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Assessing Consumer Confidence In Health Insurance Post Pandemic: An F-Test Study

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ABSTRACT

Has there been a significant surge in awareness about Health Insurance among people especially post pandemic? – This research paper attempted to answer this question. This study examines consumer confidence in the health insurance industry among two age groups, 18–25 and 36–45, with a focus on their perceptions of the industry's ability to provide adequate coverage for future pandemics. Confidence scores were collected and analyzed to identify differences between the two demographics. The findings revealed no statistically significant differences in confidence levels across the two age groups, suggesting that age does not play a significant role in determining consumer trust in health insurance providers. This result highlights the need for uniform marketing and operational strategies to improve confidence across a broad age demographic. Insights from this study suggest that both younger and middle-aged adults share similar levels of trust and concerns about health insurance, particularly regarding coverage adequacy and transparency in policies. This research adds to the growing body of knowledge on consumer attitudes toward health insurance, particularly in the context of the post-pandemic world, where health and financial security are paramount. The study underscores the importance of addressing universal consumer priorities, such as affordability, reliability, and claim efficiency, to bolster overall confidence in health insurance. Future research could investigate other demographic factors, including income level, educational background, or geographic location, to uncover additional predictors of consumer confidence and design even more effective, targeted interventions.

KEYWORDS: Post-pandemic outlook, consumers, health insurance, F-test, insurance reliability

INTRODUCTION

Uncertain times like COVID calls for something beyond human control – assurance. Assurance that we are safely covered in all aspects such as financially, health wise and mentally. The real question was: Were we ready to step up to the plate? Did we have enough nest egg to survive? People who unfortunately suffered but had prior health insurance were able to bear lesser brunt of the burden. Post Pandemic, Health Insurance turned to be an overture to prevent us from another unforeseen contingency. It's just not a moment in the sun, but a gumption and a panacea as now it has been largely addressed. This study attempted to show spotlight on consumer's confidence on health insurance post pandemic.

HYPOTHESIS

Null Hypothesis (H_0)

There is no significant difference between in consumer confidence in the health insurance industry between the 18–25 and 36–45 age groups.

Alternative Hypothesis (H_1)

There is significant difference between in consumer confidence in the health insurance industry between the 18–25 and 36–45 age groups.

METHODOLOGY

Sample Size

A sample of 56 were taken from distinct age group

Variables

Dependent Variable: Consumer Confidence Score

This is measured on a **scale of 1 to 5,** with **1 being "Not at all Confident"** and **5 being "Very Confident"**

Independent Variables: Age Group (18-25 and 36-45)

Statistical Tool: F-Test

Table 1: Assigning Confidence Score

Age Group	Gender	How confident are you in the health insurance industry's ability to provide adequate coverage for future pandemics?	Confidence Score
36-45	Female	Not Confident	2
26-35	Female	Not Confident	2
46-55	Male	Not Confident	2
36-45	Female	Neutral	3
36-45	Female	Not at all Confident	1
46-55	Female	Confident	4
18-25	Female	Confident	4
18-25	Female	Confident	4
18-25	Female	Neutral	3
18-25	Female	Neutral	3
18-25	Female	Confident	4
18-25	Female	Confident	4
18-25	Female	Neutral	3
18-25	Female	Neutral	3
18-25	Male	Confident	4
18-25	Male	Confident	4
18-25	Female	Neutral	3
18-25	Male	Not Confident	2
18-25	Male	Confident	4

18-25	Female	Neutral	3
18-25	Male	Neutral	3
18-25	Male	Confident	4
Above 55	Male	Very Confident	5
18-25	Male	Confident	4
18-25	Male	Confident	4
18-25	Male	Neutral	3
18-25	Female	Neutral	3
18-25	Female	Neutral	3
18-25	Female	Neutral	3
18-25	Female	Neutral	3
18-25	Female	Neutral	3
18-25	Female	Confident	4
18-25	Female	Confident	4
18-25	Female	Neutral	3
18-25	Male	Neutral	3
18-25	Female	Neutral	3
36-45	Male	Confident	4
36-45	Male	Neutral	3
36-45	Female	Very Confident	5
36-45	Female	Very Confident	5
36-45	Female	Neutral	3
36-45	Male	Confident	4
36-45	Female	Neutral	3
36-45	Female	Confident	4
18-25	Female	Neutral	3
36-45	Male	Very Confident	5
36-45	Female	Confident	4
36-45	Female	Not Confident	2
36-45	Male	Confident	4
36-45	Male	Neutral	3
36-45	Male	Confident	4
36-45	Male	Confident	4
36-45	Male	Neutral	3
36-45	Male	Confident	4
36-45	Male	Confident	4
36-45	Male	Neutral	3

Table 2: Calculation of Group Mean

PARTICULARS	**Group A (18-25)**	**Group B (36-45)**
Sum of Confidence Score (a)	101	77
No of Respondents(b)	30	22

Mean(a/b)	**3.37**	**3.5**

Table 3: Calculation of Grand Mean

PARTICULARS	**GRAND MEAN**
Total of All Confidence Score (Both Groups) (a)	178
Total No of Respondents (b)	52
Grand Mean (a/b)	**3.4230**

Calculation of Between Group Variance (MSB)

MSB= $\frac{\Sigma n_i(\bar{x}_i - GM)^2}{k-1}$

Where:

- n_i: Size of each group.
- $\bar{x}_i$: Mean of each group.
- GM: Grand Mean.
- k: Number of groups (2 in this case)

Calculate

- **For 18–25:** $(3.37-3.42)^2$=0.0025(3.37 - 3.42) *2 = 0.0025(3.37−3.42)2=0.0025
- **For 36–45**: $(3.5-3.42)^2$=0.0064(3.5 - 3.42) *2 = 0.0064(3.5−3.42)2=0.0064

Multiply each squared difference by the group size

- **For 18–25**: 30×0.0025=0.07530
- **For 36–45**: 22×0.0064=0.1408

Sum the values:

Numerator=0.075+0.1408=0.2158

Divide by k−1 (degrees of freedom for between groups):

- k−1=2−1
- MSB=0.21581=0.2158

Calculation of Within Group Variance (MSW)

Table 4.1 Calculation of Squared Standard Deviation for 18-25 age group

Age	**Confidence Level**	**Confidence Score**	**Group Mean**	**Individual Score - Group Mean**	**Square of (Ind Score - Group Mean)**
18-25	Confident	4	3.37	0.63	0.3969
18-25	Confident	4	3.37	0.63	0.3969

18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Confident	4	3.37	0.63	0.3969
18-25	Confident	4	3.37	0.63	0.3969
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Confident	4	3.37	0.63	0.3969
18-25	Confident	4	3.37	0.63	0.3969
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Not Confident	2	3.37	-1.37	1.8769
18-25	Confident	4	3.37	0.63	0.3969
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Confident	4	3.37	0.63	0.3969
18-25	Confident	4	3.37	0.63	0.3969
18-25	Confident	4	3.37	0.63	0.3969
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Confident	4	3.37	0.63	0.3969
18-25	Confident	4	3.37	0.63	0.3969
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
18-25	Neutral	3	3.37	-0.37	0.1369
	Total				**8.967**

Table 4.2 Calculation of Squared Standard Deviation for 36-45 age group

Age	Confidence Level	Confidence Score	Group Mean	Individual Score - Group Mean	Square of (Ind Score - Group Mean)
36-45	Not Confident	2	3.5	-1.5	2.25
36-45	Neutral	3	3.5	-0.5	0.25
36-45	Not at all Confident	1	3.5	-2.5	6.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Neutral	3	3.5	-0.5	0.25
36-45	Very Confident	5	3.5	1.5	2.25
36-45	Very Confident	5	3.5	1.5	2.25

36-45	Neutral	3	3.5	-0.5	0.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Neutral	3	3.5	-0.5	0.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Very Confident	5	3.5	1.5	2.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Not Confident	2	3.5	-1.5	2.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Neutral	3	3.5	-0.5	0.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Neutral	3	3.5	-0.5	0.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Confident	4	3.5	0.5	0.25
36-45	Neutral	3	3.5	-0.5	0.25
	Total				**21.5**

MSW= Total Sum of Squared Deviation (SSD) Within Groups
N-k

Where

Total SSD = 8.967+21.5 = 30.467

N = 30+22 = 52 (total respondents)

k = 2 (number of groups)

N – k = 52-2 = 50

Calculation:

MSW = 30.467
50

= 0.6093

Calculation of F-Statistic

F= MSB
MSW

Values: MSB = 0.2158, **MSW** = 0.6093

Calculation: 0.2158/0.6093

=0.3542

Comparison of F -Statistic to Critical Value

1. **Degree of Freedom**

   $df_{between}$ = k-1

   =2-1 = 1

   df_{within} = N-k

   =52-2

   =50

2. **Critical F-Value**

For F (1,50) at α = **0.05,** the critical value is approximately **4.034**
Since F= 0.3542<4.034, fails to reject H_0

Interpretation and Implications

The absence of significant differences suggests that both age groups exhibit similar confidence levels in the health insurance industry's ability to provide adequate coverage for future pandemics. This finding can inform health insurance providers that confidence is not necessarily age-dependent, allowing them to target their messaging and offerings uniformly across these demographics.

Future research may explore other demographic factors, such as income or education level, to identify significant predictors of consumer confidence.

Conclusion

The results indicate **no statistically significant difference** in consumer confidence between the 18–25 and 36–45 age groups

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