To Identify and Prioritize the Factors Influencing the Growth and Development of Life Insurance
(Case Study: Shiraz)

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Abstract: The aim of the study was to identify and prioritize the factors influencing the growth and development of life insurance for case study of Shiraz. The method was descriptive-survey. The population of this research was experts in the field of life insurance that these people were familiar with the strategy and had some ideas and visions. A total of 30 top managers of life insurance organizations in the city were randomly chosen. A questionnaire was used to collect data. For data analysis, fuzzy method was used. The findings confirmed the study on which five factors affecting the insurance industry were identified. Also according to the analysis conducted, the most important factor in the growth and development of life insurance included government agencies, creating motivational factors in the purchase of life insurance and variety of life insurance coverage appropriate to the needs of the community.

Keywords: Life Insurance, Efficient Factors, Capital.

Introduction

The insurance industry is undoubtedly one of the creative achievements of human society in order to cope with the occurrence of unfortunate events. Natural disasters such as fires, earthquakes, floods, storms and suffering such as death, illness, age, disability are events that have long been a threat to all human beings. The main benefit of insurance reassurance to people is to deal with possible risks in the vocabulary of insurance, it called risk. Regardless of the type of insurance, it can be said that in addition to creating a secure environment for economic activities, insurance results in ensuring work and production, investment, and generally creating a safe and secure environment for social and economic activities (Javadi, 2014). Insurance industry of the country has started its activities as one of the economic arms with the aim of promoting culture and modes of supply of services, the development of business and trade development, creation and preservation of national savings and the establishment of social security (Dejpasand, 2013). Life insurance, like all insurance is responsible for concerning the members of a society. The concern of policyholders from unexpected events is like death or disability or originates from changing family income and economic conditions. In this type of insurance, policyholders can purchase the benefits provided by the insurance (life or death of the insured), how to get benefits (lump sum or as a pension) benefits and payment of premium time, each type of insurance names that are responsive to their needs. Life insurance in the current world has been regarded as one of the most economic instruments and several uses get thereof. Studies on the insurance markets show that the level of insurance demand in an economy can have an effect on a number of

economic, legal, political and socio variables. To study these variables can help insurance companies that are looking to develop their business in selecting markets (Esmaeili et al., 2014). Statistics and information on the development of life insurance in the country have shown that life insurance than other insurances in Shiraz is not very welcoming and development in this city has not been serious or sometimes citizens, workers and the benefits of this type of insurance are not fully aware. However, industrial and densely populated major city and including much history like Shiraz as it is deserved, given the extensive capacity and capabilities for the development of insurance in the city is faced with many obstacles and this has not created a proper place in the strengthening and development of infrastructure of life insurance.

Life insurance industry in the city can be a precursor to strengthen financial markets and this can play an important role in increasing investment and economic growth and enabling business environment. If life insurance has some advances in Shiraz, this can drive a significant section of household savings and finally savings of the country to buy life insurance and life insurance companies in the city can apply it more efficiently in investment and finally increase of employment. Since the elderly population of the city increases year-on-year in, in comparison to the population of workers is low, and reduces appropriate cover of pension in the future. It can also be a good substitute for social security and reduce households' concerns in retirement and on the other hand, this can provide household welfare in case of death of the head of household and reduces social crises in the city. Reports indicate that life insurance in Shiraz, despite the propaganda, is not growing well and researchers have expressed effective and different factors on the development of life insurance including factors affecting life insurance can divide government agents, factors associated with insurance companies and cultural institutions support the growth and development of the life insurance. Government agencies such as applications, policies, measures and decisions on the authorities to strengthen and extend the life insurance may be effective in Shiraz. The activities of the company and third parties can be effective in attracting people and turning them into life insurance. However, the main question for the researcher is that what factors are affecting the growth and development of life insurance in Shiraz? Secondary research questions include:

1. Which government agencies are effective on growth and development of life insurance and in what order do they enjoy?

2. Which factors are influencing insurance companies on the growth and development of life insurance and in what order do they enjoy?

3. Which factors are related to organizations and cultural institutions and support the growth and development of life insurance and in what order do they enjoy?

Theoretical basics of life insurance demand

Most new theoretical studies of ideas in the field of life insurance. have emphasized the study of Yari as a starting point to their work (quoted by Lewis, 1989), head of household demand for life insurance depends on the number of family members and Lewis examined this relationship by developing a theoretical structure of life insurance assistance and taking into account the preferences of other family members. In this case, life insurance is demanded by dependents that they are also facing uncertain heads of households with uncertain income. Their demand for life insurance on the life of the head of household is based on the life-cycle model in which revenue is uncertain due to uncertainty about the longevity of the head of household.

Factors affecting life insurance

*Structural factors***:** One of the structural problems of third world countries such as Iran is that there are classes differences between social classes and the majority of the community are low-income people or in other words, they are rather poor and a very small percentage of them are wealthy and prosperous and a small percentage are in the middle level. The reason for this is undesirable distribution and they are the rich people who, despite they constitute a small percentage of society, they enjoy high percentage of resources and wealth of society benefits. Therefore, despite of inflation being persistent problems of our country, and low income of people, many people find it difficult to meet their basic living needs, and a portion of their income does not remain to save so that they can purchase life insurance for themselves.

Cultural, educational and social factors: Cultural background of insurance is considered against fate and future events are also considered definitive and irrevocable, fatalism that keeps a person from any action bicolor. The quantity of short-term perspective in investment, risk averseness of low level and lack of caution and care and lack of planning for the future and short-term culture are regarded as cultural factors affecting low demand for life insurance in Iran.

Factors related to insurance companies: Lack of extensive sales network specialized by representatives of the insurance companies and the inadequate supply of insurance products by insurers are considered life one of the obstacles to development of life insurance.

Factors related to government and policy makers: The most important problems of insurance industry in our country are entirely state-owned system in the insurance sectors both in terms of planning and policy-making and implementation. Rules for the determination of tariffs by Central Insurance and also the investment of accumulated reserves in insurance companies, including investment in government bonds with low interest, result in increasing premiums and finally low life insurance.

Review of literature

Hwang and Greenford (2005), in a study entitled "factors affecting demand for life insurance in three countries in Central China, Hong Kong and Taiwan" in the years 1999-1986 using panel (fixed effects model) discussed on the characteristics of insurance markets in each of these countries. The important results of their study are a very strong relationship between income and life insurance demand and the level of education has a significant effect on demand for life insurance. They also indicated that there was no significant relationship between variables of the price of insurance and social security on the demand for life insurance. Insurance products consumption is affecting the country's economic development and in general, the more advanced the countries are economically, the greater the demand for life insurance will be.

Madheswaran & Sen (2008) in a paper titled "analysis of the determinants of demand for life insurance for selected Asian economies and India" during two independent reviews on selected Asian countries (6 countries of ASEAN including Indonesia, the Philippines, Singapore, Thailand and Vietnam, 2 countries of China including China and Hong Kong regions and 4 countries of SAARC including India, Bangladesh, Pakistan and Sri Lanka) for the years 1994-2004 and India in the years 1965-2004, showed the effect of some economic and demographic variables affecting demand for life insurance in these countries. The results of the study showed that an increase in both savings and income increases will increase buying life insurance. Real interest rates in the principles (analysis of the panel for Asian countries) did not show a significant effect but in the second study (analysis of time series of voting in India), this variable has significantly been had a negative effect on the demand for life insurance.

Mokri Qarhorn (2008), investigates in an article from the long term the relationship between the demand for life insurance and the factors affecting it using time series data during the period 1978-2007 based on integration test of Johansen – Juselius. The results show that there is a long-run equilibrium relationship between the demand for life insurance and the factors influencing it, so that the results show that gross domestic product per capita has a positive and significant effect on the demand for life insurance in Iran in the long term.

Materials and Methods

This study is applied in terms of purpose and in data collection is descriptive-survey which is based on a quantitative approach. The ultimate goal of research is to identify and prioritize the factors affecting financial information managers in decision-making. On the other hand, in order to achieve the main objective of the study, key questions raised in the first quarter are answered.

The population and sampling methods

The population of this research is experts in the field of life insurance which these people are familiar with the strategy of selection and they have some visions and ideas on it. For sampling method, the type of sampling is used. Because the sample for this study is experts in the field of life insurance and the nature of macro-oriented research is descriptive, and this needs data from top managers of the organization, however, a total of 30 top managers of life insurance organizations in the city were randomly chosen.

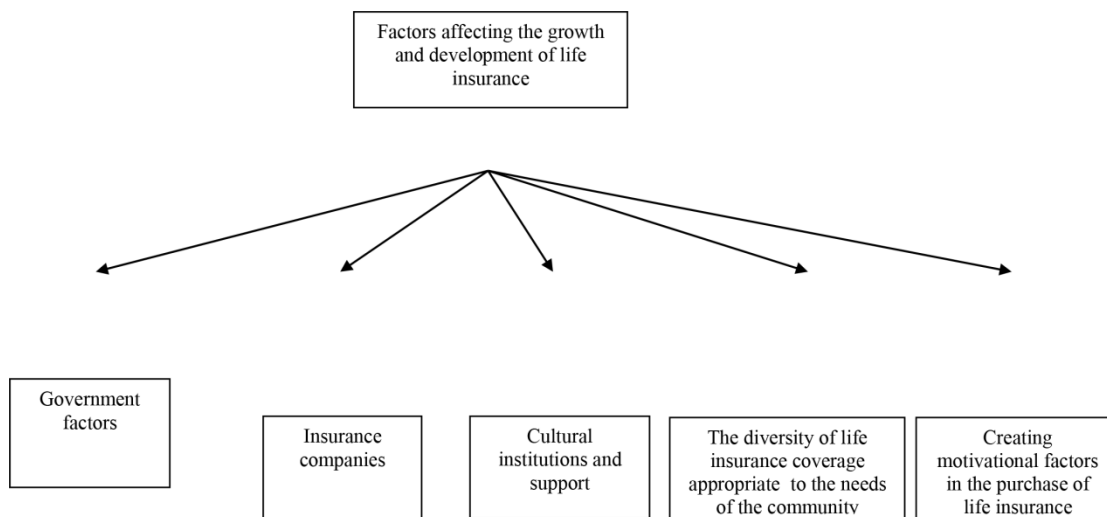Conceptual model of the research was in the form of Figure 1.

Figure 1. Conceptual model of the research.

Fuzzy AHP technique

Table 1. The membership function of linguistic variables of determining the weighting of criteria.

Priority row to column				Priority column to row			
Linguistic variable	Fuzzy number			Linguistic variable	Fuzzy number		
Equally important	1	1	1	Equally important	1	1	1
Equal to relatively more important	2.67	2	1.33	Equal to relatively more important	0.75	0.5	0.37
Relatively more important	3.67	3	2.33	Relatively more important	0.43	0.33	0.27
Relatively to more important	4.67	4	3.33	Relatively to more important	0.30	0.25	0.21
More important	5.67	5	4.33	More important	0.23	0.20	0.18

Results

Weighting and prioritization of quadratic sub-indices related to cultural institutions and support

In this section, it is discussed on prioritization of quadratic sub-indices related to cultural institutions and support, i.e., (policies motivating, making films with the content of the importance of life insurance, advertising from cultural agencies of education organization and changing beliefs of citizens through their affiliated support organizations).

Table 2. Matrix of paired comparisons and support of cultural institutions.

	C_1	C_2	C_3	C_4
C_1	(1,1,1)	(0/611, 0/694, 0/79)	(1/366, 1/68, 1/994)	(0/915, 1/136, 1/407)
C_2	(1/265, 1/44, 1/636)	(1,1,1)	(2/31, 3/028, 3/727)	(0/868, 1/017, 1/174)
C_3	(0/501, 0/595, 0/732)	(0/268, 0/33, 0/432)	(1,1,1)	(0/236, 0/283, 0/357)
C_4	(0/71, 0/88, 1/092)	(0/851, 0/983, 1/152)	(2/801, 3/533, 4/237)	(1,1,1)

Then, according to the EIA is considered for each row of the matrix of pairwise comparisons above, SK value, which is a triangular fuzzy number.

$$\sum_{j=1}^{4} M_{g_1}^j = (1,1,1) + (0.608, 0.741, 0.921) + (1.34, 1.546, 1.782) + (0.4, 0.471, 0.579)$$

$$+ (0.435, 0.484, 0.551) + (0.835, 0.954, 1.112) = (4.618, 5.196, 5.945)$$

$$\sum_{j=1}^{4} M_{g_2}^j = (6.768, 7.542, 8.0408) \qquad \sum_{j=1}^{4} M_{g_3}^j = (3.448, 3.91, 4.561)$$

$$\sum_{j=1}^{4} M_{g_4}^j = (7.763, 8.738, 9.788) \qquad \sum_{j=1}^{4} M_{g_5}^j = (8.383, 9.179, 10.561)$$

$$\sum_{j=1}^{4} M_{g_6}^j = (4.824, 5.339, 5.936)$$

$$\sum_{i=1}^{3}\sum_{j=1}^{3} M_{g_i}^j = (35.804, 39.904, 45.199) \qquad \left(\sum_{i=1}^{3}\sum_{j=1}^{3} M_{g_i}^j\right)^{-1} = (0.022, 0.0250, 0.0279)$$

$S_1 = (0/102, 0/130, 0/166)$ $S_2 = (0/149, 0/189, 0/234)$
$S_3 = (0/076, 0/097, 0/127)$ $S_4 = (0/171, 0/218, 0/273)$

Then, the magnitude of each of the SK values obtained is calculated relative to the rest of them. Then, the values of magnitude, $V(S_i \geq S_K)$ obtained are followed for each of S_k.

$$V(S_1 \geq S_2, ..., S_4) = Min(V(S_1 \geq S_2), ..., V(S_1 \geq S_4) = 0.069$$
$$V(S_2 \geq S_1, ..., S_4) = Min(V(S_2 \geq S_1), ..., V(S_2 \geq S_4) = 0.546$$
$$V(S_3 \geq S_1, ..., S_4) = Min(V(S_3 \geq S_1), ..., V(S_3 \geq S_4) = 0.057$$
$$V(S_4 \geq S_1, ..., S_3) = Min(V(S_4 \geq S_2), ..., V(S_4 \geq S_3) = 0.888$$
$$W' = (0.069, 0.546, 0.057, 0.888)$$
$$W_N = (0.044, 0.35, 0.036, 0.56)$$

Table 3. Ranking of aspects related to cultural factors and support.

Dimensions cultural factors and support	The degree of importance derived from fuzzy AHP	Ranking in terms of importance
policies motivating	0.044	3
advertising from cultural agencies of education organization	0.35	2
making films with the content of the importance of life insurance	0.036	4
changing beliefs of citizens	0.56	1
through their affiliated support organizations		

Weighting and prioritization of quadratic sub-indices related to agents of insurance companies

Table 4. Matrix of paired comparisons of insurance companies.

	A1	A2	A3	A4
A1	(1,1,1)	(0.7527, 0.8811, 1.0395)	(0.6834, 0.8094, 0.9705)	(0.3841, 0.4539, 0.5531)
A2	(0.9620, 1.1350,1.3285)	(1,1,1)	(1.0465, 1.2351, 1.4573)	(0.6609, 0.7809, 0.9368)
A3	(1.0304, 1.2355, 1.4633)	(0.6862, 0.8097, 0.9556)	(1,1,1)	(0.6270, 0.7525, 0.9061)
A4	(1.8081, 2.2030, 2.6038)	(1.0675, 1.2806, 1.5130)	(1.1037, 1.3290, 1.5949)	(1,1,1)

$$\sum_{j=1}^{4} M_{g_1}^{j} == (3.3374, 3.7609, 4.306) \qquad \sum_{j=1}^{4} M_{g_2}^{j} = (4.3986, 5.0138, 5.7669)$$

$$\sum_{j=1}^{4} M_{g_3}^{j} = (3.8786, 4.4478, 5.1315) \qquad \sum_{j=1}^{4} M_{g_4}^{j} = (5.8487, 6.8127, 7.8568)$$

$$\sum_{i=1}^{4}\sum_{j=1}^{4} M_{g_i}^{j} = (22.88, 26.354, 30.385)$$

$S_1 = (0.1098, 0.1427, 0.1882)$ $\qquad\qquad$ $S_2 = (0.1448, 0.1902, 0.252)$
$S_3 = (0.1276, 0.1688, 0.2243)$ $\qquad\qquad$ $S_4 = (0.1925, 0.2585, 0.3434)$

$$V(S_1 \geq S_2, \dots, S_4) = Min(V(S_1 \geq S_2), \dots, V(S_1 \geq S_5) = 1.0261$$
$$V(S_2 \geq S_1, \dots, S_4) = Min(V(S_2 \geq S_1), \dots, V(S_2 \geq S_5) = 0.9525$$
$$V(S_3 \geq S_1, \dots, S_4) = Min(V(S_3 \geq S_1), \dots, V(S_3 \geq S_5) = 0.9739$$
$$V(S_4 \geq S_1, \dots, S_4) = Min(V(S_4 \geq S_1), \dots, V(S_4 \geq S_5) = 0.8842$$

$$W' = (1.0261, 0.9525, 0.9739, 0.8842)$$
$$W_N = (0.2674, 0.2482, 0.2538, 0.23045)$$

Therefore, final ranking for quadratic sub-indices related to the insurance companies are shown in Table 5.

Table 5. Final ranking for quadratic sub-indices related to the insurance companies.

Dimensions of insurance companies	The degree of importance derived from fuzzy AHP	Ranking in terms of importance
Reducing tariff restrictions	0.2674	1
Strong determination among insurance companies for product diversification	0.2482	3
Advertising and information of advantages and benefits	0.2538	2
Charming on sale	0.23045	5

Weighting and prioritization of quadratic sub-indices related to government agents

Table 6. Matrix of paired comparisons of government agents.

	C1	C2	C3	C4
C1	(1,1,1)	(1.4461, 1.7241, 2.0178)	(1.7766, 2.2089, 2.6643)	1.1424, 1.4102, 1.6974)
C2	(0.4955, 0.5799, 0.6914)	(1,1,1)	(1.3191,1.6485, 2.0003)	(1.0852, 1.3005, 1.5162)
C3	(0.3753,0.4527, 0.5628)	(0.4999, 0.6065, 0.7580)	(1,1,1)	(0.4944, 0.5905, 0.7213)
C4	(0.5891, 0.709, 0.8753)	(0.6595, 0.7689, 0.9214)	(1.3863,1.6932, 2.0223)	(1,1,1)

Then, according to the EIA is considered for each row of the matrix of pairwise comparisons above, SK value, which is a triangular fuzzy number.

$$\sum_{j=1}^{4} M_{g_1}^j = (1,1,1) + (1.4461,1.7241,2.01786) + (1.7766,2.2089,2.6643)$$

$$+ (1.1424,1.4102,1.6974) = (9.2390,11.0006,12.9318)$$

$$\sum_{j=1}^{4} M_{g_1}^j = (7.11,8.4169,9.912) \qquad \sum_{j=1}^{4} M_{g_2}^j = (4.5772,5.3023,6.2528)$$

$$\sum_{j=1}^{4} M_{g_3}^j = (6.788,8.0030,9.446) \qquad \sum_{j=1}^{4} M_{g_4}^j = (9.356,11.130,13.135)$$

$$\sum_{i=1}^{4}\sum_{j=1}^{4} M_{g_i}^j = (58.417,69.07,81.549) \left(\sum_{i=1}^{4}\sum_{j=1}^{4} M_{g_i}^j\right)^{-1} = (0.0122,0.0144,0.0171)$$

$S_1=(0.113294, 0.159267, 0.22137)$ 　　　　　　$S_2=(0.087197, 0.12186, 0.16967)$
$S_3=(0.056128, 0.076767, 0.107038)$ 　　　　$S_4=(0.083243, 0.115869, 0.1617)$

Then, the magnitude of each of the SK values obtained is calculated relative to the rest of them. Then, the values of magnitude, $V(S_i \geq S_K)$, obtained are followed for each of Sk.

$V(S_1 \geq S_2, \ldots, S_4) = Min(V(S_1 \geq S_2), \ldots, V(S_1 \geq S_8)$ =0.9175
$V(S_2 \geq S_1, \ldots, S_4) = Min(V(S_3 \geq S_1), \ldots, V(S_3 \geq S_8)$ =1.011659
$V(S_3 \geq S_1, \ldots, S_4) = Min(V(S_5 \geq S_1), \ldots, V(S_5 \geq S_8)$ =0.915615
$V(S_4 \geq S_1, \ldots, S_4) = Min(V(S_7 \geq S_1), \ldots, V(S_7 \geq S_8)$ =0.957165

$W' = (0.9175, 0.954, 1.0117, 0.9609)$
$W_N = (0.2387, 0.2482, 0.2632, 0.2500)$

Therefore, the results of applying the fuzzy AHP shows that preference for any of the above factors is described in Table 7:

Table 7. Final ranking for sub-indices related to government agents.

Dimensions of government agents	The degree of importance derived from fuzzy AHP	Ranking in terms of importance
Management and Planning Organization Transparency of Directive	0.2632	1
Violations of the principle of competition with the purchase of life insurance and accident	0.126	3
Article 137 of direct tax legislation	0.1296	2
Policy motivating	0.1255	4

Table 8. Matrix of paired comparisons diversity of life insurance coverage appropriate to the needs of the community.

	C_1	C_2	C_3	C_4	C5	C6	C7
C_1	(1,1,1)	(3, 2, 1)	(3, 1, 0.5)	(2 , 0.5 ,0.5)	(1, 0.5,0.5)	(2,0.5,1)	(2 ,3, 0.5)
C_2	(0.5 ,0.5,0.66)	(1,1,1)	(0.66,0.5,0.5)	(2, 3, 1)	(2 , 0.5 , 1)	(2 , 0.5 , 2)	(0.66 ,2,1)
C_3	(2, 1, 0.33)	(2 ,2,3)	(1,1,1)	(3,1,2)	(0.5,2,1)	(1,1,2)	(0.5,1,0.5)
C_4	(2 , 2,0.5)	(1 , 0.33,0.5)	(0.5,1 , 0.33)	(1,1,1)	(2 , 0.5 , 3)	(1 , 2 ,3)	(0.33,1,2)
C5	(2,2,1)	(1,2,0.5)	(1,0.5,2)	(0.33,2,0.5)	(1,1,1)	(2,1,0.33)	(0.5 , 1 0.5)
C6	(1,2,0.5)	(0.5,2,0.5)	(0.5,1,1)	(0.33,0.5,1)	(3 , 1 0.5)	(1,1,1)	(1,0.5,0.33)
C7	(2,0.33,0.5)	(1,0.5,3)	(2,1,2)	(0.5 , 1 , 0.33)	(3 ,1 ,0.5)	(3 , 2 ,1)	(1,1,1)

Then, according to the EIA is considered for each row of the matrix of pairwise comparisons above, SK value, which is a triangular fuzzy number.

$$\sum_{j=1}^{7} M_{g_1}^j = (1,1,1) + (3,2,2) + (3,1,0.5) + (2,0.5,0.5) + (1,0.5,0.5) + (2,0.5,1) + (2,3,0.5) = (14,8.5,6)$$

$$\sum_{j=1}^{7} M_{g_2}^j = (8.16,8,6.83) \qquad \sum_{j=1}^{7} M_{g_3}^j = (10,9,9.8)$$

$$\sum_{j=1}^{7} M_{g_4}^j = (7.83,7.83,10.3) \qquad \sum_{j=1}^{7} M_{g_5}^j = (7.83,9.5,5.6)$$

$$\sum_{j=1}^{7} M_{g_6}^j = (7.3,8,4.83) \qquad \sum_{j=1}^{7} M_{g_7}^j = (12.5,6.83,8.3)$$

$$\sum_{i=1}^{3}\sum_{j=1}^{3} M_{g_i}^j = (67.62,57.66,51.66) \qquad \left(\sum_{i=1}^{3}\sum_{j=1}^{3} M_{g_i}^j\right)^{-1} = (0.019,0.017,0.015)$$

$S_1= (0.266 ,0.144 ,0.09)$ $S_2= (0.155 ,0.136 , 0.102)$
$S_3= (0.19 , 0.153 , 0.147)$ $S_4= (0.149 , 0.133 , 0.154)$
$S_5= (0.149 ,0.161 , 0.084)$ $S_6= (0.139 ,0.136 , 0.072)$

$S_7 = (0.237 , 0.116 , 0.124)$

Then, the magnitude of each of the SK values obtained is calculated relative to the rest of them. Then, the values of magnitude, $V(S_i \geq S_K)$, obtained are followed for each of Sk.

$V(S_1 \geq S_2, ..., S_7) = Min(V(S_1 \geq S_2), ..., V(S_1 \geq S_7) = 0.84$

$V(S_2 \geq S_1, ..., S_7) = Min(V(S_2 \geq S_1), ..., V(S_2 \geq S_7) = 0.86$

$V(S_3 \geq S_1, ..., S_7) = Min(V(S_3 \geq S_1), ..., V(S_3 \geq S_7) = 0.09$

$V(S_4 \geq S_1, ..., S_7) = Min(V(S_4 \geq S_2), ..., V(S_4 \geq S_7) = 0.59$

$V(S_5 \geq S_1, ..., S_7) = Min(V(S_4 \geq S_2), ..., V(S_5 \geq S_7) = 0.68$

$V(S_6 \geq S_1, ..., S_7) = Min(V(S_4 \geq S_2), ..., V(S_6 \geq S_7) = 0.89$

$V(S_7 \geq S_1, ..., S_6) = Min(V(S_4 \geq S_2), ..., V(S_7 \geq S_6) = 1$

$W' = (0.84 , 0.86 , 0.09 , 0.59 ,0.68 , 0.89 , 1)$

$W_N = (0.169, 0.173, 0.018, 0.119 , 0.137, 0.179, 0.202)$

Table 9. Ranking dimensions of factors of the diversity of life insurance coverage appropriate to the needs of the community.

Dimensions of factors of the diversity of life insurance coverage appropriate to the needs of the community	The degree of importance derived from fuzzy AHP	Ranking in terms of importance
The premium adjustment	0.169	4
The death capital adjustment	0.173	3
The accumulated capital adjustment	0.018	7
Additional coverage of events	0.119	6
Additional coverage of disability	0.137	5
Additional coverage of incurable diseases	0.179	2
Loan	0.202	1

Table 10. To study prioritization of motivational factors in the purchase of life insurance.

	K1	K2	K3	K4	K5	K6	K7	$\left[\sum_{j=1}^{m} Mgi\right]$
K1	(1,1,1)	(1/3,1,1)	(5,7,9)	(7,9,9)	(3,5,7)	(1,3,5)	(1,1,3)	(18.33,27,35)
K2	(1,1,3)	(1,1,1)	(5,7,9)	(7,9,9)	(3,5,7)	(3,5,7)	(1,3,5)	(21,31,41)
K3	(1/9,1/7,1/5)	(1/9,1/7,1/5)	(1,1,1)	(1,1,3)	(1/3,1,1)	(1/5,1/3,1)	(1/7,1/5,1/3)	(12.89,3.82,6.73)
K4	(1/9,1/9,1/7)	(1/9,1/9,1/7)	(1/3,1,1)	(1,1,1)	(1/5,1/3,1)	(1/7,1/5,1/3)	(1/9,1/7,1/5)	(2,2.89,2.96)
K5	(1/7,1/5,1/3)	(1/7,1/5,1/3)	(1,1,3)	(1,3,5)	(1,1,1)	(1/3,1,1)	(1/5,1/3,1)	(3.82,6.73,11.67)
K6	(1/5,1/3,1)	(1/7,1/5,1/3)	(3,5,7)	(3,5,7)	(1,1,3)	(1,1,1)	(1/3,1,1)	(6.67,11.53,18.33)
K7	(1/3,1,1)	(1/5,1/3,1)	(5,7,9)	(5,7,9)	(1,3,5)	(1,1,3)	(1,1,1)	(11.53,18.33,27)

$\left[\sum_{i=1}^{m} \sum_{j=1}^{n} M_{ij}\right]^{-1} = (76.27, 101.3, 148.96)^{-1} = (0.006, 0.009, 0.013)$

$$S_k = \sum_{j=1}^{n} M_{kj} \times \left[\sum_{i=1}^{m} \sum_{j=1}^{n} M_{ij} \right]^{-1}$$

S1= (18.33,27,35) × (0.006 , 0.009 , 0.013) = (0.110 , 0.243 ,0.455)
S2= (21,31,41) × (0.006 , 0.009 , 0.013) = (0.126 , 0.279 , 0.533)
S3= (12.89,3.82,6.73) × (0.006 , 0.009 , 0.013) = (0.077 , 0.343 , 0.087)
S4= (2,2.89,2.96) × (0.006 , 0.009 , 0.013) = (0.012 , 0.026 , 0.038)
S5= (3.82,6.73,11.67) × (0.006 , 0.009 , 0.013) = (0.023 , 0.061 , 0.151)
S6= (6.67,11.53,18.33) × (0.006 , 0.009 , 0.013) = (0.04 , 0.103 , 0.238)
S7= (11.53,18.33,27) × (0.006 , 0.009 , 0.013) = (0.069 , 0.164 ,0.432)
V(S1 ≥ S2) = 0.901
V(S1 ≥ S3) = 2.236
V(S1 ≥ S4) = 1.96
V(S1 ≥ S5) =1.730
V(S1 ≥ S6) = 1.540
V(S1 ≥ S7) = 1.253
V(S1 ≥ S2 , S3 , S4 , S5 , S6 , S7) = min(0.901 , 2.236 , 1.96 , 1.730 , 1.540 , 1.253) = 0.901

V(S2 ≥ S1) = 0.921
V(S2 ≥ S3) = 2.161
V(S2 ≥ S4) = 1.944
V(S2 ≥ S5) = 1.71
V(S2 ≥ S6) = 1.55
V(S2 ≥ S7) = 1.329
V(S2 ≥ S1 , S3 , S4 , S5 , S6 , S7) =MIN(0.921 , 2.161, 1.944, 1.71, 1.55,1.33) =0.921

V(S3 ≥ S1) = 0.123
V(S3 ≥ S2) = 0.189
V(S3 ≥ S4) = 1.12
V(S3 ≥ S5) = 0.71
V(S3 ≥ S6) = 0.41
V(S3 ≥ S7) = 0.121
V(S3 ≥ S1 , S2 , S4 , S5 , S6 , S7) =MIN(0.123,0.189,1.12,0.71,0.41,0.121) =0.189

V(S4 ≥ S1) = 0.539
V(S4 ≥ S2) = 0.41
V(S4 ≥ S3) = 0.829
V(S4 ≥ S5) = 0.244
V(S4 ≥ S6) = 0.026
V(S4 ≥ S7) = 0.289
V(S4 ≥ S1 , S2 , S3 , S5 , S6 , S7) =MIN(0.539,0.41,0.829,0.244,0.026,0.289) =0.026

V(S5 ≥ S1) = 0.183
V(S5 ≥ S2) = 0.128
V(S5 ≥ S3) = 0.74
V(S5 ≥ S4) = 0.803
V(S5 ≥ S6) = 0.72
V(S5 ≥ S7) = 0.44
V(S5 ≥ S1 , S2 , S3 , S4 , S6 , S7) =MIN(0.183,0.128,0.74,0.803,0.72,0.44) =0.128

V(S6 ≥ S1) = 0.477
V(S6 ≥ S2) = 0.388
V(S6 ≥ S3) = 1.69
V(S6 ≥ S5) = 2.87

V(S6 ≥ S6) = 0.833
V(S6 ≥ S7) = 0.73
V(S6 ≥ S1 , S2 , S3 , S4 , S5 , S7) =MIN(0.477,0.388,1.69,2.87,0.833,0.73) =0.388

V(S7 ≥ S1) = 0.802
V(S7 ≥ S2) = 0.726
V(S7 ≥ S3) = 1.57
V(S7 ≥ S5) = 1.44
V(S7 ≥ S6) = 1.34
V(S7≥ S6) = 1.18
V(S7≥ S1 , S2 , S3 , S4 , S5 , S6) =MIN(0.802,0.726,1.57,1.44,1.34,1.18) =0.726

It is the same non-normal vector index fuzzy analytic hierarchy process. Then, the weight of normalized index gains based on the following equation (Azar and Faraji, 2002, 251-256).

$$w_i = \frac{w_i'}{\sum w_i'}$$

Row	Index	Non-normalized weight	Normalized weight	Ranking
1	Providing high-power coverage of anti-inflationary	0.901	0.266647	2
2	Higher technical interest rates of reserves compared to bank deposit interest	0.921	0.272566	1
3	Preferred fringe benefits such as insurance coverage of accidents, diseases... ,	0.289	0.085528	5
4	Flexibility in rescheduling and investment in life insurance policies covered	0.026	0.007695	7
5	No age limit to take advantage of the benefits of life insurance, especially for teens	0.128	0.037881	6
6	Providing insurance with non-cash assets such as academic fees, buy a dowry, for cars, housing, ...	0.388	0.114827	4
7	Providing insurance with a fair value of redemption	0.726	0.214856	3

Weighting and prioritization of quintuple sub-indices related to the main factors

Table 11. Consolidated matrix of pairwise comparisons of the five main factors.

	K1	K2	K3	K4	K5	sum
K1	(1,1,1)	(2 , 0.5 ,2)	(2,2,3)	(0.5 , 2 ,0.5)	(0.5 ,1 ,0.5)	(6 ,6.5 ,7)
K2	(0.5 , 2,0.5)	(1,1,1)	(2 ,1,0.5)	(0.33,2,2)	(1,1,0.33)	(4.83 ,7 , 4.33)
K3	(0.33 , 0.5 , 0.5)	(2 , 1,,0.5)	(1,1,1)	(0.5 , 0.5 ,1)	(0.33 , 0.5 , 0.5)	(4.16 ,3.5,3.5)
K4	(2 ,0.5 ,2)	(0.5 , 0.5 ,3)	(1 , 2 ,2)	(1,1,1)	(0.5 , 0.5 , 1)	(5 ,4.5 , 9)
K5	(2 , 1, 2)	(3 , 1, 1)	(2 , 2,3)	(1 ,2 ,2)	(1,1,1)	(9, 7, 9)

$$\sum_{i=1}^{5}\sum_{j=1}^{5} M_{g_i}^{j} = (28.99 ,28.5 ,32.83) \qquad \left(\sum_{i=1}^{5}\sum_{j=1}^{5} M_{g_i}^{j}\right)^{-1} = (0.03 ,0.035 ,0.034)$$

S1=(0.18 , 0.227 , 0.238)
s2 = (0.145 , 0.245 , 0.147)
S3=(0.124 , 0.122 , 0.119)
S4 = (0.15 , 0.157 , 0.306)
S5 = (0.27 , 0.245 , 0.306

$$V(S_1 \geq S_2, \dots, S_5) = Min(V(S_1 \geq S_2, \dots, S5) = 0.83$$
$$V(S_2 \geq S_1, \dots, S_5) = Min(V(S_2 \geq S1, \dots, S5) = 0.033$$
$$V(S_3 \geq S_1, \dots, S_5) = Min(V(S_3 \geq S1, \dots, S5) = 1.38$$
$$V(S_4 \geq S_1, \dots, S_5) = Min(V(S_4 \geq S1, \dots, S5) = 0.29$$

$$V(S_5 \geq S_1, \dots, S_4) = Min(V(S_5 \geq S1, \dots, S4) = 1$$

$$W' = (0.083, 0.033, 1.38, 0.29, 1)$$
$$W_N = (0.029, 0.011, 0.49, 0.104, 0.35)$$

Therefore, final ranking of the five major factors for the table will be like the table 12.

Table 12. Rankings main factors.

Dimensions of the main factors	The degree of importance derived from fuzzy AHP	Ranking in terms of importance
Cultural institutions and support	0.029	4
Insurance Companies	0.011	5
Government agents	0.49	1
The diversity of life insurance coverage tailored to the needs of the community	0.10	3
Creating motivational factors in the purchase of life insurance	0.35	2

Conclusion

The aim of the study was to identify and prioritize the factors influencing the growth and development of life insurance for case study of Shiraz. The results showed that the most important factor affecting the growth and development of life insurance state was "Transparency of Directives for Management and Planning Organization" and the second factor is "Article 137 of Direct Taxes Act" and the third is "Violation of the Principle of Competition with the Purchase of Life Insurance and Accident" and the fourth factor is " Policy Motivating ". The most important factor affecting insurance companies on the growth and development of life insurance includes "reducing tariff restrictions "," propaganda and information benefits ", "strong determination among insurance companies for product diversification" and "charming on sale".

Other results also showed that the most important factor with organizations and cultural institutions and support include: "changing beliefs of citizens through their affiliated support organizations," "advertising cultural institutions like education", "policy motivating" and "making films with the content of the importance of life insurance". The most important factor in a variety of life insurance coverage appropriate to the needs of the community is as follows: "loan", "additional coverage of incurable diseases", "the death capital adjustment "and" the premium adjustment". The most important motivational factors are as follows: "higher technical interest rates of reserves compared to bank deposit interest", "providing high-power coverage of anti-inflationary", "providing insurance with a fair value of redemption" and "providing insurance with non-cash assets such as academic fees, buy a dowry, for cars, housing etc.

The final ranking related to the main fivefold major factor will be as follows. They were government agencies, creating motivational factors in the purchase of life insurance, life insurance appropriate to the needs of the diversity of society and support cultural institutions and insurance companies. It can be said that the most important factor in

the growth and development of life insurance include government agencies, creating a variety of motivational factors in the purchase of life insurance and life insurance coverage appropriate to the needs of the community.

Conflict of interest
The authors declare no conflict of interest

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