Evaluating the role of Sociodemographic variables on personal wellbeing in the context of Health Insurance purchase decision: An empirical study

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Abstract

The study aims to explore the significant difference between demographic variable groups on customer perception towards various personal wellbeing dimensions in health insurance purchase decision. This structure has been tested using one-way ANOVA (f-test) and independent sample t-test to find out significant difference among the variables considered. An empirical study has been conducted with a well-structured questionnaire consisting of questions/items related to the various personal wellbeing dimensions affecting health insurance decision. The data has been collected randomly from 764 customers of a private health insurance provider in Jammu and Kashmir. The results of the study elucidate that there are some significant mean differences in the perception of customers towards personal wellbeing across gender and education level. In addition, there is no significant mean difference across employment type and age group of customers. It means that male and female customers and customers having different education level have a different perception about personal wellbeing when considering health insurance purchase.

Keywords: Health Insurance decision, sociodemographic, purchase decision, health status, socioeconomic.

Introduction

The average life expectancy has increased dramatically over the last decade this can be attributed to the quality of lifestyle and advances in medical science. The benefits of a healthy nation are globally recognized and improvement in health status is vital for the enhancement of human capabilities. Illness is an important source of deterioration to human health. Of all the risks facing poor households, health risks pose the most significant threat to their lives and livelihoods. Several important determinants of health contribute to the state of health (Marmot et al., 2008; Currie et al., 2010)

Indian Healthcare is undergoing a huge transition, increase the income levels and awareness of health and private health financing through insurance are driving the change in India. Health Insurance in India before the deregulation of Indian economy was predominantly inactive with little to slow growth (Kumar, 2006). Less than 20% of the Indian population is covered under some form of health insurance, including government-supported schemes (CBHI, 2016). Only 26 percent of Indians have health insurance coverage, so India's 135 crore people, 100 crores have no cover against catastrophic health expenses (IRDAI, 2016; UN, 2016). Given such a wide uninsured population, understanding health inequalities in a society is a herculean task.

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Statement of Problem

Demographic variables form the base of segmentation in the modern services industry. The various variables considered often for segmentation include profession/occupation, income, education, geographical region, social class, religion, etc. The reason being that customer needs, wants, preferences, usage rates of products and services are usually associated with demographic variables (Chin-Feng, 2002; Greenwell et al., 2002; Kotler & Keller, 2007). To understand the market better and penetrate the health insurance market, insurers need to consider the demographic variables while designing a health insurance product. The health insurers realize that there is an increasing need to customize products and personalize them to meet the demands of transforming healthcare market and changing customer preferences, expectations and needs (Robinson, 2004). The health insurance market has a need to generate products with elements of consumerism, so as to give consumer a stronger role in deciding rather than the insurance provider and any other stakeholder for which they need a better understanding of the health insurance consumer (Robinson & Ginsburg, 2009) Thus, Health insurance firm should consider demographic factors while developing a health insurance product.

Post liberalization of the economy in 1990's the private health insurance companies also ventured into Jammu and Kashmir state while as some public sector insurers were already present in Jammu and Kashmir. These health insurance companies are finding it difficult to penetrate the health insurance market in Jammu and Kashmir to its full potential. Many of the companies have health insurance as one of the products along with other products. Some health insurance providers have entered bancassurance model to increase the reach and leverage on the existing private and public bank infrastructure to grow and increase consumer access to their services. Even after these measures, health insurance providers are facing difficulty in establishing market segments for increasing the health insurance density and as well as health insurance penetration levels in Jammu and Kashmir. These health insurance companies have to identify the unique segments, which are competition free and have to adopt blue ocean strategy to avoid competition. Demographic variables have a potential that can help insurers identify unique segments. Further, less empirical literature is available regarding the perception of customers towards personal wellbeing and demographic variables in the health insurance in Jammu and Kashmir. In consequence, a necessity is sensed to study and assess if there is the significant difference between demographic variables on customer perception towards personal wellbeing.

Objective

The purpose of the study is to achieve the following objectives;

- 1. To study the variance among the demographic variables on the personal wellbeing.
- 2. To provide suggestions to the health insurance companies with reference to demographic variables.

Hypotheses Development

The academicians and practitioners in the field of business management have been giving much emphasis on understanding how self-rated health status and socio-economic conditions,

which together comprise personal wellbeing impact of health insurance decision by the consumer (Adler *et al.*, 1993; Haas *et al.*, 2003; Penson *et al.*, 2001). Health Insurance providers need to adopt a consumer-centric approach where they feel that they are the major decision maker rather than insurance provider or other stakeholders who decide (Robinson, 2004; Robinson & Ginsburg, 2009). Therefore, health insurance service providers should give more emphasis to the understating the impact of self-rated health and socio-economic factors on health insurance decision. (Harrison *et al.*, 2012) in their study of wellbeing and healthcare utilization studied 2245 respondents. The study suggests in its findings that there is a negative relationship between wellbeing and health insurance cover utilization by the users.

Ware *et al.* (1980) have found that the significant factors that impact the health insurance decision in their study of 8000 people in 2750 American families over a period of 3 to 5 years and found health status to be an important determinant health Insurance .Adler and Newman (2002) identified socioeconomic status has three major determinants of health: health care, environmental exposure, and health behavior. The study further suggested that health promotion efforts that do not target at the poor are likely to increase socioeconomic disparities. Thus, it is important to understand for health insurance providers the role of socioeconomic conditions in the personal wellbeing of for an individual. Short and Lair (1994) in their study suggest that the difference on the health status of two groups are likely to exhibit different patterns of expenditures even if they are enrolled in the same health insurance program. The study further suggests that persons having chronic illnesses are more likely to take health insurance than a person who considers health person.

Ross and Mirowsky (2000) in their study suggest that socioeconomic status and health insurance coverage vary widely across various strata's of demographics. The results of their study suggest that health insurance does not mediate any associations between socioeconomic status and health, but it does reduce the difficulties of healthcare financing. In their study, they also found that people self-reported health issues differ significantly in case of private and public health insurance owing to deductibles in case of private health insurance. The study further substantiates the impact of self-rated health on health insurance. The people with higher socioeconomic status have better health status than individuals with lower health status owing to better education (Catherine E Ross & Mirowsky, 2010).

Abdel-Ghany and Wang (2001) in their study of national health interview survey in United States and used socioeconomic and demographic variables to study the impact of having the type of health insurance coverage. Their study suggested the level of education and had a positive impact when having health insurance coverage is considered. It was also revealed that families below poverty like, i.e. belonging to lower socioeconomic sections were less likely to have health insurance coverage. Essentially the study also revealed that individuals from the south of the country are likely to have health insurance coverage suggesting the role of geographical location in personal well-being.

In a study by WHO (2009) of young females will be more likely to want health insurance than their male counterparts owing to due to their greater demand for health care. Gius (2010) in his study of the likelihood of health insurance based on socioeconomic status and health status also

suggest similar findings. The study reveals that a person is likely to find health insurance unnecessary if he is healthy. A female is more likely to get health insurance than a male counterpart of the same age group besides other individual-level factors. Yaskewich (2012) in his study tried to assess the health insurance behavior among young adults in his findings found that employment type does not affect the health insurance purchase decision. (Kiplagat *et al.*, 2013) in their study of factors that determine health insurance enrollment in Kenya found that wealth index, employment status, education level and household size are important determinants of health insurance ownership and choice. Employment status also affects the health insurance coverage (Sloan & Conover, 1998; Swartz *et al.*, 1993a, 1993b).Not being employed one tends to lose health insurance cover and thereby unable to make a purchase decision for health insurance. Personal wellbeing is an important dimension that determines the decision of having a health insurance coverage.

From the above literature review following hypotheses have been formulated;

- H1: There is a significant mean difference in customer perception towards self-rated health status concerning health insurance purchase decision between male and female customers.
- H2: There is a significant mean difference in customer perception towards self-rated health status across different employment type.
- H3; There is a significant difference in customer perception of self-rated health status across the age group of the customers.
- H4: There is a significant difference in customer perception of self-rated health status across the education level of the customers.
- H5: There is a significant mean difference in customer perception towards socioeconomic status concerning health insurance between male and female customers.
- H6: There is a significant mean difference in customer perception towards socioeconomic status across different employment type.
- H7; There is a significant difference in customer perception of socioeconomic status across the age group of the customers.
- H8: There is a significant difference in customer perception of socioeconomic status across the education level of the customers.

Sampling Design and Data Collection

The data has been collected through the questionnaire from the customers of the PnbMetlife over a period of eight months from July 2015 to February 2016. The population of the study consists of the total number of health insurance customers PnBMetlife of the Jammu and Kashmir. According to formula sample size, a minimum number of respondents is 381, which was taken as the minimum threshold. Stratified random proportionate sampling method was adopted and a sample of 764 was selected from the population. The proportion of respondents was selected based on the

market share in different districts across two geographical division of Jammu and Kashmir exhibited in table I.

Table I District-wise proportionate sampling plan

District	District wise	Population %	Proportionate Sample Size
	users	, -	
Kashmir Div	ision	46%	351
Srinagar	9266	40%	63
Ganderbal	1310	6%	14
Budgam	2733	12%	42
Anantnag	3375	14%	46
Kulgam	867	4%	21
Pulwama	1665	7%	28
Shopian	572	2%	18
Baramulla	1131	5%	50
Bandipora	1199	5%	43
Kupwara	603	3%	18
Leh	299	1%	4
(Ladakh)			
Kargil	283	1%	5
Jammu Divis	sion	54%	413
Jammu	11065	40%	167
Samba	1891	7%	28
Kathua	2605	9%	39
Poonch	2330	8%	35
Rajouri	3176	12%	48
Udhampur	3296	12%	50
Reasi	868	3%	13
Doda	931	3%	14
Kishtwar	771	3%	12
Ramban	532	2%	8

The sample size has been calculated by using the following sample size determination formula.

$$SS = \frac{N}{1 + N(e)^2}$$

SS = Sample size

Z = given z value (1.96)

p = proportion of population (0.05 or 50%)

 $e = acceptable sampling error (\pm 0.05)$

Sample Characteristics

The sample characteristics are being exhibited in Table II. As depicted in the table, 55 percent of respondents are males and 45 percent are females. Also, 31 percent of the customer fall in the age group of 41-50 years, which means that Health Insurance Company is targeting this upper-middle age segment of society most. 42.6 percent of customers fall in the private employment group which gives some basis to believe that respondents. Maximum customers are graduates followed by post-graduates as depicted in the table.

Table II Demographic characteristics

Gender	Frequency	Percent
Male	420	55.0
Female	344	45.0
Total	764	100.0
Age		
0-20	40	5.2
21-30	84	11.0
31-40	138	18.1
41-50	242	31.7
51-60	173	22.6
60 above	86	11.3
Total	764	100.0
Employment		
Govt	162	21.2
Private	318	41.6
Business	190	24.9
Other	94	12.3
Total	764	100.0
Education Level		
10 th and Below	12	1.6
12th	29	3.8
UG	292	38.2
PG	431	56.4
Total	764	100.0

Instrument Development

The instrument/scale developed for the study comprises of two parts. The first part includes a description of demographic variables such as age group, employment type, level of education and gender. The second part deals with the wellbeing consisting of two dimensions, i.e., self-rated health status and socio-economic status. These two dimensions comprising of 9 items have been taken from the existing scales, but the wording of the items was adopted to for health insurance. A five-point likert scale has been used in both the dimensions with ranks 5 (strongly agree) to 1 (strongly disagree). Reliability of the instrument has been determined by Cronbach's alpha. The reliability coefficient of the Wellbeing dimensions is more than 0.6 capability dimensions were much higher than 0.60, the constructs were therefore deemed to have adequate reliability

(Nunnally, 1978). The descriptive statistics of the variables and reliability estimates are shown in Table III.

Table III Descriptive statistics for items of Self-rated Health (SH) and Socioeconomic Status

Item Code	Self-rated Health Status	Mean	Standard Deviation	Cronbach Alpha
HS1	I feel I am health conscious	3.71	1.016	
HS2	I think I have a healthy lifestyle	3.65	0.993	
HS3	Getting health insurance cover at a younger age is good for my future	3.79	1.006	0.851
HS4	I expect my health insurance policy to provide my family better preventive healthcare and me.		0.994	
	Socio Economic Status			
SE1	Insurance companies provide health insurance cover at affordable prices.		1.016	
SE2	Having the healthcare facilities that I desire for my family and me would be unaffordable to me without health insurance.		0.993	0.766
SE3	I am worried about the health of co-dependents.	3.79	1.006	0.766
SE4	Present trends in food habits will cause more health problems.		0.994	
SE5	Stress in my life is likely to cause me health issues, so I buy health insurance.	3.64	1.042	

Data Analysis and Results

The data analysis was performed by employing various statistical techniques. Both descriptive and inferential statistics have been employed for achieving the desired results. Descriptive statistics give information on mean, standard deviation and variance. Inferential statistics is employed in testing the hypothesis and involves drawing in conclusion about the population based on the sample data. The tests performed in this study include one-way ANOVA (f-test) and independent sample t-test (t-test). The Table IV shows mean and standard deviation of the wellbeing dimensions. Table V shows mean and standard deviation for wellbeing dimension.

Table IV: Descriptive Statistics of Personal Wellbeing Dimension, i.e. self-rated health status (HS) and socioeconomic status (SES)

				Std.
	Minimum	Maximum	Mean	Deviation
HS	1	5	3.73	.833
SE	1	5	3.63	.736

Table V: Descriptive Statistics of Personal Wellbeing (WB)

	Minimu	Maximu		
	m	m	Mean	Std. Deviation
WB	1	5	3.68	.661

The table reveals that self-rated health status have the highest mean of 3.73 with a standard deviation of 0.833 and socioeconomic status has the lowest mean of 3.63 with a standard deviation of 0.736. Independent sample t-test was utilized to find out the significant mean difference in the perception of customers towards personal wellbeing dimensions between male and female customers. Table VI shows the results of the t-test.

Table VI Independent Sample t-test for gender groups with regard to Health Status and Socioeconomic Status

	t	df	Sig. (2-	Mean	Std. Error	95%	Confidence
			tailed)	Differenc	Differenc	Interval	of the
				e	e	Difference	
						Lower	Upper
HS	-2.35	759.151	0.019	-0.141	0.06	-0.258	-0.023
SE	0.07	762	0.938	0.004	0.053	-0.101	0.109
	7						

The statistical results from the table reveal that there is the significant mean difference in the perception of customers towards self-rated health status between male and female customers. In addition, the results reveal that there is no statistical difference between male and female in case of socioeconomic conditions are considered. This leads to the acceptance of hypothesis H₁ that there is a significant difference between male and females on dimension self-rated health. Subsequently, the rejection of the second hypothesis H₅ that there is a significant mean difference in customer perception towards socioeconomic status between male and female customers. Further, the one-way ANOVA was employed to find out the difference in the perception of customers towards personal wellbeing dimensions among education level, age group and employment type (Table VII).

Table VII: One-Way ANOVA for different demographic groups on Self-rated Health Status and Socioeconomic Status

Edu	cation Level					
		Sum of Squares	df	Mean Square	F	Sig.
HS	Between Groups	40.765	3	13.588	21.121	0
	Within Groups	488.952	760	0.643		
	Total	529.717	763			
SE	Between Groups	24.571	3	8.19	16.026	0
	Within Groups	388.41	760	0.511		
	Total	412.981	763			
Age	Group	•		•		•
		Sum of Squares	df	Mean Square	F	Sig.
HS	Between Groups	3.084	5	0.617	0.888	0.489
	Within Groups	526.632	758	0.695		
	Total	529.717	763			
SE	Between Groups	1.813	5	0.363	0.668	0.647
	Within Groups	411.168	758	0.542		
	Total	412.981	763			
Emp	oloyment Type	•	•			•
		Sum of Squares	df	Mean Square	F	Sig.
HS	Between Groups	1.864	4	0.466	0.67	0.613
	Within Groups	527.853	759	0.695		
	Total	529.717	763			
SE	Between Groups	1.708	4	0.427	0.788	0.533
	Within Groups	411.273	759	0.542		
	Total	412.981	763			

Based on the results given in Table VII it is revealed that there is no significant difference between age group and employment type groups in customer perception towards personal wellbeing dimensions, i.e. self-rated health because F is below the threshold and significance values is above the threshold. Thus, the hypothesis H₂, H₃, H₆ and H₇ are rejected.

The results in Table VII also bring to light that there exists a significant difference between the groups for the dimension self-rated health status and socioeconomic status because the F level is above the threshold and the significance values are within threshold limits. Hence leading to the acceptance of hypothesis H₄ and H₈ established for the study. To further analyze and bring forth where the actual difference exit in the groups of education level Tukey's HSD Post hoc test was performed on the education level group with the dimensions of personal wellbeing, i.e. self-rated

health status and socioeconomic status. The results of Tukey's HSD Post hoc test are shown in Table VIII.

Table VIII Tukey's HSD Post hoc test for demographic group Education Level on variables Health Status and Socioeconomic status

Dependen	(I)	(J)	Mean	Std.	Sig.	95%	Confidence
t Variable	Educatio	Educatio	Differenc	Erro		Interval	
	n Level	n Level	e (I-J)	r		Lower	Upper
						Bound	Bound
HS	Up to	12th	823*	0.229	0.00	-1.41	-0.23
	10th				2		
		UG	-1.341*	0.213	0	-1.89	-0.79
		PG and	-1.330*	0.211	0	-1.87	-0.79
		Above					
	12th	UG	518*	0.108	0	-0.8	-0.24
		PG and	507*	0.104	0	-0.78	-0.24
		Above					
	UG	PG and	0.011	0.063	0.99	-0.15	0.17
		Above			8		
SE	Up to	12 th	-1.172*	0.204	0	-1.7	-0.65
	10th	UG	-1.193*	0.19	0	-1.68	-0.71
		PG and	-1.288*	0.188	0	-1.77	-0.8
		Above					
	12 th	UG	-0.021	0.096	0.99	-0.27	0.23
					6		
		PG and	-0.116	0.093	0.59	-0.36	0.12
		Above			8		
	UG	PG and	-0.095	0.056	0.32	-0.24	0.05
		Above			7		

SH self-rated health, SE: Socioeconomic status, Up to $10^{th} = 10^{th}$ Class and below 12^{th} : 12^{th} Class Pass UG: Graduates PG: Postgraduates

Based on the results in table VII there is a significant difference between the group Up to 10th and rest of group for both self-rated health and socioeconomic status. The results also reveal that there is no significant difference between self-rated health and socio-comic status between the customers having graduate (UG) and postgraduate (PG) education levels.

Thus, all the other hypotheses are rejected and accepted as shown in Table IX based on the inferential statistical tests and using the significance value of 0.05 as a threshold in all the cases. The hypotheses results are shown in Table IX.

Table IX Hypothesis Testing

S.	Hypothesis	Results	Tools
No.			
\mathbf{H}_1	There is a significant mean difference in customer perception towards self-rated health status concerning health insurance between male and female customers.	Accepted	t-test
\mathbf{H}_2	There is a significant mean difference in customer perception towards self-rated health status across different employment type.	Rejected	F- test
H ₃	There is a significant difference in customer perception of self- rated health status across the age group of the customers.	Rejected	F- test
H ₄	There is a significant difference in customer perception of self- rated health status across the education level of the customers.	Accepted	F- Tests
H ₅	There is a significant mean difference in customer perception towards socioeconomic status concerning health insurance between male and female customers.	Rejected	t-test
H ₆	There is a significant mean difference in customer perception towards socioeconomic status across different employment type.	Rejected	F- Test
H ₇	There is a significant difference in customer perception of socioeconomic status across the age group of the customers.	Rejected	F- Test
H ₈	There is a significant difference in customer perception of socioeconomic status across the education level of the customers.	Accepted	F- Test

Conclusion and Implications

The well-being dimensions identified by the study, i.e. self-rated health status and socioeconomic status influence personnel demographic variables of the customers in some of the cases. The personnel demographic variables considered in the study include gender, age group, type of employment and education level. It has been depicted in the study that gender has a significant mean difference in customer perception towards self-rated health for male and female respondents. The mean difference between the male and female customer in their response towards the socioeconomic status of customers is insignificant, which means that male and female customers have the same level of perception of the personal wellbeing. Thus, the health insurance should consider gender as a variable while designing health insurance policy.

The study has revealed that the age of customer has no significant mean difference in perception towards personal wellbeing while considering buying health insurance coverage. All the age groups identified in the study have the same level of perception towards the self-rated health and socioeconomic status for health insurance purchase decision. The mean difference in between the age groups and within the age groups is insignificant. Type of employment demographic variable also has no influence on the perception of the customer towards personal wellbeing dimension for health insurance decision. The type of employment groups has the same level of perception towards health insurance being it a government, private, business or other group. Thus, the insurance company should not consider the type of employment and age group of the customer during the formulation of policy features.

It is finally ascertained from the study that educational qualification of customer influences personal wellbeing dimension health insurance purchase decision towards. In other words, we can say that educational level has a significant mean difference between the various groups. Lesser-educated group exhibit different behavior than the well-educated groups. This would mean the perception of lesser-educated groups of having school level education is different towards personal wellbeing while purchasing health insurance is different. Moreover, as such insurers should design health insurance policy differently for health keeping in mind the level of education of customers.

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