Life Insurance Policy/Products Selection Using Analytical Hierarchy Process (AHP)

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Abstract

In today's tough competition, every company in the service sector tries hard to satisfy their customer. In the Insurance sector, various new private companies have entered in industry by doing the merger with foreign companies. Day by day they are offering new services with the basic plan to attract the new customers & for retaining the present customers. In this research paper, we tried to understand the consumer behavior in the Insurance sector. The main objective of this paper is to utilize the analytical hierarchy process to select the factors to consider when buying a life insurance policy based on different age brackets and gender orientation. Data was collected with the help of structured questionnaires from 48 clients of Lazurite Keystone. Researchers used pairwise, percentage, frequency & Cross tabulation methods have been used for analysis. The proposed model can help the firm in selecting the efficient products. AHP is a multicriteria decision making tool that takes into account both qualitative and quantitative criteria.

Keywords
cross tabulation methods, Analytical Hierarchy Process (AHP), multi-criteria analysis, life insurance

1. Introduction

In the modern industrialized era, human life and property are inevitably exposed to different kinds and varying degrees of risks and uncertainties. Human beings, to protect themselves and their property from total disaster, resort intelligently to protection coverage extended by the insurance companies which act as a trustee to the amount collected through premiums and provide certainty in the place of uncertainty. A very prominent step taken by human beings to mitigate the eventualities of life is investment in insurance companies which act as protectors of future ambitions and aspirations of the people. Insurance is a co-operative device which safeguards financially both longevity of human life or premature mishaps when man, out of genuine concern for his dependents, insures his life taking into account the various unforeseeable risk factors that are prevalent everywhere. The maturity amount takes care of not only the dependents of the insured, but also of self, when he is neglected or forsaken by his family members. Middle income groups certainly resort to insurance companies for their future financial needs and commitments. The salaried group depends upon insurance for saving for the future as well as for tax saving purposes.

Developing countries are not only consumers but also suppliers of insurance services. In a domestic market, the supply of insurance generally consists of services provided by national companies, with local and foreign capital, as well as by foreign companies and agencies or branches. Browne and Kim (1993) suggest that a number of variables may explain international differences in life insurance demand. They also suggest that a number of factors affect the supply of life insurance, although their study considers only the demand side.

It is often argued that the development of financial institutions may have a significant impact on both the productivity of the economy and the volume of savings. Indeed, so important is insurance in the trade and development and matrix that, at its first session in 1964, the United Nations Conference on the Trade and Development (UNCTAD) (1964) formerly acknowledged that "a sound national insurance and reinsurance market is essential characteristic of economic growth" (p. 55).

Insurance, like other financial services, has grown in quantitative importance as part of the general development of financial institutions. The governments of many developing countries historically have held the view that the financial systems they inherited could not serve their countries' development needs adequately, so during the past thirty years they have directed considerable efforts to change the structure of financial systems and controlling their operations in order to channel savings to investments, which are crucial components of development programs (United Nations Conference on Trade and Development, 1984, 1988).

As we are in the middle of a pandemic outbreak, it is very difficult to estimate its long-term effects. Although society has been hit by several pandemics in the past, it is difficult to estimate the long-term economic, behavioral, or societal consequences as these aspects have not been studied to a great extent in the past. The limited studies that do exist indicate that the major historical pandemics of the last millennium have typically been associated with subsequent low returns on assets (Jorda, Singh, & Taylor, 2020). For a period after a pandemic, we tend to become less interested in investing and more interested in saving our capital, resulting in reduced economic growth. Given the current situation, in which saving capital means negative returns, it is not at all certain that we will be as conservative as we have been in the past. Behavioral changes related to pandemic outbreaks seem to be connected with personal protection (Funk, Gilad, Watkins, & Jansen, 2009), such as the use of face masks, rather than general behavior changes. Our lives, as humans in a modern society, seem to be more centered around convenience than around worrying about what might happen in the future.

Around the globe, societies are in lockdown, and citizens are asked to respect social distance and stay at home. As we are social beings, isolation may be harmful for us (Cacioppo & Hawkley, 2009). Feelings of loneliness have, among other things, been connected to poorer cognitive performance, negativity, depression, and sensitivity to social threats. There are indications that this is happening during the current pandemic, as there has been an increase in domestic violence, quarrels among neighbors, and an increase in the sales of firearms (Campbell, 2020).

However, we have also seen an increase in other, more positive types of behavior caused by social distancing that have not been researched. People have started to nest, develop new skills, and take better care of where they live. For instance, they may learn how to bake, try to get fit, do a puzzle, or read more. There has also been an increase in purchases of cleaning products, and more trash is being recycled. At the same time, we are eating more junk food and cleaning ourselves less. People are also stockpiling essentials, panic buying, and escaping to rural areas. This is an indication that what is happening to us and our behaviors is complex, and it would be interesting to study this phenomenon further.

Established in 1996, Pru Life UK is the pioneer of insuravest, or investment-linked life insurance products, in the Philippines and is one of the first life insurance companies approved to distribute US dollar-denominated investment-linked life insurance policies in the country. Since its establishment, Pru Life UK has expanded its reach to over 190 branches in the Philippines, with the biggest life agency force of more than 32,000 licensed agents. The company is also ranked second (2nd) among life insurers based on the Insurance Commission’s 2019 rankings in terms of new business annual premium equivalent and total premium income.

Lazurite Keystone Life Insurance Agency Inc., one of the top branches in Pru Life UK approached us to conduct a study to utilize the use of AHP on a client’s perspective when buying a life insurance product.

The sample of the respondent came from the existing client of lazurite keystone life insurance agency. Hence, the objective of this study was to predict the customer preference in life insurance policy using the analytical hierarchy process (AHP).

2. Methodology

2.1. Data Collection

The data for this study was collected from the LKL life insurance agency. This data gives us an idea on how the products perform on the market especially during this time of pandemic. Also, for the AHP result the data was collected from the 30-expert people of LKL.

2.2. Product Profile

This study needs to understand the current products that LKL offers to clients. Using Table 1, we can easily follow this research.

Table 1. LKL Products

Products	Description
PRULink Assurance Account Plus (PAA Plus)	It was designed specifically for customers who want comprehensive life insurance protection. It provides living, disability and death benefits through its protection and investment components. It is payable continuously in peso or US dollar while you are alive until age 100.
PRULink Elite Protector	It is a limited-pay unit-linked life insurance product that combines life insurance protection with a greater potential for wealth accumulation.
PRULink Exact Protector	It is a limited-pay investment-linked life insurance product that provides living, disability, and death benefits through its protection and investment components.
PRULink Investor Account Plus (PIA Plus)	It is a single-pay life insurance product that has both protection and investment components. With its potential for high returns, PIA Plus will help you achieve your medium- to long-term financial goals while enjoying maximum insurance coverage.
PRU Millionaire (PRU M)	It is a unit-linked life insurance product that maximizes the value of investment through a significantly lower upfront charge of 0.5% and a superior selection of investment funds

2.3. AHP Model

Figure 1 shows the AHP Model which shows the specific category of how selling life insurance can be done based on age of the clients.

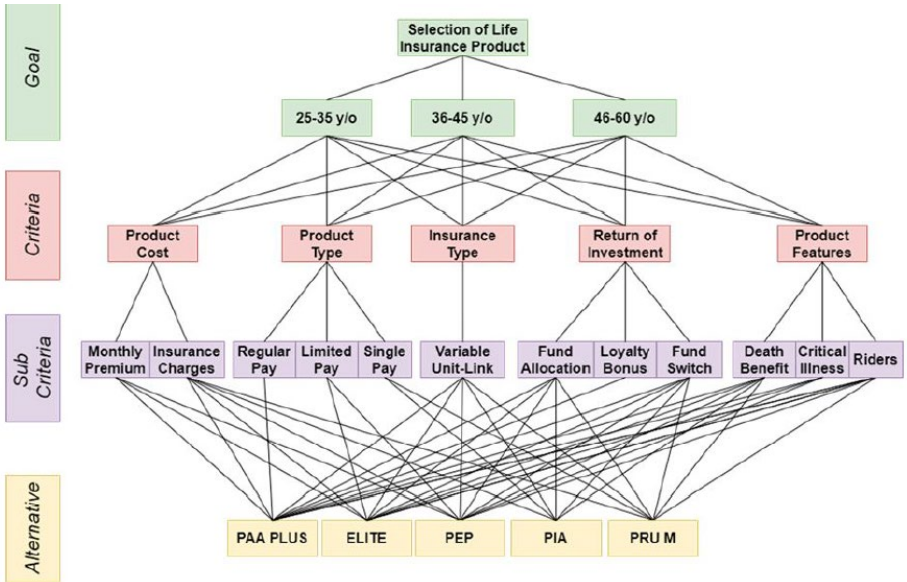

Figure 1. AHP Model for Age

Figure 2 shows the life insurance product selection based on the client's age group and gender orientation. In order to address the client's needs and priorities. One of the critical elements in determining what life insurance product you choose—and even what products are available to you—is your age. The younger you are, generally the more options you'll have to choose from. For some life insurance products like basic term life insurance, your eligibility to purchase ends at the age of 60.

Additionally, females tend to live approximately seven years longer than males, which translates to a less expensive policy for women. However, the gap on that life expectancy difference is starting to close. Age and gender will be the basic factors in the pricing of your life insurance premium. Relatively speaking, term life insurance tends to be less expensive when compared to permanent life insurance; that can be attributed to the policy being in effect for only a specified period of time and the fact that no cash value is being built up inside the policy.

With a term insurance policy, you select a term—usually 10, 20, or 30 years—over when your life is protected. When that term evaporates, if you want to maintain that particular policy (which is usually due to the fact that your health has declined dramatically) a new rate is calculated, and it will increase significantly. A permanent insurance policy sets the policy in place for the duration of your life and will maintain the same fixed premium throughout the policy.

Some insurance policies are strategically used to generate cash value to use for additional purposes. For example, some permanent life insurance options allow a policy to build up cash value like a savings account that can be borrowed against, if necessary.

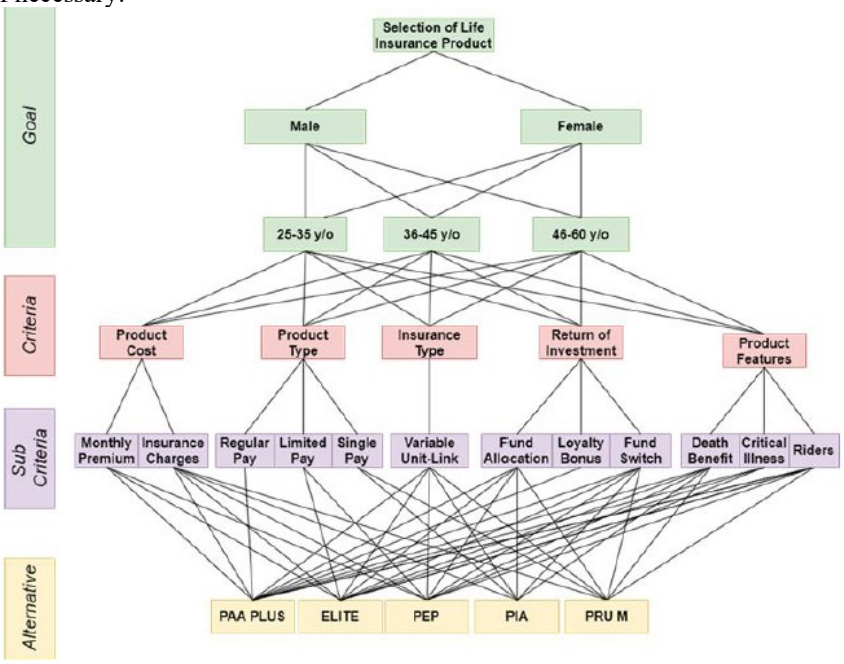

Figure 2. AHP Diagram (combined)

Figure 2 shows the combination of selection of life insurance product by age and gender. This illustration gives a clear understanding on how the selection depends on the age and gender of the client. It shows the 3 layers of the AHP. The first layer shows the main goal, which is the selection of life insurance products. The diagram has 5 main criteria, which are product cost, product type, insurance type, and return of investment and product features. These criteria were given by the respondents themselves and the decision for the selection of the sub criteria was done through the Group decision-making. This helps the researcher in formulating the AHP questionnaire as well as allowing the respondents to draw a uniformed basis in answering the AHP questionnaire. Hence, it will help them to accurately determine the hierarchy of the priorities as seen on the 3 rd layer or the alternatives in the AHP model.

2.4. Pairwise Comparison

In order to conduct pairwise comparison, a questionnaire was formulated and distributed among the 48 respondents. These are all existing clients of LKL agents wherein there were 24 male and 24 female respondents. And they were also selected according to their age bracket; 25-35 y/o, 36-45 y/o and 46-60 y/o. The researcher emphasized that each of these respondents has given their individual judgments and were collated in order to be converted into group or collective decision for each of the listed pairwise comparisons through their geometrical average. In this regard, the scale ranges from one to nine where one signifies that the two elements are equally important. On the other hand, the number nine implies that one element is extremely important over the other in a pairwise matrix. Hence, the scale and the value of importance can be described in Table 2.

Table 2. AHP Scale and Cross Tabulation Age and Gender

Importance	Scale Definition of Importance Scale
1	Equally Important
2	Equally to Moderately Important
3	Moderately Important
4	Moderately to Strongly Important
5	Strongly Important
6	Strongly to Very Strongly Important
7	Very Strongly Important
8	Very Strongly to Extremely Important
9	Extremely Important

Cross Tabulation Age and Gender				
	25 - 35 y/o	36 - 45 y/o	46 - 60 y/o	Total
Male	8	8	8	24
Female	8	8	8	24
Total	16	16	16	48

Table 2. shows the distribution of 48 respondents based on their age and gender orientation. As part of this, the pairwise comparison matrix will be established through the calculation of Eigenvalue and Eigenvector. The Eigenvalue and Eigenvector formula can be seen below:

$$\textbf{Eigenvalue:} \quad \lambda_{\max} = \sum_{j=1}^{n} a_{ij} \frac{W_j}{W_i} \qquad (1)$$

$$\textbf{Eigenvector:} \quad (A - \lambda \max I)\, X = 0 \qquad (2)$$

This study will be utilizing the pairwise comparison, it is important to assess the consistency of the comparison matrix, hence, it requires the utilization of consistency ratio (CR) (Saaty, 1990). The formula for CR can be seen below:

Consistency Ratio: CR = CI / RI
Consistency Index: (Lamda - Criteria) / (Criteria - 1)

Researchers also utilize the non-beneficial and beneficial to normalize the combination of category and sub category.

Non Beneficial = Min(Criteria) / Criteria
Beneficial = Criteria/ Max(Criteria)

Table 3. Sample AHP Questionnaire

Indicators	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Indicators
Product Cot	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Insurance Charges
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Regular Pay
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Limited Pay
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Single Pay
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Variable Unit-Link
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fund Allocation
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Loyalty Bonus
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fund Switch
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Loyalty Bonus
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fund Switch
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Death Benefit
Monthly Premium	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Riders

Table 3 shows the sample questionnaires given to the respondents that will help the researchers to determine the optimal solution in selling the life insurance policies.

Table 4. Sample AHP Questionnaire (criteria)

Indicators	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Indicators
Product Cost	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Product Type
Product Cost	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Insurance Type
Product Cost	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Return of Investment
Product Cost	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Product Features

Table 4. show the AHP questionnaire for major criteria life insurance policy selection.

3. Results and Discussion

3.1. Application of the AHP for the research

There are 5 potential products (PAA Plus Elite, PEP, PIA and PRU M) identified for evaluation. Based on the opinion of existing insurance clients, five critical business metrics are identified. The critical evaluation metrics are product cost, product type, insurance type, return of investment and product features. The explanation of evaluation criteria is given below:

Product cost is identified the monthly premium and insurance charges as the sub criteria
Product type is identified the regular pay, limited pay and single pay as the sub criteria
Insurance Type is identified the variable unit link as sub criteria
Return of Investment is identified the fund allocation, loyalty bonus and fund switch as the sub criteria
Product Features is identified the death benefit, critical illness and rider as the sub category

The steps of the proposed model are:

1. Cross tabulation of pairwise questionnaire result
2. Calculate the weighted score for each of the products with respect to criteria and sub criteria
3. Evaluate all the criteria and sub criteria using AHP
4. Obtain the overall weighted score for each of the products and rank them to choose the best.

Table 5 shows the cross tabulation result (Combined), based on gender orientation and age bracket. As we can see, most of the male with the age bracket of 12 - 35 select the PAA that focus on their life retirement and to secure their

life. While age 36 -45 and 46 - 50 male, they chose to be in Elite because aside to secure their lives, they're also focused on wealth accumulation.

However, females tell us that most 25 to 35 years olds want to choose Elite or Pep because aside from protection they might consider the wealth accumulation and investment. When we look into the 46 - 60 females they chose to get the Pep because of the living, disability and death benefits.

Table 5. Cross Tabulation Result (combined)

Products	Male			Female		
	25-35	36-45	46-60	25-35	36-45	46-60
PAA	6.00	2.00	1.00	2.00	6.00	3.00
ELITE 10	1.00	5.00	4.00	3.00	1.00	1.00
PEP 10	1.00	1.00	3.00	3.00	1.00	4.00

This table helps us to overview the current selection of clients using cross tabulation. However, in the next steps we formulate or test the AHP model if it is applicable to the client prospecting. Considering the criteria and sub criteria, to know the weights of it using the pairwise comparison and normalizing it.

3.2. Pairwise Comparison Result for Criteria

After identifying the result of selection using tabulation, we may proceed to the pairwise comparison process for us to know what are the criteria and sub criteria of the client they consider when buying life insurance.

In this process, we conduct a formulation using pairwise to give a weight in every criterion. As we can see, this is the result and consolidation of response on our survey. Table 6 shows the criteria weights of every category by normalizing the matrix.

Table 6. Normalized Pairwise Matrix

Category	Product Cost	Product Type	Insurance Type	Return of Investment	Product Features	Criteria Weights
Product Cost	0.44	0.55	0.43	0.37	0.29	0.41
Product Type	0.15	0.18	0.29	0.24	0.14	0.20
Insurance Type	0.15	0.09	0.14	0.24	0.14	0.15
Return of Investment	0.15	0.09	0.07	0.12	0.36	0.16
Product Features	0.11	0.09	0.07	0.02	0.07	0.07
Grand Total	1.00	1.00	1.00	1.00	1.00	1.00

After obtaining the pair-wise judgments in Table 5, the next step is the computation of a vector of priorities or weighting of elements in the matrix. In terms of matrix algebra, this consists of calculating the priority vector (eigenvector) of the matrix by adding the members of each column to find the total. In order to normalize each column to sum to 1.0 or 100%, divide elements of that column by the total of the column and sum them up.

And to check the consistency of our criteria weights, we proceed to the next step of pairwise comparison which is identifying the ratio. Using this ratio, we can easily identify if it is acceptable or unacceptable as reflected in Table 7. If the degree of consistency is acceptable, the decision process can continue. If it is unacceptable, we should reconsider and possibly revise the pairwise comparisons judgments before proceeding with the analysis.

Table 7. Consistency Checking

Category	Product Cost	Product Type	Insurance Type	Return of Investment	Product Features	Weighted Sum	Criteria Weights	Ratio
Product Cost	0.41	0.60	0.46	0.47	0.30	2.25	41%	5.42
Product Type	0.14	0.20	0.31	0.32	0.15	1.11	20%	5.53
Insurance Type	0.14	0.10	0.15	0.32	0.15	0.86	15%	5.56
Return of Investment	0.14	0.10	0.08	0.16	0.37	0.84	16%	5.33
Product Features	0.10	0.10	0.08	0.03	0.07	0.39	7%	5.23
Grand Total	0.93	1.10	1.08	1.29	1.03	5.44	100%	27.08

Finally, add the elements in each resulting row and divide this sum by the number of elements in the row to get the average. The results (priority vectors) are that the attributes have the following approximate priority weights: Product

Cost (0.410), Product Type (0.20), Insurance Type (0.15), Return of Investment (0.160) and Product Features (0.130) as shown in result 6.

After identifying the weighted score, criteria weights and ratio. The result of this will tell us if the criteria weights are correct based on consistency index and ratio.

Table 8. Lambda Mix

Lambda Max	5.42
Consistency Index	0.10
Consistency Ratio	0.09

Table 8 shows the lambda max value with 5.42, consistency index with 0.10 and consistency ratio of 0.09. It tells us that if the value of consistency ratio is smaller or equal to 10%, the inconsistency is acceptable. If the consistency ratio is greater than 10%, we need to revise the subjective judgment.

3.3. Pairwise Comparison Result for Sub-Criteria

Researchers also add a challenging criteria in their AHP such as the monthly premium, insurance charges, regular pay, limited pay, single pay, variable unit link, fund allocation, loyalty bonus, fund switch, death benefits, critical illness and riders. Table 9 shows the weighted score, criteria weights and ratio as discussed on the previous formulation in criteria.

Table 9. Consistency Matrix Checking

Sub-Category	Monthly Premium	Insurance Charge	Regular Pay	Limited Pay	Single Pay	Varible Unit-link	Fund Allocation	Loyalty Bonus	Fund Switch	Death Benefit	Critical Illness	Riders	Weighted Sum	Criteria Weights	Ratio
Monthly Premium	0.09	0.09	0.09	0.09	0.09	0.19	0.09	0.19	0.09	0.09	0.09	0.09	1.30	9.30%	14
Insurance Charge	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.19	0.19	0.19	0.10	0.10	1.43	9.53%	15
Regular Pay	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.18	0.18	0.09	0.09	1.26	9.00%	14
Limited Pay	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.18	0.18	0.09	0.09	0.09	1.26	9.03%	14
Single Pay	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.18	0.09	0.18	0.09	1.26	9.01%	14
Varible Unit-link	0.05	0.10	0.10	0.10	0.10	0.10	0.20	0.10	0.20	0.20	0.10	0.20	1.55	9.98%	15.5
Fund Allocation	0.09	0.09	0.09	0.09	0.09	0.05	0.09	0.18	0.18	0.09	0.18	0.09	1.33	9.17%	14.5
Loyalty Bonus	0.03	0.03	0.07	0.03	0.07	0.07	0.03	0.07	0.07	0.14	0.07	0.07	0.77	6.99%	11
Fund Switch	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.07	0.07	0.14	0.14	0.07	0.74	6.75%	11
Death Benefit	0.07	0.03	0.03	0.07	0.07	0.03	0.07	0.03	0.03	0.07	0.14	0.07	0.72	6.85%	10.5
Critical Illness	0.07	0.07	0.07	0.07	0.03	0.07	0.03	0.07	0.03	0.03	0.07	0.07	0.68	6.76%	10
Riders	0.08	0.08	0.08	0.08	0.08	0.04	0.08	0.08	0.08	0.08	0.08	0.08	0.88	7.62%	11.5
Grand Total	0.92	0.90	0.93	0.93	0.93	0.94	1.00	1.34	1.49	1.39	1.32	1.10	13.18	100.00%	155

Finally, we got the result in criteria weights for sub-criteria which are monthly premium (0.930), insurance charges (0.953), regular pay (0.900), limited pay (0.903), single pay (0.901), variable unit link (0.908), fund allocation (0.917), loyalty bonus (0.699), fund switch (0.675), death benefits (0.685), critical illness (0.676) and riders (0.720).

Table 10. Lambda Mix

Lambda Max	12.92
Consistency Index	0.08
Consistency Ratio	0.06

Table 10 shows the lambda max at 12.92, consistency index at 0.08 and consistency ratio at 0.06.

3.3. Combination Pairwise Result for Criteria and Sub Criteria

To identify the best selection of insurance for the clients, we used the criteria and sub criteria weights computation which is shown in Table 11.

Table 11. Combination of Criteria and Sub Criteria Weights

Variable	Criteria	Variable	Sub Criteria	Criteria Weights	Local Weights	Global Weights (x*y)
x1	Product Cost	y1	Monthly Premium	41%	9.30%	4%
x1	Product Cost	y2	Insurance Charge	41%	9.53%	4%
x2	Product Type	y3	Regular Pay	20%	9.00%	2%
x2	Product Type	y4	Limited Pay	20%	9.03%	2%
x2	Product Type	y5	Single Pay	20%	9.01%	2%
x3	Insurance Type	y6	Varible Unit-link	15%	9.98%	2%
x4	Return of Investment	y7	Fund Allocation	16%	9.17%	1%
x4	Return of Investment	y8	Loyalty Bonus	16%	6.99%	1%
x4	Return of Investment	y9	Fund Switch	16%	6.75%	1%
x5	Product Features	y10	Death Benefit	7%	6.85%	1%
x5	Product Features	y11	Criitical Illness	7%	6.76%	0%
x5	Product Features	y12	Riders	7%	7.62%	1%

where:

x = Criteria
y = Subcriteria/ local weights

Notation:

Global Weights = (x1 * y2)

As you can see, we have criteria which represent the criteria weights result and also the local weights for sub criteria weights. By considering these two weights, we should multiply this to have a result of one weight. We have product cost/ monthly premium (0.04), product cost/insurance charges (0.04), product type/ regular pay (0.04), product type/ monthly premium (0.04).

As a result of combining two weights, we got the global weights. Global weights help us to compute the final selection of our insurance client through alternative products.

Table 12 shows the result of pairwise comparison considering the criteria and sub-criteria to create the decision matrix:

Table 12. Result of Decision Matrix

	Local Weights		*9.30%*	*9.53%*	*9.00%*	*9.03%*	*9.01%*	*9.98%*	*9.17%*	*6.99%*	*6.75%*	*6.85%*	*6.76%*	*7.62%*
Variable	Products	Monthly Premium	Insurance Charge	Regular Pay	Limited Pay	Single Pay	Varible Unit-link	Fund Allocat	Loyalty Bo	Fund Switc	Death Be	Critical Il	Rider
Alternatives	PAA plus	3000	0.02	1	0	0	1	1	1	1	1	1	1
	Elite	7000	0.02	0	1	0	1	1	0	1	1	1	1
	PEP	4000	0.02	0	1	0	1	1	1	1	1	1	1
	PIA	0	0.02	0	0	1	1	1	0	1	1	0	0
	PRU M	0	0.02	0	0	1	1	1	0	1	1	0	0
	Normalization	*Non Beneficial*	*Non Beneficial*	*Beneficial Yes/No*	*Beneficial Yes/No*	*Beneficial Yes/No*	*Beneficial Yes/No*	*Beneficial*	*Beneficial Yes/No*	*Beneficial Yes/No*	*Beneficia Yes/No*	*Beneficia Yes/No*	*eneficial Yes/No*
	Average	*3000*	*0.0225*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*

Researchers conduct a normalization on the data by identifying the non-beneficial and beneficial sub criteria per alternative products. Researchers also get the average per subcategory to get the normalized data. Table 13 shows the final decision matrix with the alternative products for client's selection. Also, researchers compute the performance score and ranking:

Table 13. Result of Final Decision Matrix

Variable	Products	Monthly Premium	Insurance Charge	Regular Pay	Limited Pay	Single Pay	Varible Unit-link	Fund Allocation	Loyalty Bonus	Fund Switch	Death Benefit	Critical Illness	Rider	Performance Score	RANK
Alternatives	PAA plus	0.09	0.10	0.09	0.00	0.00	0.10	0.09	0.07	0.07	0.07	0.07	0.08	0.82	1
	Elite	0.04	0.10	0.00	0.09	0.00	0.10	0.09	0.00	0.07	0.07	0.07	0.08	0.70	3
	PEP	0.07	0.10	0.00	0.09	0.00	0.10	0.09	0.07	0.07	0.07	0.07	0.08	0.80	2
	PIA	0.00	0.10	0.00	0.00	0.09	0.10	0.09	0.00	0.07	0.07	0.00	0.00	0.51	4
	PRU M	0.00	0.10	0.00	0.00	0.09	0.10	0.09	0.00	0.07	0.07	0.00	0.00	0.51	4

Based on the pairwise matrix result, here the performance score and ranking. It tells us the client possible products to avail by considering the given criteria and sub-criteria.

Table 14. Final Result Performance Score and Ranking

	Products	Performance Score	RANK
Alternatives	PAA plus	0.82	1
	Elite	0.70	3
	PEP	0.80	2
	PIA	0.51	4
	PRU M	0.51	4

Table 14 shows the performance score of criteria and sub criteria and its corresponding ranked.

Table 15. Final Selection Result per Age and Gender

FINAL OUTPUT		
Gender	Age	General Selected Products
Male	25 - 35	PAA Plus
Male	36 - 45	Elite
Male	46 - 60	Elite
Female	25 - 35	PAA Plus
Female	36 - 45	PAA Plus
Female	46 - 60	PEP

Table 15 shows that the PAA plus get the highest selected products with 82% score when considering some criteria and sub-criteria. The table shows us the general selected products considering the age bracket and gender orientation. Also, researchers expected to see the low selection of PIA and PRU M based on the respondent ideas and opinion. It was also found that clients are focused on affordable life insurance with more product features. These findings will help the lazurite keystone life insurance agency to give more importance to the criteria and sub-criteria for proper selection of products.

4. Conclusion

This research study is aimed at assessing the important criteria and sub criteria for selection of insurance policy/products, using AHP Method. The model is specifically designed to identify the important criteria in choosing products to evaluate the client's preference when buying life insurance. This model is tested on 5 products which are offered of lazurite keystone life insurance, where data collection begins; through existing clients survey by considering their age bracket and gender orientation, the information needed to begin developing the proposed model is obtained, and the most important criteria and sub criteria for the problem assessment process have been identified.

The hierarchical structure is provided with the participation of decision makers, followed by the comparison corresponding to criteria and sub criteria. Furthermore, the consistency of paired matrix results has been confirmed. In each criteria and sub-criteria, priority/ selection analysis is used to obtain relative importance of the comparison matrix. Therefore, to determine the objective function according to ranking alternatives and relative priorities, the proposed model was tested in all products to assess the client's preference when buying life insurance policy/products. By using the equation in the previous discussion, which represents the objective function, the general goal of this to select the life insurance policy is achieved.

After developing the AHP Model, the predetermined objectives have also been achieved. Due to this limitation, it was important to know the use of case study, as the model should not be used generally for situations and other outside segments that are used. In addition, it is difficult to collect all interview participants together at the same time; because it is a structured group interview, there are many cases where participants cannot be involved simultaneously. Another limitation is the need for all research participants involved in the process to commit to it. As a contribution, this study highlights the adoption of multi-criteria methodologies used to identify the performance score, ranking and to normalize alternatives.

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