

Ranking the Critical Buying Factors of Private Health Insurance using Analytic Hierarchy Process

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Abstract

It is usually a significantly complex decision to buy private health insurance. There are multiple factors which influence a buyer's decision before s/he decides to buy a health insurance policy. In an Indian context it becomes even more imperative to know the exact influencing factors which can lead towards a purchase of private health insurance especially by consumers from low earning groups. This paper presents an identification of factors which influence the decision of buying health insurance product by specific consumer groups namely Auto Rickshaw Drivers, Cab Drivers, Panwalla, Women home maids in an Indian perspective as seen by expert sales professionals who have sold specific products to these consumer groups. Ten expert sales professionals were presented with a collection of nine important factors which influence buying of private health insurance and through Analytic Hierarchy Process were requested to identify and rank the factors which they considered most influential from the point of view of specific consumer groups. The Analytic Hierarchy Process approach identifies and ranks Premium, Customer Service and Claims settlement history as the top three criterions in private health insurance buying. This analysis offers insights into the expectations of specific consumer groups from private health insurance providers.

1. Introduction

Health service support system although predates to 1940 in India there is still a large section of population which is not secured against health service requirements. Lower penetration or density of Health Insurance is an identified & acknowledged issue. It however becomes even more serious area of concern when it is studied for the Bottom-of-the-Pyramid (BoP) population¹².

The authors of World Bank report estimate that about 300 million persons i.e. about 25% of India's population, have access to some form of health insurance⁸.

Even if the report projects spread of some form of Health Insurance to 630 million persons by 2015, it represents only 52% of the population as compared to 2011 census population. This indicates that there is a substan-

tially large population in India which can remain away from financial security in case of medical emergencies, providing a huge opportunity for an organized technology based solution to reach the masses for their needs.

It is fast becoming imperative to visualize possibilities of sharing responsibilities towards mitigating health related risks and expenses thereafter. This research is an attempt to identify and rank key factors which influences the buying of private health insurance especially among the specific low income consumer groups.

2. Review of Literature

The current status of Healthcare and Health Insurance in India⁸ *Government Sponsored Health Insurance in India – Are you covered? the World Bank report* is an intuitive and

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all-inclusive analysis of Health care system in India. It outlines the current success and future challenges with a host of recommendations for future health care strategies. One of the conclusions drawn in this study outlines the importance of coverage extension with focus on the poor. It also foresees that the trend of covering lower socioeconomic groups will continue in the future. The report emphasizes on accessibility and financial protection while admitting that the borrowings to pay for hospitalization has been reduced for beneficiaries through various schemes. It highlights the enormity of consequences of poor person's not having Insurance can leave him or her facing the grim prospect of foregoing treatment, treating self (usually self-medication) or incurring catastrophic expenses for an inpatient stay. The estimated health insurance coverage 2003-04 through to 2015 forecast in million people is indicated in the graph above. These numbers forecast a 64% jump in enrollment with central schemes and a 191% increase towards private insurance.

In its Annual report for 2011-2012 IRDA (IRDA Annual Report, 2011-12)¹² states that for a balanced and speedy expansion of insurance coverage in the country the authority has put in place regulatory framework; laying down obligations of insurer to the rural and social sectors. The report gives credit to standardization of procedures and definitions across the industry for the rapid growth in Health Insurance. In line with this growth IRDA as on Mar 2012 has granted license to three insurance companies to operate as Stand-alone health insurance companies. IRDA report also provides positive indications with reduced Incurred claims ratios for health segment for both public and private sector. For Public sector the incurred claims ratio (net incurred claims to net premium) for health was 100.28 during 2011-12 as against 106.31% in 2010-11. The same for private sector has shown reduction from 85.15% to 77.80%.

From a social perspective in Health Insurance through Rashtriya Swasthya Beema Yojna (RSBY) 27.9million BPL (Below Poverty Line) families were enrolled till Feb 2012. Around 142 million people stayed with a family-with-an-RSBY-card. Also 1.60 million Hospitalization cases were reported till Feb 2012^{18,21}.

In her article in Economic & Political Weekly, Too Little Too Late- RSBY in Maharashtra, Sujata Gothoskar,¹⁰ clearly outlines the complexities of running national level health insurance schemes for the unorganized workers. With 836 million i.e. approx 77% of population constituting India's informal economy lives below \$0.4 a day, with

difficult working conditions, long working hours, little or no rest and holidays nor proper nutrition.

In June 2013, the union cabinet approved extending of Rashtriya Swasthya Bima Yojana (RSBY) to rickshaw-pullers, ragpickers, mineworkers, sanitation workers, autorikshaw drivers and taxi drivers. This was being anticipated as a facilitation of health cover for these specific sections of workforce⁵. There however seems to be much confusion between schemes¹⁴ and the Government of Maharashtra wishes to extend Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY) instead of central RSBY scheme². Domestic workers were also to be included in RSBY and even that inclusion has not gone far ahead procedurally.

Having existed and executed for few years researchers have been able to study effectiveness of RSBY programme through experiences of different aspects^{17,11,15,7}. A case study report on social exclusion and RSBY in Maharashtra outlines significant shortcomings and flaws in the design and implementation of the RSBY programme along with the voice of the people who are supposed to be covered under this scheme¹⁹. It overwhelmingly outlines the shortcomings of the scheme in terms of limited enrollment camps, non-receipt of cards, lesser clarity on diseases covered, less clarity on number of family members covered, complexities in awareness about policy renewals and utilizations of benefits through limited number of linked hospitals.

A study on the effect of Out-Of-Pocket expenditure^{11,16} indicates that it clearly has an impact on poverty, pushing especially those who are slightly above poverty line into poverty and those above poverty line into further impoverishment. It also states that till a mass extension of health coverage inclusive of catastrophic expenses occurs, health will continue to be an additional factor inducing poverty.

The description of current status above is capable of initiating a possible shift towards private health insurance as an avenue for mitigating health related risks & resulting financial risks thereafter. This is even more sensitive in an Indian context when low income groups are considered and their capacity to withstand a financial shock during a medical emergency is investigated. It is hence imperative to clearly identify key influential factors that the low income group consumers consider while making a decision to purchase private health insurance product.

There are various studies conducted to identify factors driving purchase of health insurance or driving non-purchase of it. One such study conducted in Punjab¹³ concludes with five factors as barriers in health insurance namely formalities bottlenecks, agent related problems,

coverage issues, awareness and negative feedback. There are many other studies which indicate other factors such as perception regarding future healthcare expenditure, number of children in family⁴, consciousness about health insurance in age of 41-50⁶, other financial avenues available for taking care of healthcare expenditure¹⁴, lack of funds, lack of reliability & accessibility³. These are factors which act as purchasing pullers or detractors for different sections of the society in India when it comes to buying health insurance.

Although various studies have been conducted to identify and list out the factors governing the decision towards buying of health insurance or deciding against it, there has been little or no study using a multicriteria decision making process. Analytic Hierarchy Process (AHP) provides one such mechanism and a study tool to identify and rank factors based on their importance especially when there are many factors considered while making a decision. Authors hence identified this as a research gap wherein a multicriteria decision mechanism can be utilized to clearly outline the priorities of factors while health insurance purchasing decision is made as seen by sales experts in the field whenever they sell these health insurance policies to the specific low income consumer groups.

Use of Analytic Hierarchy Process provides a multicriteria decision making mechanism which can enable a systematic identification and ranking of factors which play an important role in a purchasing decision. Analytic Hierarchy Process is a multiple criteria decision-making tool with an Eigen Value approach to the pair-wise comparisons. AHP helps to incorporate a group consensus which generally consists of a questionnaire for comparisons of each criteria and geometric mean to arrive at a final solution²⁰.

In a study of Analytic hierarchy process¹ it has been identified that many approaches have been used and proposed to understand performance of purchasing of health insurance. Unpredictable future and uncertain behaviors of insurance do not make it advisable to forever rely on statistical approaches.

3. Research Objective

There are two basic objectives of this research,

- a. To perform a pair-wise comparisons of importance among the key influencing criteria in purchasing pri-

vate health insurance by specific consumer groups as seen by professional sales professionals.

- b. To identify and highlight key criterion in decision making of purchasing private health insurance.

4. Methodology of Research

Analytic hierarchy process, a standard method for multicriteria decision making, was used to analyze most important factors considered while buying private health insurance. A questionnaire with nine main factors was created and each of them was asked to be compared with others in terms of its level of importance. Ten expert sales professionals from the Insurance industry who have sold Private Health Insurance in the Indian market were asked to respond to the AHP survey. The experts were asked to consider selling private health insurance to individuals from specific consumer groups namely Auto Rickshaw Drivers, Cab Drivers, Panwallas or Women home maids, and based on that rate importance of buying factors on a comparative basis. The experts surveyed had sold private health insurance policies to all customers including the specific consumer groups researchers are interested in.

Sales experts were explained the process of answering AHP based survey and ranking one of the two criteria in a row on the basis of its relative importance. Overall survey submission was administered face-to-face and each survey took approximately 30 minutes to complete. The expert sales professionals provided comparative importance ranking between different factors as viewed by the specific consumer groups. Post collection of inputs for AHP analysis a pre-defined template, BPMSG AHP Excel Template with multiple inputs⁹, was used to identify the ranking among different important factors considered while purchasing private health insurance by specific consumer groups as seen by sales professionals from different insurance providers.

5. Background and Scope

The authors intend to categorically analyze the ranking of important factors considered by specific consumers while buying private health insurance as viewed by the experts in the field of sales. The purpose of the research is to identify the ranking of the important factors considered by some specific consumer groups such as Auto

rickshaw drivers, Cab drivers, Panwallas, Women home-maids while they buy private health insurance.

For our research purpose a systematic questionnaire was outlined which listed nine criteria for comparison against each other. Once the iteration of the top-level nine factors were compared second level of sub-factors were also comparatively studied. An example of this comparative questioning is shown in Table 1

For the sub-factor level of comparison some of the factors were analyzed further. Under purpose of buying HI for example more comparison was made on criterion such as to cover medical risks, nature of job, and coverage of dependents. The authors intended to identify comparative ranking at a more detailed level for clearer insight into the aspects of expectations of specific consumer groups from private health insurance, as viewed by the experts.

This research in its current form limits its scope of the analysis to identifying and ranking certain important factors as viewed by the experts in the field however from the point of view of specific consumer groups. The authors do not intend to generalize the findings beyond the specific comparison identified by the experts. The main limitation of this study is that only specific nine factors were considered in comparing the perception of responses from the experts. There can be more or different factors than these which can be identified as more important by the specific consumer groups namely Auto rickshaw drivers, Cab drivers, Panwallas, Women home-maids. The authors intend to validate these in future studies. Second limitation is that it remains an indirect questioning about perceptions of target consumer groups although it is still answered through experts who have interacted and sold the specific product to specific target groups.

6. Data Analysis

The data for this research was obtained through questionnaires as outlined in Table 1. The collected data was then processed through BPMSG AHP Excel Template with multiple inputs⁹ to identify the ranking among different important factors.

As viewed by the expert sales professionals having sold private health insurance in the Indian market, price – the premium amount stands at rank 1 with weight of 26.51% while they consider that they have to sell the product to specific consumer groups such as Rikshawallas, Panwallas, Cab-drivers and women home maids. Customer service stands as rank 2 with weight of 20.93% and claim settlement history of the insurance provider stands 3rd in the ranking with a weight of 12.85%, as presented in table 2.

Also from table 2 it can be noted that Brand stood distant 9 in the ranking in the process of comparative analysis in multi-criteria decision making process with lowest weight at 3.50%. Insurance awareness which otherwise is perceived to be a very important driver in buying private health insurance stood second last, out of the limited nine factors, in the ranking in the factors used in this study for analysis.

Fourth rank for purpose of buying private health insurance indicates that it does play on the minds of the specific consumer groups to visualize the importance of security from their and their family's perspective as stated in table 2.

Sub criterion studied under the heading of Purpose of Buying private health insurance indicates coverage of dependents stands out at rank 1 with a weight of 42.34% indicating a strong concern about family's care in the

Table 1. An outline of comparative analysis of nine important factors in HI buying

Health insurance buying - A perspective from insurance agents									
Criteria A	Extremely Important	For more important	Significantly more important	Slightly more important	Equally Important	Slightly more important	Significantly more important	For more important	Extremely Important
Insurance Awareness									Brand
Insurance Awareness									Trust in Insurance Provider
Insurance Awareness									Purpose of buying health Insurance
Insurance Awareness									Policy features and benefits
Insurance Awareness									Premium amount
Insurance Awareness									Payment options
Insurance Awareness									Customer service
Insurance Awareness									Insurance provider's claim settlement history
Brand									Trust in Insurance Provider
Brand									Purpose of buying health Insurance
Brand									Policy features and benefits
Brand									Premium amount
Brand									Payment options
Brand									Customer service
Brand									Insurance provider's claim settlement history

Table 2. AHP analysis of determinants in private health insurance purchase

Criterion	Comment	Weights	Rk
1 Insurance Awareness	Importance of Awareness	4.84%	8
2 Brand	Importance of Brand	3.50%	9
3 Trust in Ins Provider	Importance of Trust	6.44%	7
4 Purpose of Buying HI	Importance of Purpose	8.83%	4
5 Policy Features and benefits	Importance of Benefits	7.44%	6
6 Premium amount	Importance of Price	26.51%	1
7 Payment options	Importance of Payment-options	8.66%	5
8 Customer service	Importance of Service	20.93%	2
9 Claim settlement history	Importance of Claim-settlement	12.85%	3

minds of specific consumer groups. Nature of job also stands out with a high weight of 25.87% at the second rank out of the limited four sub-criteria outlined for this study (table 3).

It is also to be noted that the consideration of private health insurance as the only avenue for mitigating health related risks and expenses thereafter, stands the last of the four sub-criteria for decision making while purchasing health insurance. The authors analyze this as a probable availability of other sources of assistance during the situation of health-crisis, as given in table 3.

Five sub criteria were studied under the heading of benefits derived from private health insurance product, which is given in table 4. Availability of cashless facility stands out to be the ranked 1 sub-criterion with a weight of 44.29%. the authors view this as an indication in the minds of the consumers for an expected support from the insurance providers to assist with maximum support during the time of medical crisis such that the consumer does not need to worry about producing instant cash at the time of emergency.

As per the experts' analysis the second sub-criteria to be playing on the minds of the specific consumer groups is the different types of Diseases or medical risks covered. The authors view this as an important piece of indication of concern viewed especially from the point of view of type of work done and lifestyle observed by the specific work-groups, which is based on table 4 data.

No claims bonus stands out as the least of the ranking among the limited five criteria outlined for this study, indicating this specific benefit being secondary in the minds of specific consumer groups, as per the data given in table 4.

With a high weight of 53.80% Payment of premium through insurance agents stands out at rank 1 among the five payment options outlined for this study. The authors view this as an interesting indicator for a need of consistent face to face communication on behalf of the insurance providers. It may indicate the sensitivities the specific work-groups carry for expectations of push-communications from the insurance providers via their salesforce network. The authors also view this as an indicator of dependency as well as trust generated via agent network in the minds of specific consumer groups for payment of money (table 5).

From the table 5, it may also to be noted that Mobile based payment emerges as rank second with a weight of 15.69%, indicating that even consumers from the specific workgroup can depend and trust the mobile based payment. The authors view this as an option which consumers feel is more convenient, trust-worthy and hassle free.

Sub criterion studied under the heading of Customer service from the private health insurance providers indicates that Claims settlement support stands out at rank 1 with a weight of 39.80% indicating a strong expectation of genuine hand-holding at the time of crisis and making sure that the appropriate amounts get settled post

Table 3. AHP analysis of sub-criteria for purpose of buying private health insurance

Criterion	Comment	Weights	Rk
1 To cover medical risks	Importance of Medical-risks	19.90%	3
2 Nature of Job	Importance of Nature-of Job	25.87%	2
3 Coverage of Dependents	Importance of Coverage-for-Dependents	42.34%	1
4 Ins only avenue for health risks	Importance of Single-Option	11.89%	4

Table 4. AHP analysis of sub-criteria for benefits from private health insurance product

Criterion	Comment	Weights	Rk
1 Sum Insured	Importance of Sum-Insured	9.21%	4
2 Medical Risks Covered	Importance of Diseases-covered	20.96%	2
3 Linked Hospitals	Importance of Linked-Hospitals	17.66%	3
4 No Claim Bonus	Importance of No-Claim-Bonus	7.88%	5
5 Cashless Facility	Importance of Cashless-Facility	44.29%	1

Table 5. AHP analysis of sub-criteria for payment options for private health insurance product

Criterion	Comment	Weights	Rk
1 Online	Importance of Online Payment	9.73%	4
2 Offline	Importance of Offline Payment	12.73%	3
3 Mobile	Importance of Mobile based Payment	15.69%	2
4 Agent	Importance of Agent based Payment	53.80%	1
5 Dropbox	Importance of Dropbox Payment	8.04%	5

Table 6. AHP analysis of sub-criteria for customer service from private health insurance provider

Criterion	Comment	Weights	Rk
1 Ease of buying	Importance of Ease of Buying	10.49%	5
2 Ease of Premium Payment	Importance of Ease of Payment	9.14%	6
3 Alerts for premium payment	Importance of Alerts	12.57%	3
4 Documentation knowledge	Importance of Documentation	17.13%	2
5 Claims settlement support	Importance of Claim-Settlement-Support	39.80%	1
6 Ombudsman support	Importance of Ombudsman	10.87%	4

Table 7. AHP analysis of sub-criteria for claims settlement from private health insurance provider

Criterion	Comment	Weights	Rk
1 Third Party Agency Service	Importance of TPA	4.11%	6
2 Percent of claims settled	Importance of % claims settled	5.81%	5
3 Quickness of claim settlement	Importance of Quickness	21.72%	2
4 Procedures of claims settlement	Importance of Procedures	14.52%	4
5 Ease of claims settlement	Importance of Ease	14.72%	3
6 Certainty of claim settlement	Importance of Certainty	39.12%	1

expenses incurred. Authors view this as a key element in the private health insurance business wherein consumers feel they need genuine and clear guidance in terms of reimbursement of money once claim has been registered, based on the table 6, given above.

It is also interesting to note that immediate next rank 2 is for documentation knowledge which indicates that the consumers want to make sure that they get guidance

from the insurance providers about exact need of paper work to be completed in order to make sure the claim gets honored.

Certainty of claim settlement stands out to be rank 1 sub-criterion with weight of 39.12%, under the parent criteria of claims settlement history, the details of which are contained in table 7. The experts view this as the key sub-criteria which can tend the consumers from specific

work-groups towards buying private health insurance product. The authors although understand the Insurance providers' perspective in terms of different complex clauses which govern the eligibility for honoring any health insurance claim, they also recognize the impact this sub-criteria has on the minds of specific consumer groups as viewed by sales experts.

The second ranked sub-criteria is the quickness in honoring the claims with a weight of 21.72%. It is to be observed that the expectation from the consumers is timely monetary support in the time of medical crisis.

Support from the third party agency service stands distant sixth in rank among the sub-criterion outlined for this study. It is also interesting to note the second last in the ranking stands the percent of claims settled by the insurance provider. The authors view this as an indicator of consumers being non dependent on the historical analysis of claims settlement while taking a decision to buy private health insurance.

7. Findings, Conclusion and Future Scope

The first objective of this research work broadly wanted to perform a pair-wise comparison of importance among the key influencing criteria in purchasing private health insurance by specific consumer groups as seen by professional sales professionals. This objective was achieved by comparing nine key factors influencing the buying decision of private health insurance which indicates that the price stands out at rank one with customer service standing second and claims settlement history at the third rank in importance.

The second objective was to identify and highlight key criterion in decision making of purchasing private health insurance which was achieved through analysis of ranking of top level and second level criterion. The study clearly outlines price, customer service, and claims settlement history as high ranked criterion identified by experience sales experts. At one level below coverage of dependents, cashless facility, agent based payment mechanism, claims settlement support system and higher level of certainty of claim settlement look to be playing on the buyers' mind-set while purchasing private health insurance product. It is also interesting to note that consumers have started to expect for a mobile based payment support for ease of payment of premium.

Authors intend to carry this study forward and carry on with confirmatory analysis of these findings directly from the target audience namely Rikshawallas, Panwallas, Cab-drivers and women home maids in the Indian market scenario.

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