Books


Journals, Magazines, Reports and Thesis

Abhishek Kumar Mahto (2011); “Analyzing the Consumer Preference Towards Various Unit Linked Insurance Plan In India of IDBI FORTIS”, Submitted For the Partial Fulfillments of, Post Graduate Diploma In Mangement 2010-2011, IIMT Professional College, Meerut.


Asokan T. (2007); “Re-Entry of Private Insurers in India - A Surveillance”; Department of Management studies, Kannur University- Kerala; SAJOSPS, January – June.


Consumer Voice Report on the Insurance Sector (2006); “Study shows that Private Insurers more responsive to Consumer Needs”; IRDA Private Sector, Consumer online Foundation.


Muthusamy A. and A. Meera (2008), “Wind of changing life insurance market in India; market survey”; Fact for you; March.


Ramanathan K.V (2011); A project on “A study on policy holders satisfaction with special reference to life insurance corporation of India, Thanjavur division, Bharathidasan University, 2011


Selvavinayagam K. and Mathivanan R. (2010); “A study on policy holders preference and satisfaction of services rendered by selected life insurance companies in Tamilnadu, Namakal district”,

v


Web sites


http://www.ideamarketers.com/?articleid=3382212

http://www.investmentyogi.com/insurance/understanding-ulips.aspx

http://www.irdaindia.org/ar0506/irda_ar0506_eng.pdf


SanjeevSasidharan; III Sem. MBA (Finance & Marketing) TKM Institute of Management;Kollam, Kerala Customer servicing; http://www.ecs limited.com/download /Ensuringper
POLICY HOLDERS ATTITUDE TOWARDS LIFE INSURANCE AND THEIR AWARENESS AND LIKING FOR UNIT LINKED INSURANCE PLANS
(With special reference to Coimbatore city)

1. Personal Details/Information
1.1 Name of the respondent (optional) :
1.2 Sex
   Male  r  Female  r
1.3 Age
   26-30 years  r  31-35 year  r  36-40 years  r
   41-45 years  r  Above 45 years  r
1.4 Marital Status:
   Married  r  Unmarried  r
1.5 Educational Qualification
   SSLC/Matric  r  HSC  r
   Diploma/Technical Education  r  Under graduate  r
   Professional qualification  r  Post graduate  r
1.6 Nature of occupation
   Business  r  Retired  r  Professionals  r
   Employee  r  Others  r
1.7 You reside in:
   Own house  r  Rental house  r
   Housing quarters provided by employer  r  Others ……………… r
1.8 State your Monthly income
   Upto `. 10,000  r  `. 10,001 – `. 15,000  r
   `. 15,001- `.20,000  r  `. 20,001 – `. 25,000  r
   Above `. 25,000  r
1.9 Number of earning members in the family
   1  r  2  r  3  r  4  r
1.10 Number of dependents in the family
   1  r  2  r  3  r  4 and above  r
1.11 Do you have any other additional sources of earnings?
   Yes  r  No  r
   a) If yes, Please mention the additional sources of earnings.
      Rent from building/lands  r  Animal breeding  r
      Interest earned  r  Share/stock for returns  r
      Spouse  r  Other sources  r
1.12 State your distributed monthly income for insurance policy(s):

- 5% - 10%  
- 11% - 15%  
- Above 15%

II. Level of Awareness on Life Insurance Policy

2.1 State your level of awareness on Life Insurance Policy.

- High  
- Medium  
- Low 

2.2 Which of the below mentioned Public/private life insurance companies you are aware of? (Please tick)

- LIC  
- Max New York life  
- HDFC Standard  
- SBI Life  
- ICICI Prudential  
- Met Life  
- Reliance life insurance  
- Birla sun life  
- Bajaj Allianz  
- Bharti AXA life  
- Tata AIG  
- Shriram life insurance  
- Aviva Life  
- Om Kotak Mahindra  
- Sahara life insurance  
- ING Vysya life insurance 

2.3 Do you get sufficient information regarding your insurance company?

- Yes  
- No 

a) If yes, state the level of awareness towards the information derived from the following source:

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Very High</th>
<th>High</th>
<th>Neutral</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends/Relatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Channels (TV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio Commercials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspapers- Investment-columns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance Company Promotional pamphlets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV Commercials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance Agents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance Company report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.4 From which of the below mentioned distribution channel(s) have you learned about your current insurance policy(s):

a. Traditional channel of distribution

- Insurance Agent  

b. New distribution channel

- Direct marketing  
- Corporate Agents  
- Internet marketing  
- Bancassurance  
- Retail chains  
- Independent Financial advisers  
- Telemarketing  

2
2.5 State your level of awareness on decision making parameter:

<table>
<thead>
<tr>
<th>Factors</th>
<th>Very High</th>
<th>High</th>
<th>Neutral</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial literacy (about insurance plan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designing an effective and accessible insurance plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial management Skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk tolerance level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III. Investment Attitude

3.1 You would prefer savings in which form?
- Bank deposits  r  
- Fixed deposits  r  
- Investments  r  
- Post office schemes  r  
- Others (Please specify)  ........................................

3.2 State your opinion about investment:
- Tax saving  r  
- Good returns  r  
- Better future after retirement  r  
- Wealth creation  r  
- Others ........... r  

3.3 Preferably you would like to invest in:
- Mutual funds  r  
- Stock and shares  r  
- Insurance products  r  
- Govt. Bonds & securities  r  
- Others ....................... r  

3.4 How frequently do you invest?
- Once a year  r  
- 2-3 times a year  r  
- More than 3 times a year  r  
- Not interested  r  

3.5 State the Reason for investing in Life Insurance products.
- Regular returns  r  
- Low risk Bonus  r  
- Long term benefit  r  
- Future security  r  
- Tax benefits  r  
- Safety of money  r  

3.6 Do you agree that Insurance products are susceptible to very low risk when compared to the other options for investment?
- Yes  r  
- No  r  
- Don't know  r  

3.7 What do you understand by the term wealth insurance?
- A tax savings plan  r  
- A savings plan with good returns  r  
- A financial security and risk coverage for the family  r  
- All the above  r  
- I have no idea  r  

3
IV. Insurance Behaviour
4.1 Rank the feature of insurance plan/schemes.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Features</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bonus</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Safety of money</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Regular returns</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Higher returns</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Long term benefits</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Future security</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Tax benefits</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Low risk</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Flexibility</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Number of policies you hold:

<table>
<thead>
<tr>
<th>Companies</th>
<th>For Individual</th>
<th>For the family</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3</td>
<td>4-6</td>
<td>7-9</td>
</tr>
<tr>
<td>LIC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max New York Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDFC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBI Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICICI Prudential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bajaj Allianz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tata AIG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING Vysya life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shriram life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birla sun life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Om Kotak Mahindra</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Met Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliance life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bharti AXA life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sahara life insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aviva Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3 Mention the Type of insurance policy you have taken.

- Endowment Policy
- Term Policy
- Money Back Policy
- Children’s Policy
- Health Insurance policy
- Special Plans
- Pension Plans or Annuities
- Whole life Policy
- Unit Linked Policy
- Joint Life Policy
- Women’s Policy
- Group Insurance Policy
4.4 State the amount of insurance policy:

- `. 50,000 or Below
- `. 50,001- `. 1,00,000
- `. 1,00,001- `. 2,00,000
- Above `. 2,00,000

4.5 State the amount of premium paid (annually):

- Up to `. 10,000
- `. 10,001- `. 20,000
- `. 20,001- `. 30,000
- Above `. 30,000

4.6 State the periodic intervals of premium payment.

- Monthly
- Quarterly
- Half Yearly
- Annually
- Single Premium

4.7 How do you make payment?

- Standing instruction through bank
- Electronic Clearing Service
- Paying personally at branch office
- Payment through credit/debit card
- Through Agent
- Online payment
- M- Commerce

4.8 State whether the mode of payment is convenient.

- Convenient
- Not Convenient

V. Unit-Linked Insurance Policy

5.1 Mention the age at which you started saving

- 21-25 years
- 26-30 years
- 31-35 years
- 36-40 years
- 41-45 years
- Above 45 years

5.2 Are you aware of Unit Linked Insurance Plans (ULIPs) offered by various Insurance Company(s)?

- High
- Moderate
- Low

5.3 State your level of awareness about the fact that Unit-Linked insurance plan offer both insurance and investment returns.

- Very High
- High
- Moderate
- Low
- Very Low
5.4 Please mention the name of Unit Linked Insurance Plan (ULIP) the most you aware.
   a) 
   b) 
   c) 
   d) 

5.5 Please tick the nature of ULIP policy the most you aware of.

   Retirement
   Child Growth
   Wealth creation
   Health solution

5.6 Are you aware of types of fund which are available in Unit Linked Insurance policy?

   Aware
   Not Aware

   a) If you are aware, state the level of awareness on the type of fund offered by ULIP.

<table>
<thead>
<tr>
<th>Types of fund and Risk category</th>
<th>Level of awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very High</td>
</tr>
<tr>
<td>Equity funds - (Medium to High Risk)</td>
<td></td>
</tr>
<tr>
<td>Income, fixed Interest bond funds - (Medium Risk)</td>
<td></td>
</tr>
<tr>
<td>Cash funds – (Low Risk)</td>
<td></td>
</tr>
<tr>
<td>Balanced funds (Medium Risk)</td>
<td></td>
</tr>
</tbody>
</table>

5.7 Please, tick your level of risk appetite for Unit Linked Insurance Product.

   Types of fund and risk category

   Equity funds - (Medium to High Risk) r
   Income, fixed Interest bond funds - (Medium Risk) r
   Cash funds – (Low Risk) r
   Balanced funds (Medium Risk) r
5.8 State your level of awareness towards Unit-Linked Insurance Plan.

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Very High</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost structure of the policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fund management options offered by Insurance Company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexibility features an Insurance Company allows in operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reputation and performance of the products chosen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk in ULIP investments reduces as the time horizon increases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge on equity market operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiar with the financial markets terms and functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact of inflation on the earning in long – term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.9 State your level of awareness about the operational feature of ULIP.

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Very High</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund management options offered by Insurance Company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexibility features an Insurance Company allows in operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reputation and performance of the products chosen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk in ULIP investments reduces as the time horizon increases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge on equity market operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiar with the financial markets terms and functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact of inflation on the earning in long - term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Particular Range</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of returns (the amount which you get in return)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra returns for extra investments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns constant in all conditions (No opportunity for multiple returns)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can give huge returns but high risk (no guarantee of even min returns)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.10 Are you aware of a number of changes made by IRDA in the structure and framework of ULIP, recently?

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Level of awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move away from high upfront charges</td>
<td></td>
</tr>
<tr>
<td>Changes in lock-in-period (Increased to 5 years)</td>
<td></td>
</tr>
<tr>
<td>Higher risk cover other than pension and annuities.</td>
<td></td>
</tr>
<tr>
<td>Guaranteed return for pension product: minimum guaranteed return of 4.5% p.a.</td>
<td></td>
</tr>
<tr>
<td>Rationalisation of surrender charges</td>
<td></td>
</tr>
</tbody>
</table>

5.11 Mention the level of awareness on various charges that are applicable in ULIP policy.

<table>
<thead>
<tr>
<th>Various charges applicable on the ULIP policy</th>
<th>Level of awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium allocation charges</td>
<td></td>
</tr>
<tr>
<td>Mortality charges</td>
<td></td>
</tr>
<tr>
<td>Policy Administration charge</td>
<td></td>
</tr>
<tr>
<td>Fund Management charge</td>
<td></td>
</tr>
<tr>
<td>Surrender charges</td>
<td></td>
</tr>
<tr>
<td>Fund switching charges</td>
<td></td>
</tr>
</tbody>
</table>

5.12. Rank the Reason for considering ULIP policy as prosperous.  
(Rank as 1, 2, 3 and so on ..........)

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuously monitoring of chance</td>
<td></td>
</tr>
<tr>
<td>Planning the policy holding according to the need at any point of time</td>
<td></td>
</tr>
<tr>
<td>Directing the protection aspects savings of the policy</td>
<td></td>
</tr>
<tr>
<td>Transparency (Investors are aware of the status of their investment at all times)</td>
<td></td>
</tr>
<tr>
<td>Liquidity (Partial withdrawal)</td>
<td></td>
</tr>
<tr>
<td>High return (can give huge return but high risk)</td>
<td></td>
</tr>
<tr>
<td>Combination of risk cover and insurance</td>
<td></td>
</tr>
</tbody>
</table>
VI Level of Satisfaction

6.1 State your level of satisfaction the services rendered by your life insurance Company(s).

<table>
<thead>
<tr>
<th>Service Rendered</th>
<th>Level of Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Highly satisfied</td>
</tr>
<tr>
<td></td>
<td>Satisfied</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td>Dissatisfied</td>
</tr>
<tr>
<td></td>
<td>Highly dissatisfied</td>
</tr>
<tr>
<td>Intimation of Premium</td>
<td></td>
</tr>
<tr>
<td>Bonus</td>
<td></td>
</tr>
<tr>
<td>Variety of policies</td>
<td></td>
</tr>
<tr>
<td>Loan facility</td>
<td></td>
</tr>
<tr>
<td>Terms of policies</td>
<td></td>
</tr>
<tr>
<td>Convenience</td>
<td></td>
</tr>
<tr>
<td>Response to enquiry at office</td>
<td></td>
</tr>
<tr>
<td>Agents response</td>
<td></td>
</tr>
<tr>
<td>Customer treatment</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Claims settlement, if any</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

6.2 State your level of satisfaction towards agencies service rendered by your life insurance company(s).

<table>
<thead>
<tr>
<th>Service Rendered</th>
<th>Level of Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Highly satisfied</td>
</tr>
<tr>
<td></td>
<td>Satisfied</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td>Dissatisfied</td>
</tr>
<tr>
<td></td>
<td>Highly dissatisfied</td>
</tr>
<tr>
<td>Distribution of Pamphlets and brochures</td>
<td></td>
</tr>
<tr>
<td>Application filling procedures</td>
<td></td>
</tr>
<tr>
<td>Obtaining medical certificate</td>
<td></td>
</tr>
<tr>
<td>Provision of timely information</td>
<td></td>
</tr>
<tr>
<td>Service rendered by Agent during claim settlement</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

6.3 Had you submitted any policy for claim?

Yes  [ ]  No  [ ]
a) If yes, state the experience in getting the claim settlement.

Hassle free settlement  
Dispirited settlement  

b) If it is dispirited settlement, state the reason.

Delayed by employees  
Duration of investigation  
Slow process  
Lack of Response by the Agent  

6.4. Have you discontinued your policy before?

Discontinued  
Not Discontinued  

a) If yes, state the reason for discontinued.

Financial constraint  
Opted for alternative investment  
Not satisfied with service  
Switched over to better company  

6.5 Will you recommend your company to your friends and relatives to take insurance policy?

Yes  
No  

VII Perception

7.1 State your level of perception towards the reasons stated for the growth of insurance companies in India.

<table>
<thead>
<tr>
<th>Perception</th>
<th>Level of perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in the attitude of the population towards life insurance</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Open and transparent environment created under the IRDA</td>
<td>Agree</td>
</tr>
<tr>
<td>Well-established distribution network</td>
<td>Neutral</td>
</tr>
<tr>
<td>Trained professionals to build and sell the products</td>
<td>Disagree</td>
</tr>
<tr>
<td>Stringent accounting practice to prevent failures amongst the insurance</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>Government support (level playing field at all stages of development)</td>
<td></td>
</tr>
</tbody>
</table>
7.2 Kindly provide your valuable suggestion for the enhancement of the study:

THANK U
For measuring various phenomena and analyzing the collected data effectively and efficiently to draw sound conclusions, a number of statistical techniques are used. The statistical tools applied in this study are: Frequency distribution, Weighted Average Mean, Likert’s Scaling Technique, Kendall’s coefficient of concordance, One-way ANOVA, Chi–Square test, Rotated Factor Analysis, Reliability and ANOVA and Multiple Regression Model have been used for the testing of hypotheses.

The primary data required for the study had been collected with the help of structured interview schedule. The secondary data needed for the study were extracted from various books, magazines, journals, internet and thesis works. The data collected are analysed and tabulated with the help of SPSS package version 19.

a. Frequency distribution

The frequency distributions of the variables were calculated with the help of simple percentage, by writing the formula \( \text{FD} = \frac{F}{N} \times 100 \), where \( F \) (frequency) denotes the number of respondents, and \( N \) denotes the total number of sample population.

b. Weighted Arithmetic Mean

One of the most important objectives of statistical analysis is to get one single value that describes the characteristic of the entire mass of entire data. Such a value is called the central value or an “average” means or the expected value of the variable, what the statisticians call the arithmetic mean. The process of computing mean in case of individual observation (i.e.), where frequencies are not given is very simple. Add together the various values of the variable and divide the total by the number of items. The researcher has applied weighted mean, instead of calculating the simple mean to obtain a realistic average.
where \[ \sum \text{Weighted mean} \]
\[ \sum \text{Weight of i th item X} \]
\[ \sum \text{value of the j th item of X} \]

**c. Summated scales (Likert’s-scales)**

Summated scales (or Likert’s- type scales) are developed by utilizing the item analysis approach where in a particular item is evaluated on the basis of how well it discriminates between those persons whose total score is high and those whose score is low. Those items or statements that best meet this sort of discrimination test are included in the final instrument. In a Likert’s Scale, the respondent is asked to respond to each statement in terms of several degrees, usually three and five degree of agreement (or) disagreement. Each point on the scale carries a score of 3, 2, 1 and 5, 4, 3, 2, and 1. Score calculation is as follows: scaling describes the procedure of assigning numbers to various degrees of opinion, attitude and other concepts.

**d. Chi-square analysis**

The chi-square test is an important test amongst the several tests of significance developed by statisticians. Chi-square, symbolically written as \( \chi^2 \) (pronounced as ki-square), is a non-parametric test, and can be used to determine if categorical data shows dependency or the two classifications are independent.

Chi-square as a test of independence enables a researcher to explain whether or not two attributes are associated.

\( \chi^2 \) are calculated as follows:

\[ \chi = \sum \text{(o} - \text{e}) \]

where \( o_i \) =observed frequency of the cell in ‘i’th row and ‘j’th column
\( e_{ij} \) = expected frequency of the cell in ‘i’th row and ‘j’th column

The \( \chi^2 \) values obtained as such should be compared with relevant table value of \( \chi^2 \) and the inference can be drawn. If the calculated value is greater than the table value the hypothesis framed will be rejected, otherwise accepted.

e. ANOVA (F-Test)

Two way ANOVA techniques is used when the data are classified on the basis of two factors. ANOVA. The F-test is named in honour of the great statistician R.A. Fisher. The objective of the F-test is to find out whether the two independent estimates of population variance differ significantly, or whether the two samples may be regarded as drawn from the normal populations having the same variance. The formulae used in the analysis of variance (ANOVA table) classification model is:

\[
\text{The ratio of } F = \frac{\text{Between - column variance}}{\text{Within - column variance}}
\]

i.e., \( F = \frac{V_1^2}{V_2^2} \)

g. Kendall’s coefficient of concordance

Kendall’s coefficient of concordance, represented by the symbol \( W \), is an important nonparametric measure of relationship. It is used for determining the degree of association among several (k) sets of ranking of N objects or individuals.

\[
W = \frac{k^2(N^3 - N)}{k^2(N^3 - N)}
\]

Where \( s = \sum (R_j - \bar{R}_j)^2 \)

\( k \) = no of sets of ranking i.e., the number of judges;

\( N \) = number of objects ranked;
(1/12) k² (N³-N) = maximum possible sum of the squared deviations i.e. the sum as which would occur with perfect agreement among k rankings

g. Reliability

The validity of a test is the extent to which differences in scores reflect differences in the measured characteristic. Predictive validity is a measure of the usefulness of a measuring instrument as a predictor. Proof of predictive validity is determined by the correlation between results and actual behavior. Construct validity is the extent to which a measuring instrument measures what it intends to measure. Reliability is the extent to which a measurement is repeatable with the same results. A measurement may be reliable and not valid. However, if a measurement is valid, then it is also reliable and if it is not reliable, then it cannot be valid. One way to show reliability is to show stability by repeating the test with the same results.

Reliability analysis may be used to construct reliable measurement scales, to improve existing scales, and to evaluate the reliability of scales already in use. Specifically, Reliability and Item Analysis will aid in the design and evaluation of sum scales, that is, scales that are made up of multiple individual measurements (e.g., different items, repeated measurements, different measurement devices, etc.). It can compute numerous statistics that allows researcher to build and evaluate scales following the so-called classical testing theory model.

From the above discussion, one can easily infer a measure or statistics to describe the reliability of an item or scale. Specifically, we may define an index of reliability in terms of the proportion of true score variability that is captured across subjects or respondents, relative to the total observed variability. In equation form, we can say:

\[
\text{Reliability} = \frac{\sigma^2_{\text{true score}}}{\sigma^2_{\text{total observed}}}
\]
Cronbach’s Alpha: The proportion of true score variance that is captured by the items by comparing the sum of item variances with the variance of the sum scale. Specifically, can be compute: $\alpha = (k/(k-1)) * \left[1- \frac{\sum s_i^2}{s_{sum}^2}\right]$

If the sum scale is perfectly reliable, it would expect that the two halves are perfectly correlated (i.e., $r = 1.0$). Less than perfect reliability will lead to less than perfect correlations.

h. Rotation Factor analysis

The factor analysis is another multivariate technique. It is an extremely powerful and useful analytic approach to psychological, behavioral, financial and other types of data. It is a statistical technique for determining the underlying factors or forces among a large number of interdependent variables of measures. It is a method for extracting common factor variances from a set of observations. It groups the number of variables of smaller set of uncorrelated factors potentially conveying a great deal of information.

- Factor: A factor is an underlying dimension that account for several observed variables. There can be one or more factors, depending upon the nature of the study and the number of variables involved in it.

- Factor –loading: Factor-loading are those values which explain how closely the variables are related to each one of the factors discovered. They are also known as factors-variable correlations. In fact, factor-loadings work as key to understanding what the factors mean. It is the absolute size (rather than the signs, plus or minus) of the loadings that is important in the interpretation of a factor.

- Communality($h^2$): Communality, symbolized as $h^2$, shows how much of each variable is accounted for by the underlying factors taken together. A high value of communality means that not much of the variable is left
over after whatever the factors represent is taken into consideration. It is worked out in respect of each variable as under:

\[ H^2 \text{ of the } i\text{th variable} = (\text{ith factor loading of factor } A)^2 = (\text{ith factor loading of factor } B)^2 \]

- **Eigen Value**: Eigen value (or Latent Root) is the sum of squared values of factor loadings relating to a factor. It indicates the relative importance of each in accounting for the particular set of variables under study.

- **Total sum of squares**: When Eigen values of all factors are totaled, the resulting value is called the total of squares. Rotations reveal different structures in the data. If the factors are independent, orthogonal rotation is done, and if they are corrected, an oblique rotation is made. Factor score represents the degree to which each respondent gets high scores on the group of item that load high on each factor. Factor scores are used in several other multivariate analyses.

i. **Multiple Regressions**

Multiple Linear Regression Analysis is a technique for modeling the linear relationship between two or more variables. It is one of the most widely used of all statistical methods. In this study five multiple regression modeling has been applied.

Multiple Regression Modeling has been applied to measure:

- Association between the monthly family income and the insurance saving allocation

- Policy holders’ level of awareness towards ULIP

- Level of awareness about the operational feature of ULIP

- Policy holders’ level of awareness about changes made in ULIP operation by IRDA
Policy holders’ level of awareness on various charges applicable in ULIP policy operations

The general linear regression model, with normal error terms, simply of \( X \) variables is shown in equation 1.

\[
Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \ldots + \beta_{p-1} X_{ip-1} + \epsilon_i
\]

Where \( \beta_0, \beta_1, \ldots, \beta_{p-1} \) are parameters, \( X_{i1}, X_{i2}, \ldots, X_{ip-1} \) are known constants, \( \epsilon_i \) are independent \( N(0, \sigma^2) \), \( i = 1, 2, 3, \ldots, N \).

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \ldots + e.
\]

Where, \( \alpha \) is constant and \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \ldots \) are coefficients to estimate, and \( e \) is the error term, which the authors assumed as NID for this research.

The entire hypothesis test in this study has been carried out at 5 percent level of significance. A research student quite often faces measurement problem, especially when the concepts to be measured are complex and abstract and there are no standardized measurement tools.