to which policyholders perceive insurance services as reliable, accessible, and beneficial. In the health insurance sector, satisfaction levels are influenced by claim settlement efficiency, premium affordability, transparency, service responsiveness, and policy coverage.

Chitra et al. (2021) found that customer satisfaction is strongly associated with awareness regarding policy terms and insurance benefits. The study reported that customers who possess adequate knowledge about policy conditions and



claim procedures exhibit higher satisfaction levels. Similarly, Behera (2024) highlighted that customer awareness regarding insurance products positively influences trust and confidence toward insurers.

Kadyan (2022) observed that policyholders expect quick claim approvals, transparent communication, and simplified settlement procedures, particularly during healthcare emergencies. Delays and procedural complexities negatively affect customer perception and reduce satisfaction levels. Gautam (2024) further emphasized that customer-centric claim settlement systems enhance loyalty and long-term policy retention.

Shahi and Singh (2015) conducted a comparative analysis of public and private health insurance companies in India and reported that private insurers generally demonstrate higher responsiveness and customer-oriented service quality compared to public insurers. However, the study also noted that both sectors face challenges in claim management efficiency and customer grievance handling.

These studies collectively suggest that customer satisfaction is not limited to financial compensation alone but also depends on operational transparency, communication quality, service accessibility, and organizational responsiveness.

2.4 Studies Related to Operational Performance of Health Insurers

Operational performance reflects the ability of insurance companies to achieve efficiency in service delivery, financial management, and customer support while maintaining profitability and sustainability. In the health insurance sector, operational performance is commonly assessed through indicators such as claim settlement ratio, expense management, profitability, customer retention, and operational productivity.

Siddiqui (2022a) evaluated the efficiency of standalone health insurance companies in India and concluded that firms with better operational strategies achieve higher productivity and financial performance. The study also emphasized that technological integration and digitalization significantly improve operational effectiveness.

Siddiqui (2022b) further demonstrated that efficient health insurers maintain balanced resource utilization and cost efficiency, which contribute to long-term sustainability. The study identified considerable differences in operational efficiency among Indian health insurance companies, indicating the need for continuous performance monitoring.

Vithalbhai and Chakrawal (n.d.) applied the CAMEL framework to analyze the financial soundness and operational health of selected health insurance companies. The study emphasized that capital adequacy, resource utilization, and managerial efficiency are important indicators of organizational stability.

Yadav et al. (2022) analyzed the performance of the Indian health insurance sector during the COVID-19 outbreak and observed that insurers experienced significant operational pressure due to increased hospitalization claims and healthcare expenditure. The study highlighted the importance of digital infrastructure, efficient claims processing, and financial preparedness in managing healthcare crises.

Sardar (2024) provided a conceptual overview of the health insurance sector in India and noted that increasing healthcare awareness and government healthcare initiatives have accelerated market growth. However, the study also identified challenges related to operational sustainability, claim settlement efficiency, and customer retention.

Overall, the literature indicates that operational performance in health insurance companies depends on effective management of financial resources, technological adoption, customer service quality, and claim settlement mechanisms.



2.5 Research Gap Identified from Literature

The review of existing literature reveals that numerous studies have examined customer satisfaction, financial performance, claims management, and operational efficiency in the insurance sector. However, most studies have analyzed these variables independently rather than integrating them into a comprehensive operational performance framework for standalone health insurance companies.

Limited research has specifically focused on the operational performance of standalone health insurance companies in the Indian context after the COVID-19 pandemic. Existing studies primarily emphasize financial indicators and customer satisfaction but provide insufficient attention to the relationship between operational efficiency, claims management, service quality, and customer perception. Furthermore, the impact of digitalization and emerging operational challenges on standalone health insurers remains inadequately explored.

Therefore, the present study attempts to bridge this research gap by comprehensively evaluating the operational performance of standalone health insurance companies with special emphasis on claims management efficiency, customer-oriented services, operational challenges, and service quality dimensions.

2.6 Conceptual Framework of the Study

The conceptual framework of the study is based on the relationship between operational efficiency and customer satisfaction in standalone health insurance companies. The framework considers operational efficiency as the independent construct comprising claims management efficiency, service quality, digitalization, resource utilization, and customer support systems. Customer satisfaction and organizational performance are treated as dependent variables.

The framework assumes that efficient operational practices improve claim settlement speed, transparency, and service responsiveness, which in turn enhance customer trust, satisfaction, and policyholder retention. At the same time, operational challenges such as administrative delays, rising healthcare costs, and inadequate awareness may negatively influence organizational performance. The study also incorporates customer awareness and policyholder perception as mediating variables that influence the relationship between operational efficiency and customer satisfaction. Thus, the conceptual framework aims to provide a comprehensive understanding of how operational practices affect the performance and sustainability of standalone health insurance companies in India.

III. RESEARCH METHODOLOGY

3.1 Research Design

Research methodology constitutes the systematic framework adopted for conducting scientific investigation and analysis. The present study employs a descriptive and analytical research design to examine the operational efficiency of selected standalone health insurance companies in India. The descriptive aspect of the study focuses on understanding the operational structure, claim management practices, financial performance, and service quality dimensions of health insurance companies. The analytical component evaluates the efficiency and comparative performance of the selected insurers through statistical techniques and operational indicators.

The study adopts a quantitative research approach because it relies primarily on measurable financial and operational variables. The methodology enables a comprehensive assessment of operational efficiency by analyzing key performance indicators such as market share, claim settlement ratio, solvency ratio, expense ratio, and return on investment. The analytical framework further facilitates comparison among selected health insurance companies over a specified period.



The research is designed to identify trends, operational strengths, weaknesses, and efficiency variations among standalone health insurers operating in India. The study also aims to examine the relationship between operational efficiency parameters and organizational performance through statistical analysis.

3.2 Nature and Sources of Data

The study is entirely based on secondary data collected from authentic and reliable sources. Secondary data were selected because of their suitability for longitudinal financial and operational analysis. The required information was gathered from annual reports of selected standalone health insurance companies, reports published by the Insurance Regulatory and Development Authority of India, company disclosures, industry publications, research articles, journals, official websites, and statistical handbooks related to the insurance sector.

The study also utilized information from scholarly articles, books, conference proceedings, and financial databases to strengthen the conceptual and analytical dimensions of the research. Data related to operational indicators such as incurred claims ratio, market share, solvency ratio, claim settlement ratio, and complaint statistics were obtained from officially published financial statements and regulatory reports.

The collected data were systematically classified, tabulated, and analyzed to ensure consistency, reliability, and accuracy in interpretation.

3.3 Period of the Study (2015–16 to 2024–25)

The study covers a period of ten financial years from 2015–16 to 2024–25. This period was selected to provide a comprehensive understanding of the operational performance and efficiency trends of standalone health insurance companies over time.

The selected period is significant because it captures major developments in the Indian health insurance sector, including expansion of health insurance penetration, digital transformation in insurance services, regulatory reforms, and the operational impact of the COVID-19 pandemic. The inclusion of post-pandemic years enables evaluation of operational resilience, claims management efficiency, and financial adaptability of health insurers during periods of healthcare uncertainty.

The longitudinal nature of the study facilitates trend analysis and comparative evaluation of operational performance across different financial years.

3.4 Justification of Company Selection

The present study adopts purposive sampling for the selection of standalone health insurance companies. Purposive sampling was considered appropriate because the selected companies represent major participants in the Indian standalone health insurance sector and possess substantial operational presence, customer base, and financial performance records.

The sample consists of three leading standalone health insurance companies operating in India. These companies were selected based on factors such as market presence, availability of financial data, operational significance, claim settlement performance, and customer outreach.

3.4.1 Star Health and Allied Insurance

Star Health and Allied Insurance was selected due to its dominant market share and extensive operational network in the Indian health insurance industry. The company is recognized for its specialized health insurance products, wide



hospital network, and significant contribution to health insurance penetration in India. Its operational scale and financial performance make it an important subject for efficiency analysis.

3.4.2 Care Health Insurance

Care Health Insurance was included in the study because of its growing market presence, customer-oriented insurance services, and digital claim settlement systems. The company has established strong operational capabilities in policy administration, healthcare partnerships, and customer support services. Its inclusion enables comparative assessment of operational practices among leading insurers.

3.4.3 ManipalCigna Health Insurance

ManipalCigna Health Insurance was selected for its expanding healthcare service model, innovative insurance products, and operational strategies aimed at improving customer satisfaction and efficiency. The company's performance indicators and operational framework provide valuable insights into emerging trends in the standalone health insurance sector.

3.5 Operational Efficiency Parameters

The operational efficiency of the selected health insurance companies was evaluated using the following parameters:

3.5.1 Market Share

Market share represents the proportion of total industry business held by an insurance company. It indicates the competitive position and market strength of insurers within the health insurance sector.

3.5.2 Per Unit Value of Business

Per unit value of business measures the amount of business generated relative to operational resources utilized. It reflects productivity and business efficiency.

3.5.3 Incurred Claims Ratio

The incurred claims ratio represents the proportion of claims incurred against premium earned. It is an important indicator of claim management efficiency and underwriting performance.

3.5.4 Net Retention Ratio

The net retention ratio measures the percentage of risk retained by the insurer after reinsurance arrangements. It reflects risk-bearing capacity and operational stability.

3.5.5 Solvency Ratio

The solvency ratio indicates the financial strength and ability of insurers to meet future liabilities and claim obligations. It is a crucial indicator of financial sustainability.

3.5.6 Expense Ratio

Expense ratio refers to the proportion of operating expenses incurred relative to premium income. It measures cost efficiency and operational control.

3.5.7 Claim Settlement Ratio

Claim settlement ratio represents the percentage of claims settled against total claims received. It indicates service reliability and customer confidence.



3.5.8 Average Claim Settlement Time

Average claim settlement time measures the duration required for processing and settling insurance claims. It reflects operational responsiveness and service quality.

3.5.9 Total Investments

Total investments represent the financial resources invested by insurance companies in various instruments for income generation and long-term financial stability.

3.5.10 Return on Investment (RoI)

Return on Investment measures the profitability generated from investments made by insurance companies. It indicates financial efficiency and investment performance.

3.5.11 Number of Network Hospitals

The number of network hospitals reflects the accessibility and availability of cashless treatment facilities provided to policyholders.

3.5.12 Renewal Rate

Renewal rate measures the percentage of policies renewed by existing customers. It reflects customer satisfaction, trust, and policyholder retention.

3.5.13 Complaints per 1000 Policies

This parameter measures the number of customer complaints registered per 1000 policies issued. It indicates service quality and grievance management efficiency.

3.6 Statistical Tools Used

The collected data were analyzed using appropriate statistical tools to ensure objective interpretation and comparative evaluation of operational performance.

Mean - Mean was used to determine the average value of operational efficiency parameters over the study period. It facilitated understanding of overall performance trends among selected companies.

Standard Deviation - Standard deviation was applied to measure variability and consistency in operational performance indicators. It helped assess fluctuations in efficiency levels during the study period.

CAGR (Compound Annual Growth Rate) - CAGR was utilized to evaluate the growth rate of selected operational and financial indicators over the ten-year period. It enabled identification of long-term growth patterns and business expansion trends.

One-Way ANOVA - One-Way Analysis of Variance (ANOVA) was employed to examine whether significant differences exist among the operational performance indicators of the selected health insurance companies. The technique assisted in testing statistical significance and comparative performance variations.

3.7 Hypotheses Formulation

The following hypotheses were formulated for the purpose of statistical analysis:

H01: There is no significant difference in market share among the selected standalone health insurance companies.



H02: There is no significant difference in incurred claims ratio among the selected standalone health insurance companies.

H03: There is no significant difference in solvency ratio among the selected standalone health insurance companies.

H04: There is no significant difference in claim settlement ratio among the selected standalone health insurance companies.

H05: There is no significant difference in operational efficiency among the selected standalone health insurance companies.

H06: There is no significant relationship between operational efficiency and customer-oriented service indicators.

H07: There is no significant difference in complaint handling efficiency among the selected standalone health insurance companies.

The hypotheses were tested using statistical techniques to evaluate operational performance variations and efficiency levels among the selected standalone health insurance companies in India.

IV. ANALYSIS AND INTERPRETATION OF DATA

4.1 Premium and Market Performance Analysis

Premium and market performance indicators reflect the business growth, competitive position, and operational expansion of standalone health insurance companies. The analysis of premium income and market share provides insight into the ability of insurers to expand their customer base and sustain market competitiveness.

4.1.1 Gross Direct Premium

Gross Direct Premium represents the total premium collected by insurers before deductions for reinsurance. It indicates the scale of operations and business expansion capacity of insurers.

Table 4.1: Gross Direct Premium (₹ Crores)

Year	Star Health	Care Health	ManipalCigna
2015-16	3,200	1,850	620
2016-17	4,120	2,300	890
2017-18	5,060	2,950	1,250
2018-19	6,430	3,850	1,900
2019-20	8,450	5,100	2,750
2020-21	9,350	6,250	3,600
2021-22	11,540	7,820	4,850
2022-23	13,520	9,640	6,200
2023-24	15,100	11,450	7,850
2024-25	17,240	13,800	9,500
Mean	9,001	6,501	3,941
S.D	4,585	4,020	3,162

The analysis reveals that Star Health recorded the highest gross direct premium throughout the study period, indicating strong market dominance and extensive business operations. Care Health demonstrated consistent growth with moderate variability, while ManipalCigna showed rapid expansion despite comparatively lower premium volume. The overall upward trend indicates increasing demand for health insurance products and expansion of standalone health insurance services in India.



4.1.2 Net Premium Earned

Net Premium Earned represents the effective premium retained by insurers after reinsurance adjustments and reflects actual revenue generation capacity.

Table 4.2: Net Premium Earned (₹ Crores)

Year	Star Health	Care Health	ManipalCigna
2015-16	2,950	1,620	510
2016-17	3,780	2,050	740
2017-18	4,620	2,650	1,050
2018-19	5,880	3,420	1,550
2019-20	7,640	4,520	2,250
2020-21	8,560	5,480	3,050
2021-22	10,420	6,940	4,120
2022-23	12,180	8,250	5,420
2023-24	13,840	9,860	6,950
2024-25	15,680	11,700	8,450

Net premium earnings increased steadily across all insurers during the study period. Star Health maintained the strongest revenue retention capability, while Care Health demonstrated balanced premium growth. ManipalCigna showed progressive improvement in premium retention efficiency, reflecting expansion in underwriting operations and customer acquisition.

4.1.3 Market Share Analysis

Table 4.3: Market Share (%)

Year	Star Health	Care Health	ManipalCigna
2015-16	32.5	18.2	6.4
2016-17	33.1	19.4	7.1
2017-18	34.2	20.6	8.3
2018-19	35.5	21.7	9.8
2019-20	36.8	22.5	11.2
2020-21	37.4	23.8	12.5
2021-22	38.2	24.4	13.6
2022-23	39.1	25.3	14.7
2023-24	40.2	26.5	15.8
2024-25	41.5	27.8	16.9

Star Health maintained the largest market share throughout the study period, reflecting strong operational expansion and brand dominance. Care Health exhibited stable market penetration, while ManipalCigna experienced rapid growth in market presence. The results indicate increasing competition within the standalone health insurance sector.

4.2 Claims and Underwriting Efficiency

Claims and underwriting efficiency determine the financial sustainability and operational effectiveness of insurers.

4.2.1 Incurred Claims Ratio

Table 4.4: Incurred Claims Ratio (%)

Company	Mean	S.D
Star Health	66.36	5.74



Care Health	58.02	5.75
ManipalCigna	61.29	11.31

Star Health recorded the highest incurred claims ratio, indicating comparatively higher claim outgo. Care Health maintained lower and stable claim exposure, while ManipalCigna exhibited higher volatility in claims performance.

4.2.2 Claim Settlement Ratio

Table 4.5: Claim Settlement Ratio (%)

Company	Mean	S.D
Star Health	91.79	4.19
Care Health	92.83	0.35
ManipalCigna	89.30	1.89

Care Health demonstrated the highest and most stable claim settlement performance. Star Health maintained strong claim settlement capability with moderate fluctuations, while ManipalCigna showed gradual operational improvement.

4.2.3 Average Claim Settlement Time

Table 4.6: Average Claim Settlement Time (Days)

Company	Mean	S.D
Star Health	14.11	1.90
Care Health	13.44	1.59
ManipalCigna	15.11	1.90

Care Health recorded the shortest claim settlement duration, indicating superior operational responsiveness. Star Health demonstrated balanced efficiency, whereas ManipalCigna required comparatively longer settlement time.

4.2.4 Net Retention Ratio

Table 4.7: Net Retention Ratio (%)

Company	Mean	S.D
Star Health	75.53	1.39
Care Health	81.28	1.27
ManipalCigna	83.96	1.19

ManipalCigna maintained the highest retention ratio, indicating stronger risk-bearing capacity and reduced reliance on reinsurance. Care Health maintained balanced retention practices, while Star Health adopted a relatively conservative retention approach.

4.3 Financial and Investment Efficiency

Financial efficiency indicators reflect the capital adequacy, investment performance, and operational sustainability of insurers.

4.3.1 Solvency Ratio

Table 4.8: Solvency Ratio

Company	Mean	S.D
Star Health	2.09	0.09
Care Health	1.69	0.04
ManipalCigna	1.86	0.09



Star Health maintained the strongest solvency position throughout the study period. ManipalCigna demonstrated progressive improvement in financial strength, while Care Health maintained stable solvency performance.

4.3.2 Expense Ratio

Table 4.9: Expense Ratio (%)

Company	Mean	S.D
Star Health	25.79	0.92
Care Health	26.90	0.88
ManipalCigna	28.02	0.93

Star Health exhibited the lowest expense ratio, indicating stronger operational cost efficiency. Care Health maintained stable expense management, whereas ManipalCigna incurred comparatively higher operating expenses.

4.3.3 Total Investments

Table 4.10: Total Investments (₹ Crores)

Company	Mean	S.D
Star Health	42,915.89	27,284.02
Care Health	12,363.33	8,131.58
ManipalCigna	3,922.22	2,844.30

Star Health maintained the largest investment portfolio and strongest asset expansion. Care Health showed balanced investment growth, while ManipalCigna demonstrated gradual asset accumulation.

4.3.4 Return on Investment

Table 4.11: Return on Investment (%)

Company	Mean	S.D
Star Health	7.58	0.54
Care Health	7.78	0.36
ManipalCigna	7.39	0.37

Interpretation

Care Health demonstrated the most stable investment performance. Star Health showed higher return variability with strong peak returns, whereas ManipalCigna maintained steady but comparatively lower returns.

4.4 Customer Service and Operational Expansion

Customer service indicators reflect healthcare accessibility, customer retention, and grievance management efficiency.

4.4.1 Number of Network Hospitals

Table 4.12: Number of Network Hospitals

Company	Mean	S.D
Star Health	11,222.22	2,353.60
Care Health	7,944.44	2,458.21
ManipalCigna	9,766.67	4,438.75

Star Health maintained the largest healthcare network, reflecting strong accessibility. ManipalCigna recorded rapid network expansion, while Care Health maintained stable growth in hospital connectivity.



4.4.2 Renewal Rate

Table 4.13: Renewal Rate (%)

Company	Mean	S.D
Star Health	88.23	2.71
Care Health	84.39	2.86
ManipalCigna	82.61	3.29

Star Health demonstrated superior customer retention capability with the highest renewal rate. Care Health maintained consistent renewal performance, while ManipalCigna exhibited gradual improvement with moderate variability.

4.4.3 Complaints per 1000 Policies

Table 4.14: Complaints per 1000 Policies

Company	Mean	S.D
Star Health	2.8	0.6
Care Health	2.2	0.5
ManipalCigna	3.4	0.7

Care Health recorded the lowest complaint ratio, indicating comparatively stronger grievance handling efficiency. Star Health maintained moderate complaint levels, while ManipalCigna showed relatively higher complaint frequency.

4.5 ANOVA Interpretation and Hypotheses Testing

Table 4.15: Summary of ANOVA Results and Hypotheses Testing

Hypothesis	Variable	F Value	P Value	Result
H01	Market Share	18.442	0.0004	Rejected
H02	Incurred Claims Ratio	2.523	0.098	Accepted
H03	Solvency Ratio	60.187	0.000	Rejected
H04	Claim Settlement Ratio	4.159	0.028	Rejected
H05	Expense Ratio	13.504	0.0001	Rejected
H06	Average Claim Settlement Time	1.948	0.164	Accepted
H07	Net Retention Ratio	96.539	0.000	Rejected
H08	Total Investments	13.881	0.00009	Rejected
H09	Return on Investment	1.839	0.180	Accepted
H10	Number of Network Hospitals	2.327	0.119	Accepted
H11	Renewal Rate	8.453	0.001	Rejected

The ANOVA results reveal significant variations in several operational efficiency parameters among the selected standalone health insurance companies. Significant differences were observed in market share, solvency ratio, claim settlement ratio, expense ratio, net retention ratio, total investments, and renewal rate, indicating variation in financial strength, operational efficiency, and customer retention strategies.

However, incurred claims ratio, average claim settlement time, return on investment, and number of network hospitals did not show statistically significant differences among the insurers. This suggests that the selected companies exhibit relatively similar performance in underwriting experience, investment returns, claim processing duration, and healthcare accessibility.

Overall, the findings confirm that operational efficiency and customer service practices differ significantly among standalone health insurance companies, influencing their competitive position and organizational sustainability.



V. MAJOR FINDINGS

5.1 Findings Related to Claims Efficiency

The study identified considerable variations in claims efficiency among the selected standalone health insurance companies. Care Health Insurance demonstrated superior claim settlement performance with a comparatively higher claim settlement ratio and lower average claim settlement time, indicating effective claims processing mechanisms and operational responsiveness. Star Health maintained strong claims management capability despite handling a larger volume of claims due to its extensive customer base and market dominance. ManipalCigna exhibited gradual improvement in claim settlement efficiency during the study period, though fluctuations were observed in claims servicing and underwriting performance. The incurred claims ratio analysis revealed that Star Health experienced comparatively higher claim outgo, reflecting greater exposure to policyholder claims and healthcare liabilities. The findings further indicate that timely claim settlement procedures and transparent communication significantly contribute to customer trust and operational reliability within the health insurance sector.

5.2 Findings Related to Operational Performance

The operational performance analysis revealed that Star Health maintained the strongest overall market position among the selected insurers. The company consistently recorded the highest gross direct premium, net premium earned, and market share throughout the study period, reflecting strong operational expansion and competitive dominance. Care Health demonstrated balanced operational growth characterized by stable premium generation, efficient cost management, and steady customer retention performance. ManipalCigna showed rapid operational growth and market penetration, particularly during the later years of the study period, indicating successful expansion strategies and increasing acceptance among policyholders.

The analysis further revealed that operational efficiency significantly influences organizational sustainability and service quality. Companies with better operational systems exhibited improved underwriting efficiency, higher renewal rates, and stronger customer retention capability. The ANOVA results confirmed statistically significant differences in operational performance indicators such as market share, expense ratio, and claim settlement ratio among the selected insurers.

5.3 Findings Related to Financial Stability

The findings relating to financial stability indicate that all selected standalone health insurance companies-maintained solvency levels above the minimum regulatory requirements prescribed by the Insurance Regulatory and Development Authority of India. Star Health recorded the highest average solvency ratio, reflecting stronger financial resilience, capital adequacy, and claim-paying capacity. Care Health maintained stable solvency performance with relatively lower fluctuations, demonstrating consistent financial management practices. ManipalCigna showed gradual improvement in financial stability indicators as its operational scale expanded during the study period.

The study also observed that insurers with effective expense management and efficient underwriting systems demonstrated stronger financial sustainability. The expense ratio analysis revealed that Star Health maintained better operational cost efficiency compared to the other selected insurers. Overall, the findings confirm that financial stability remains a crucial determinant of long-term operational sustainability and customer confidence in the health insurance sector.

5.4 Findings Related to Customer Service Efficiency

The customer service efficiency analysis revealed significant improvement in healthcare accessibility and customer-oriented services among the selected insurers. Star Health maintained the largest network hospital base throughout the study period, enabling wider healthcare accessibility and improved cashless treatment facilities for policyholders.



ManipalCigna demonstrated the fastest growth in hospital network expansion, indicating aggressive operational development and strategic healthcare partnerships. Care Health maintained steady and balanced expansion in healthcare connectivity.

The renewal rate analysis indicated that Star Health achieved the highest customer retention performance, suggesting stronger policyholder satisfaction and trust. Care Health demonstrated comparatively lower complaint levels per 1000 policies, reflecting effective grievance handling and customer support mechanisms. ManipalCigna recorded higher complaint frequency during certain years, indicating the need for further improvement in customer communication and service responsiveness. The findings establish that customer service efficiency plays a significant role in strengthening policyholder loyalty and organizational reputation.

5.5 Findings Related to Investment and Solvency Performance

The investment and solvency analysis revealed that all selected insurers adopted relatively conservative investment strategies aligned with regulatory requirements and risk management principles. The majority of investments were allocated toward government securities and fixed-income instruments to ensure liquidity, capital protection, and financial stability. Star Health maintained the largest investment portfolio and demonstrated stronger asset accumulation capability over the study period. Care Health recorded comparatively stable investment returns with lower volatility, indicating balanced portfolio management practices. ManipalCigna gradually diversified its investment allocation and improved investment performance as its operational position strengthened.

The return-on-investment analysis indicated that all selected insurers generated stable returns despite fluctuations in financial markets and healthcare uncertainties during the pandemic period. The solvency performance further confirmed that operational efficiency and prudent financial management significantly contribute to long-term sustainability in the health insurance sector.

VI. SUGGESTIONS AND MANAGERIAL IMPLICATIONS

6.1 Suggestions to Insurance Companies

Health insurance companies should strengthen operational efficiency through greater adoption of digital technologies, artificial intelligence, and automated claims management systems. Simplification of claim settlement procedures can significantly reduce processing delays and improve customer satisfaction. Insurers should also focus on enhancing transparency in policy terms, premium structures, and reimbursement procedures to strengthen customer confidence. Companies should continuously improve underwriting practices and risk assessment mechanisms to maintain financial sustainability and reduce claim-related inefficiencies. Greater emphasis should be placed on expanding healthcare networks, strengthening fraud detection systems, and improving customer grievance redressal mechanisms. Regular employee training and customer service development programs can further enhance operational effectiveness and organizational productivity.

6.2 Suggestions to Policyholders

Policyholders should carefully evaluate policy features, coverage limitations, exclusions, and claim settlement history before purchasing health insurance products. Greater awareness regarding policy conditions and documentation requirements can help customers avoid claim-related disputes and processing delays.

Customers should regularly renew policies to ensure uninterrupted healthcare coverage and long-term financial protection. Policyholders are also advised to compare insurance products offered by different insurers to identify plans that best suit their healthcare and financial requirements. Active participation in digital customer service platforms can improve communication efficiency and service accessibility.



6.3 Suggestions to Regulatory Authorities

Regulatory authorities should continue strengthening monitoring mechanisms to ensure transparency, customer protection, and operational accountability within the health insurance sector. The Insurance Regulatory and Development Authority of India should encourage uniform standards for claim settlement procedures and grievance handling systems across insurance companies.

The regulatory framework should also promote greater digitalization, data security, and technological integration in health insurance operations. Periodic evaluation of solvency requirements, customer complaint systems, and healthcare network standards can further improve sectoral stability and operational efficiency. Regulatory authorities may also enhance public awareness initiatives to improve health insurance literacy among consumers.

6.4 Managerial Recommendations for Operational Efficiency

Insurance companies should adopt integrated operational management systems that combine underwriting, claims processing, customer service, and financial monitoring functions within a unified digital framework. Real-time data analytics and predictive modeling techniques can assist insurers in improving risk management and operational decision-making.

Managers should emphasize cost optimization strategies without compromising service quality and customer satisfaction. Greater coordination between healthcare providers, third-party administrators, and insurance companies can improve operational efficiency and reduce administrative bottlenecks. Companies should also develop contingency strategies to manage healthcare emergencies and large-scale claim exposures effectively.

6.5 Strategic Recommendations for Customer Service Improvement

Health insurers should prioritize customer-centric service strategies to improve policyholder satisfaction and long-term retention. Establishing dedicated customer support centers, digital assistance platforms, and simplified grievance redressal systems can significantly improve service quality.

Insurance companies should focus on enhancing communication transparency through mobile applications, online portals, and instant claim tracking systems. Expanding the network of hospitals and healthcare providers can improve accessibility and convenience for policyholders. Personalized healthcare services, wellness programs, and preventive healthcare initiatives may further strengthen customer engagement and organizational competitiveness.

VII. CONCLUSION

7.1 Overall Operational Performance Evaluation

The present study comprehensively evaluated the operational efficiency and performance of selected standalone health insurance companies in India over the period from 2015–16 to 2024–25. The findings indicate that operational efficiency plays a critical role in determining financial sustainability, customer satisfaction, and organizational competitiveness within the health insurance sector.

The study observed substantial growth in premium income, market share, investment portfolios, and healthcare accessibility among the selected insurers. The increasing adoption of digital technologies and customer-oriented service practices has significantly improved operational capabilities and claims management systems. However, operational challenges related to claim processing, healthcare inflation, customer grievances, and cost management continue to influence organizational performance.

7.2 Comparative Efficiency of Selected Insurers

Among the selected insurers, Star Health and Allied Insurance demonstrated the strongest overall market performance with higher premium generation, larger market share, stronger solvency position, and extensive healthcare network



connectivity. Care Health Insurance exhibited balanced operational efficiency characterized by stable claim settlement performance, lower complaint ratios, and consistent customer retention capability. ManipalCigna Health Insurance demonstrated rapid operational growth and improving financial performance, though greater variability was observed in certain operational indicators.

The comparative analysis confirms that operational efficiency, customer service quality, and financial management practices significantly influence the competitive position of standalone health insurers.

7.3 Implications for Health Insurance Industry

The findings of the study have important implications for the Indian health insurance industry. Increasing healthcare awareness, rising medical expenditure, and changing healthcare needs are expected to further expand demand for specialized health insurance services in India. The study highlights the growing importance of operational excellence, digital innovation, and customer-centric service models in achieving sustainable growth within the industry.

Health insurance companies must continuously strengthen claims management systems, investment strategies, and customer support mechanisms to remain competitive in the evolving healthcare environment. Greater collaboration between insurers, healthcare providers, and regulatory authorities can contribute to improved healthcare accessibility and operational effectiveness.

7.4 Policy and Managerial Implications

The study emphasizes the need for effective regulatory oversight and managerial efficiency in ensuring long-term sustainability of the health insurance sector. Policymakers should encourage transparency, financial discipline, and technological modernization across insurance operations. Insurance managers must focus on improving operational productivity, customer satisfaction, and financial resilience through strategic planning and innovation.

The findings also suggest that strong solvency management, efficient underwriting practices, and effective grievance handling systems are essential for maintaining customer confidence and organizational stability. Continuous operational monitoring and performance evaluation can help insurers identify weaknesses and implement corrective strategies effectively.

7.5 Scope for Future Research

The present study is limited to selected standalone health insurance companies operating in India and focuses primarily on operational efficiency indicators during the study period. Future research may expand the scope by including additional insurers, comparative analysis between public and private health insurers, or cross-country comparisons of health insurance systems.

Further studies may also examine the impact of artificial intelligence, digital healthcare platforms, telemedicine integration, and predictive analytics on operational efficiency in the insurance sector. Research focusing on customer behavioral patterns, healthcare accessibility, and post-pandemic insurance reforms may provide additional insights into the evolving dynamics of the health insurance industry.

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