

# Analyzing The Use Of Technology In Health Insurance Sector In India

NLDIMSR Innovision Journal Of Management Research,  
Jan - Dec 2019, Volume 3, Issue 1 & 2  
DOI: 10.31794/NLDIMSR.3.1-2.2019.9-15

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## **Abstract**

A new conceptualization of organizational agility can help insurance companies adapt more swiftly to changing customer needs, competitor responses, and regulatory guidelines-without changing its organizational structure. Health insurance plays a major role in minimizing the financial burden of poor due to illness and diseases. Health care insurance industry is a part of general insurance. It is now becoming an emerging tool to govern the needs of people who seek health services. Today, various health insurance schemes are available in the market and providing benefits from an individual to entire family. Public sector has also adapted to this agility by launching new schemes – Ayushman Bharat. The overall percentage of India's budget for health sector is lowest and expenditure on health care is mostly out of pocket. Now government trying to expand health insurance sector to reach to the every strata of the country and hence to health cost. With our country expecting double-digit growth over the next five years, health will play a major role in providing young and energetic workforce for the country. The twelfth five-year plan has already emphasized the need for more organized health insurance coverage in order provides financial protection to a large chunk of working class segment. This paper examines the present status of health insurance in India, innovation in health insurance sector and challenges faced by it. It also looks into the role of both public and private health insurance players to reach maximum coverage in health insurance.

*Keywords—Insurance, Agility, Public and private sector*

## **Introduction**

The liberalization of the insurance sector in India in 2000 changed the scenario of insurance industry in India with the foreign direct investment (FDI) permitted up to 26% of equity since its launch in 1986. The insurance industry has been at the forefront of economic development in India. Gross premiums have grown at a CAGR of 7.2% over the last decade, pushing the country's sector into the league of larger insurance economies globally. During this period, the behaviour of customers has also changed significantly, with 20–25% of them now using digital channels to understand and compare insurance products. In last decade Indian health insurance industry has become an essential part of health landscape as the increasing number of insured person of health insurance policy in India. The health Insurance companies are playing an important role in the administration of Government-Funded Health Insurance Schemes (GFHISs). Social economic healthcare is directly proportional to health of community, economic development is gaining momentum over last decades because of government initiatives in public health care facilities. The Healthcare Access and Quality (HAQ Index) in India is improving slowly and steadily from 153 in 1990 to 145 in 2018.

A growing population has increased demand for services and the need to manage healthcare plans and benefits. It is observed that an individual and a family live a joyful and prosperous life when they live a healthy life without having to worry about any unforeseen medical issues. Medical needs may adversely effect on financial commitment and it leads to immediate cashflows. The regular savings are withdrawn which hinders to achieve our

long term financial goals. So Health insurance overcomes such limitations. It will help in maintaining the good health without disturbing the financial stability.

In today's competitive environment, businesses in all industries, including healthcare are undergoing profound changes. One of the greatest forces of modification in the twenty-first century is the impact of technology, which impacts our communications, entertainment, personal finances, and our ability to know about the world around us. Ironically, this technology has not impacted us at a most personal level how we find and receive health care. This paper looks at the advancement and application of technology to health care delivery and will provide a brief analysis of how technology has played a major role in bringing agility in health care industry. Health Insurance companies require to adapt to the changing mindset behaviour of consumer, so agility in the health insurance sector will help the sector to grow quickly and will also be beneficial for the people. Technological agility in the health insurance will make people to understand more about the insurance policies that will help people to improve the health conditions .

### Literature Review

The twentieth century witnessed the emergence of numerous life insurance companies in India. The National Insurance Company was founded in 1906, still exists today, and is the oldest life insurance company in India. An insurance act introduced health insurance in 1912. Life insurance was and continues to be the most popular form of insurance in India because of historically low life expectancy in India and closely knit family structure .The life expectancy at birth in India was 25 years in 1921 and fell to 23 years in 1931. In 1956, the formation of the Life Insurance Corporation (LIC) nationalized life insurance. In 1948, the first government sponsored health insurance program of India, employees state insurance was conceptualized for the blue-collared private sector workers.

Preeti Singh & Timira Shukla (2018), have examined in their research that family income is not the reason for ignorance of health insurance, there is a lack of awareness of usefulness of such schemes. The presence of government hospitals providing free treatment was another attraction in place of payment of health insurance premium.

K. Swathi, R. Anuradha (2017), are studied that maturity amount of health insurance is one of the reason to mitigate the financial losses and to achieve peace of mind.

Dr. Y. Nagaraju Associate Professor, Canara Bank School of Management Studies Bangalore University, Bangalore (2014), The health system should be regulated and higher amount of transparency and standardization needs to be ensured.

### Objective

The primary aim of this research is to understand how technology has led to agility in health insurance sector. This is done by studying the factors and processes that affect the behavior of insurer while selecting a suitable health insurance plan. and also to study how technology affects insurers while choosing their plan and eases the disbursement of insurance at the time of maturity in India. The research paper addresses the following research objectives.

- To study the need of technology in health insurance sector .
- To study the channels of creating awareness about the health insurance policies among insurer.
- To study the purchasing behaviour of insurer while selecting the insurance plan.
- To study the role of technology in mitigating the issues faced by insure

### Research Methodology

#### Data Collection:

Both type of data that is Primary and Secondary data has been used in the research to fulfil the objectives and for proving hypothesis. Primary data has been collected through questionnaire that consists of questions related to how technology is playing its role in health insurance sector. For research, work data has been collected from 90 people through questionnaire. The sampling method is convenience sampling. Out of these 90 people (50.5%), people are from tier 1 cities, (29.7%) are tier 2 and rest (19.8%) people are below tier 2 cities. As per educational qualification

(29.7 %) people are postgraduate, (60.4%) people are graduated and rest (19.9%) people are there are below graduates. The secondary data has been collected through official website and annual reports of companies like Mckinsey, E&Y, IRDA etc. Apart from it data from different research papers, newspaper articles and reports has also been used as per need.

**Analysis And Interpretation**

**Hypothesis:**

After analyzing and reviewing the current scenario of health insurance industry, we would like to study the relations between technology and health insurance sector.

- To check the dependence between geographical area and the need of application in health insurance among insurer. Null Hypothesis– Geographical area and need of app for health insurance are independent Alternate Hypothesis- Geographical area and need of app for health insurance are dependent Therefore, for this we are using chi-square test and data for this is taken from a survey of 91 respondents.

Count of 12. Do you think is there need of any app for health insurance, that record your health ststus every month ?	Observed Value			Expected Value		Chi Square Value	
	No	Yes	Total	No	Yes		
Other	4	2	6	2.43	3.57	1.02	0.69
Small towns	3	4	7	2.83	4.17	0.01	0.01
Tier 1-Mumbai, New Delhi, Chennai, Kolkata, Bengaluru, Hyderabad,	14	31	45	18.20	26.80	0.97	0.66
Tier2 -Pune, Nashik, Nagpur, Jodhpur,jaipur,Bikaner,Gwalior, Indore, Bhopal etc.	11	15	26	10.52	15.48	0.02	0.02
Tier 3	4	1	5	2.02	2.98	1.93	1.31
<b>Grand Total</b>	36	53	89				

Table 8.1 – Chi square value w.r.t geographical place of living of respondent and need of app in health insurance.

Observed Value	6.64
Level of Significance	5%
Degree of freedom	4
Critical Value	9.49

Table 8.2 – Detailed value for chi square comparison

As, Observed Chi square value is 6.64 < Critical Chi square value is 9.49 .So, the Null Hypothesis is accepted i.e. there is no relation between the geographical background and need for the application in health insurance.

- To check the dependence between Educational Qualification and the need of application in health insurance among  
 Null Hypothesis – Educational Qualification and application for health insurance are independent  
 Alternate Hypothesis- Educational Qualification and application for health insurance are dependent  
 Therefore, for this we are using chi-square test and data for this is taken from a survey of 90 people.

Count of 12. Do you think is there need of any app for health insurance, that records your health status every month?	Observed Value			Expected Value		Chi Square Value	
	NO	YES	TOTAL	NO	YES		
Graduate	18	35	53	21.4382	31.5618	0.55141	0.374543
Matricor 10th Passed	5	4	9	3.640449	5.359551	0.507733	0.344876
Post-Graduate and Above	13	14	27	10.92135	16.07865	0.395628	0.268729
<b>Grand Total</b>	36	53	89				

Table 8.3 – Chi square value w.r.t education qualification of respondent and need of app in health insurance.

Observed Value	2.44
Level of Significance	5%
Degree of freedom	2
Critical Value	5.99

Table 8.4 – Detailed value of chi square comparison

As, Observed Chi square value is less than the critical Chi square value is 9.49 .So, the Null Hypothesis is accepted i.e. there is no relation between the Educational Qualification and need for the application in health insurance.

- To study the role of technology in mitigating the issues faced by the insurer, we are conducting the Z -Test of hypothesis to check the whether the technology will help in mitigating the issues.

Null Hypothesis –At most 50 % of sample believe that the technology will help in mitigating the issues

Alternate Hypothesis – More than 50% people believe that technology will help in mitigating the issues

$\alpha = 0.05$  (Level of Significance)

p = Percent of sample who believe technology will change in mitigating the insurer issues = 63.8% = 0.638

$$Z = \frac{p - \Pi}{\sqrt{\frac{\Pi(1 - \Pi)}{n}}}$$

Where P= sample proportion

$\Pi$  = Population proportion

n =Sample size

In our case, Sample size (n) is 91 and Population proportion is considered 50% i.e. 0.50

Sample proportion is 63.8 % i.e. 0.638 .This is taken from the survey response who have answered, technology will help in mitigating the insurer issues and process.

$$Z = \frac{0.638 - 0.5}{\sqrt{\frac{0.5(1-0.5)}{91}}}$$

Z= 2.63(calculated value)

Z= 1.64 (For 95% Level of Significance)

As, Z(calculatedvalue) > Z(criticalvalue)

Hence,More than 50% of sample believes that the technology will help in mitigating the insurance issues faced by the insurer.Also the question number 13 is asked in the questionnaire related to the to which extent the technology will help in mitigating the insurance claim process. 1 represents – Not help and 5 represents –very helpful .

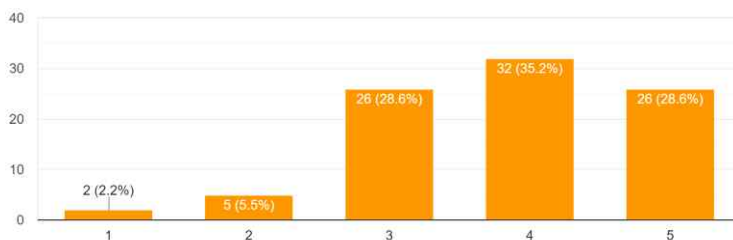


Fig 8.5 – Response of respondents in extent the technology will help in mitigating the insurance claim process.

- To determine the need of app for health insurance for recording the health status as asked in question 12 in survey ,where 1 represents No need of app and 5 represents the High need of app.

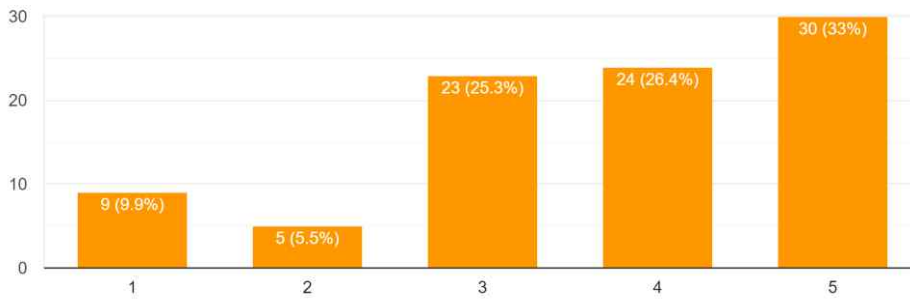


Fig 8.6 – Response of respondents about the need of app for recording health status

From the above graph where we have a given a scale (1 being the lowest and 5 being the highest) to the need of an app that records the health status of insurer, we can conclude that above 50% of respondents are in favor of the application.

- To study various channels in creating awareness of insurance policy among insurers using the question no 8 asked in the questionnaire regarding from where people get awareness about the insurance products.

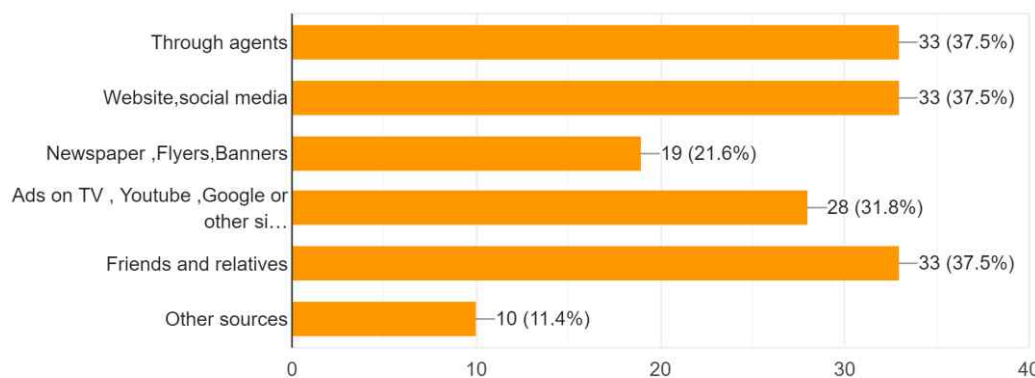


Fig 8.7 – Response of respondents about awareness of different channels of selecting health insurance policy

From the above graph we can conclude that offline information channels of health insurance are still preferred over the online channels of information by insurers while selecting a health insurance policy.

- To determine the behavior of insurer while selecting insurance policy question no 11 was asked regarding to what extent cost matter in the selection of insurance plan. In which the 1 represents – low preference and 5 represents – high preference.

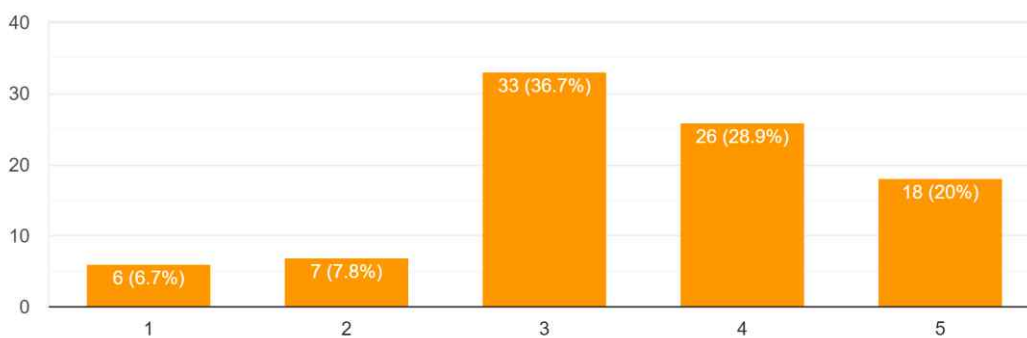


Fig 8.8 – Response of respondents about the importance of cost while selecting insurance policy

From the above graph where we have a given a scale (1 being the lowest and 5 being the highest) to cost of health insurance policy, we can conclude that the insurer does give importance to cost while selecting a policy.

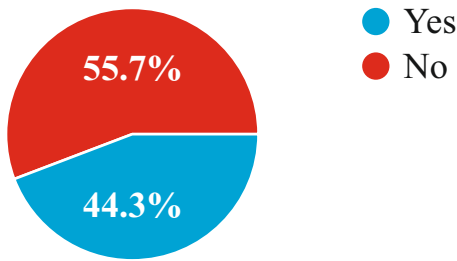


Fig 8.9– Response of respondents about the mode of selecting insurance policy

From the above pie chart, we can conclude that the insured persons still prefer offline mode for selecting health insurance policy rather than online mode, as the question no 10 in the questionnaire was asked which mode of selection is considered while selecting insurance plan.

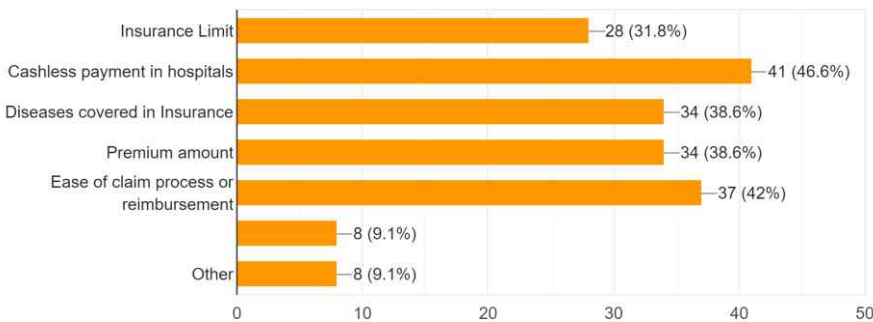


Fig 8.10 – Response of respondents about the preference given to different attributes by insurer

From the above graph we can conclude that the insured persons give more preference to cashless payment in hospital, ease of claim process rather than diseases covered and premium amount while selecting a health insurance policy. As the question no 9 was asked in the questionnaire regarding the what factors are considered while selection of health insurance .

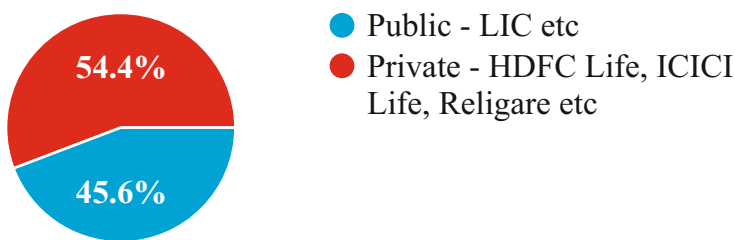


Fig 8.11 – Response of respondents about selection of the policy from given sector

From the above pie chart, we can conclude that the insured persons prefer private companies for selecting health insurance policy rather than public company .As the question no 7 was asked in the questionnaire regarding which sector do you select the health insurance from public or private ltd.

## VI. CONCLUSIONS

From the above research on the health insurance sector we came to conclusion that majority of people think that app will be beneficial in the health insurance to keep record of the health status and policy details, bring ease in payment of premiums, visibility and transparency in the claim procedure of the health insurance policy.

We analyzed that geographical and education background are independent factors respect to selection Still people want to get insured through agents instead of online platforms like social media, websites, etc.,this shows lack of awareness of online medium of insurance

.People still have a psychological mindset about getting insurance details from expert person (Agent)

The consumer behavior and purchasing power of the insurer indicates that the customers are not very much



oriented towards the cost but give more preference to cashless payment in hospitals than ease of claim process and reimbursement insurer's prefer better qualitative attributes over quantitative attributes in selection of policy. Insurer prefers private insurance companies over the public insurance companies probably because of better services provided by them.

More than 50 % people think that the technology will play a major role in mitigating issues like reducing payment cycle time while issuing an insurance policy and also at the time of claim settlement .

The selection and buying of policy involve human interaction i.e. expert suggestion and benefits of the insurance policy i.e. cashless payment, ease of claim process that would be done by health insurance app.

## VII. RECOMMENDATIONS

The recommendation for the health insurance from the above research is as below:

- 1) Increase awareness about the health insurance through social media, websites because according to reports, insurance industry is going to boom by 2030. So to support this growing industry, technology will play a crucial role in creating awareness among insurer.
- 2) Insurance companies should conduct various awareness programs, seminar should be organized, and campaign on the large scale will help to educate more unaware people about the technology.
- 3) Creative application should be developed by insurance companies, which has fitness tracking and records the life style of the insured person using the lifestyle data and analyzing the health status. If the insurance companies know it then it will help to improve the health of the people in India because of suggestion by insurance companies at early stage.
- 4) The insurance app should be more connected with other payment apps like Paytm, PhonePe so that there is diversification in mode of payment.
- 5) Training program should be conducted across the country for the use of app among people to make them acquainted with the different functions in the app.

### Limitations:

Due to time limit we have to keep our sample size small. The study can be further expanded with larger sample size.

## VIII. REFERENCES

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