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An exploration study to detect important factors influencing insurance firms

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A B S T R A C T

The recent trend on competition among insurance firms has increased motivation to look for important factors influencing this industry. In this paper, we present an empirical investigation to find important factors shaping this industry. The proposed study designs a questionnaire in Likert scale and, using principal component analysis, detects important factors on the success of this industry. Cronbach alpha is calculated as 0.849, and Kaiser-Meyer-Olkin and Bartlett's Test are calculated as 0.873 and 12744 with (Sig. =0.000), respectively. The study has detected four important factors including quality of service casualties, sales improvement and advertisement, quality of issuance of insurance policies and quality of work force.

1. Introduction

Measuring the relative performance of insurance companies plays an essential role on making strategic decisions in this industry (Aaker, 2010; Klumpes, 2004). There are many techniques applied for measuring the relative performance of insurance companies and for detecting important factors influencing each insurance unit. Some of these techniques are involved with multi criteria decision making techniques, which help us rank various alternatives. Analytical hierarchy process, for instance, is one of the most popular methods, which has widely been implemented by many people (Saaty, 1977, 1988). Nevertheless, many factors on insurance industry depend on uncertainty and people may look for various methods such as fuzzy logic to handle uncertainty (Shapiro, 2004). The insurance industry has different areas with potential applications for fuzzy logic (FL). These include different issues such as classification, underwriting, projected liabilities, fuzzy future and present values, etc.

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Yücenur and Demirel (2012), in an assignment, offered a group decision making process for insurance company selection problem with extended VIKOR technique under fuzzy environment. Sayadi et al. (2009) applied extension of VIKOR method for decision making problem with interval numbers. Korhonen and Voutilainen (2006) presented some important results on the most preferred alliance structure between banks and insurance firms. Phillips et al. (1998) presented a technique for financial pricing of insurance in the multiple-line insurance company. Taksar (2000) presented optimal risk and dividend distribution control techniques for an insurance company. Azizi et al. (2013) presented an AHP method for identifying influential factors on insurance cost. Tabatabaei et al. (2013) presented an application of Fuzzy DEMATEL electronic life-insurance development.

2. The proposed study

We present an empirical investigation to find important factors shaping this industry. The proposed study designs a questionnaire in Likert scale and, using principal component analysis, detects important factors on the success of this industry. Cronbach alpha has been calculated as 0.849, and Kaiser-Meyer-Olkin and Bartlett's Test are calculated as 0.873 and 12744 with (Sig. =0.000), respectively. The sample size is calculated as follows,

$$N = Z_{\alpha/2}^2 \frac{p \times q}{e^2}, \tag{1}$$

where N is the sample size, $p = 1 - q$ represents the probability, $z_{\alpha/2}$ is CDF of normal distribution and finally ε is the error term. For our study, we assume $p = 0.5, z_{\alpha/2} = 1.96$ and e=0.05, the number of sample size is calculated as N=384. The proposed study distributed 400 questionnaires and managed to collect 384 filled ones. The questionnaires were distributed among regular customers of one of Iranian insurance firm named Asia. All 40 questions of the survey were arranged in Likert scale in five spectrums including completely disagree (-2), disagree (-1), nutral, agree (+1) and completely agree (+2). Fig. 1 demonstrates the results of Scree plot.

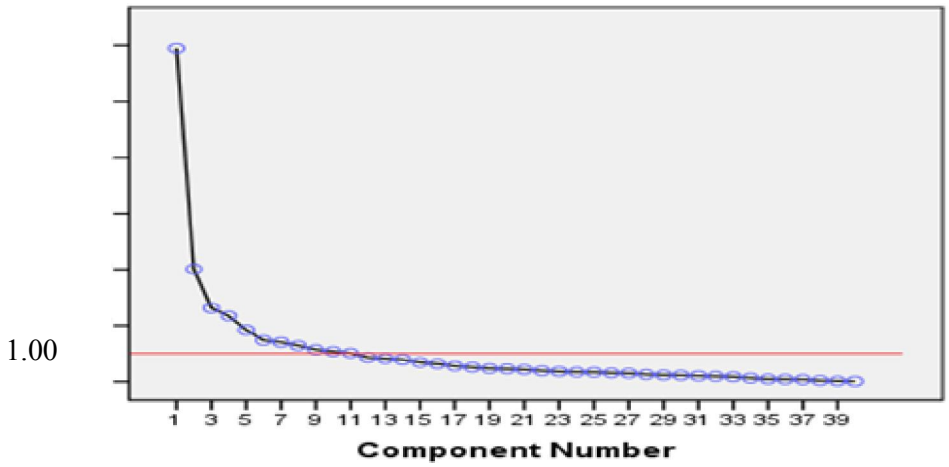


Fig. 1. The summary of Scree plot

As we can observe from the results of Fig. 1, there are eleven factors, which could be extracted for further studies. In addition, we have calculated a weighted factor for each component of eleven factors and by drawing a factor versus another one, we provide some insights about the status of insurance firm of an Iranian insurance firmed named ASIA.

3. The results

In this section, we present details of our findings on eleven influencing factors. We first present details of each eleven factors.

3.1. The results of principal component analysis

3.1.1 The first factor: Quality of service casualties

The first factor is associated with quality of service casualties with seven factors, which are summarized on Table 1. As we can observe from the results of Table 3, fair amount of paid compensation, ensuring the accuracy of calculation and damage evaluation, fast and reliable damage assessment process and quality of services in the event of damage are among the most important items. In addition, providing information to customers on how to evaluate and calculate the amount of damage, suitable equipment for serving customers and access to advanced equipment are also other secondary important issues. Let W and $\bar{X}$ be the factor weight and average score calculated from questionnaires in Likert spectrum, respectively. Therefore, we can calculate the average weight for each eleven factors. For the case of quality of service casualties, we have $\sum_{i=1}^{7} w_i \bar{x}_{ik} = -0.22621$.

Table 1
The summary of factors associated with quality of service casualties

Option	W	$\bar{X}$
Fair amount of paid compensation	.932	0.107895
Ensuring the accuracy of calculation and damage evaluation	.928	0.107895
Fast and reliable damage assessment process	.926	0.126316
Quality of services in the event of damage	.920	0.136840
Providing information to customers on how to evaluate and calculate the amount of damage	.795	-0.186840
Suitable equipment for serving customers	.519	-0.489470
Access to advanced equipment	.518	-0.515790

3.1.2. The second factor: Sales improvement and advertisement

Sales improvement and advertisement is the second important factor and it includes five factors, which are summarized in Table 2 as follows,

Table 2
The summary of factors associated with sales improvement and advertisement

Option	W	$\bar{X}$
Quality and quantity of advertisement	.878	-0.55526
The effect of advertisement	.846	-0.57895
Diversity of services	.785	-0.52632
Clarity and completeness of the advertisement	.738	-0.54737
Providing electronic services to customers	.531	-0.34421

According to the results of Table 2, quality and quantity of advertisement is the most important item followed by the effect of advertisement, diversity of services, clarity and completeness of the advertisement and providing electronic services to customers. The average weight is calculated as $\sum_{i=1}^{7} w_i \bar{x}_{ik} = -1.99844$.

3.1.3. The third factor: Quality of insurance services

Quality of insurance services is another important factor with three items summarized in Table 3.

Table 3
The summary of factors associated with quality of insurance services

Option	W	$\bar{X}$
Ease of rate inquiry	.776	0.126316
Fast and reliable issuance of insurance policy	.706	0.107895
Providing necessary information about the risks insured	.677	0.107895
Providing information about insurance discounts	.599	0.136840
Providing information on how to calculate premium rates and payments	.431	-0.18684
The amount of word of mouth advertisement	.427	-0.48947

According to the results of Table 3, ease of rate inquiry, fast and reliable issuance of insurance policy and providing necessary information about the risks insured. The average weight is calculated as $\sum_{i=1}^{7} w_i \bar{x}_{ik} = 0.289187$.

3.1.4. The fourth factor: Quality of workers

Quality of workers is another important factor with four items summarized in Table 4. According to the results of Table 4, observing courtesy and respect by the staff and company representatives, adornment and covered employees and company representatives and management experts in the event of damage. The average weight is calculated as $\sum_{i=1}^{7} w_i \bar{x}_{ik} = 2.3345$.

Table 4
The summary of factors associated with quality of workers

Option	W	$\bar{X}$
Observing courtesy and respect by the staff and company representatives	.866	0.810526
Adornment and covered employees and company representatives	.819	0.673684
Management experts in the event of damage	.816	0.815789
Flexibility to request changes in insurance coverage	.714	0.581579

3.1.5. The fifth factor: Quality of distribution channels

Quality of distribution channels is another important factor with three items summarized in Table 5. According to the results of Table 5, availability of knowledge and information is the most important factor followed by consulting services by experts and company representatives, easy access to branches and agencies insurance policy issued.

Table 5
The summary of factors associated with quality of distribution channels

Option	Factor weight
Availability of knowledge and information	.863
Consulting services by experts and company representatives	.816
Easy access to branches and agencies insurance policy issued	.798
Easy access to branches or agencies in the event of damage	.685

3.1.6. The sixth factor: Pricing strategy

Pricing strategy the next important factors with three items summarized in Table 6. According to the results of Table 6, fair amount of premiums is the most important item followed by compliance of the terms of insurance with company advertisements.

Table 6
The summary of factors associated with pricing strategy

Option	Factor weight
Fair amount of premiums	.730
Compliance of the terms of insurance with company advertisements	.702
Availability of a variety of insurance	.624

3.1.7. The seventh factor: Flexibility and diversity of services

Flexibility and diversity of services is the next important factors with three items summarized in Table 7. According to the results of Table 7, good fitness between customers' needs and insurance premiums is the most important item.

Table 7
The summary of factors associated with pricing strategy

Option	Factor weight
Good fitness between customers' needs and insurance premiums	.708
Having the opportunity to access managers in the case of emergency	.578
Variety of payment of premium	.522

3.1.8. The eighth factor: Reducing the administrative bureaucracy

Reducing the administrative bureaucracy is the next important factors with two items summarized in Table 8 where insured portion of the franchise is the most important item.

Table 8
The summary of factors associated with reducing the administrative bureaucracy

Option	Factor weight
Insured portion of the franchise	.822
Documents reasonably requested to avoid excessive bureaucracy	.789

3.1.9. The ninth factor: Quality of resolving complains

Quality of resolving complains is the next important factors with two items summarized in Table 9 where creating a fair and quick opportunity for resolving conflicts is the most important item.

Table 9
The summary of factors associated with quality of resolving complains

Option	Factor weight
Creating a fair and quick opportunity for resolving conflicts	.857
Having suitable opportunity for resolve the conflicts	.833

3.1.10. The tenth factor: Keeping customers inform about events

Keeping customers inform about events is the next important factors with two items summarized in Table 10 where informing customers about the expiry dates of insurances is the most important item.

Table 10
The summary of factors associated with keeping customers inform about events

Option	Factor weight
Keeping customers inform about the expiry dates of insurances	.704
Keeping in touch with customers during the time of insurance programs	.689

3.1.11. The eleventh factor: Company background and history

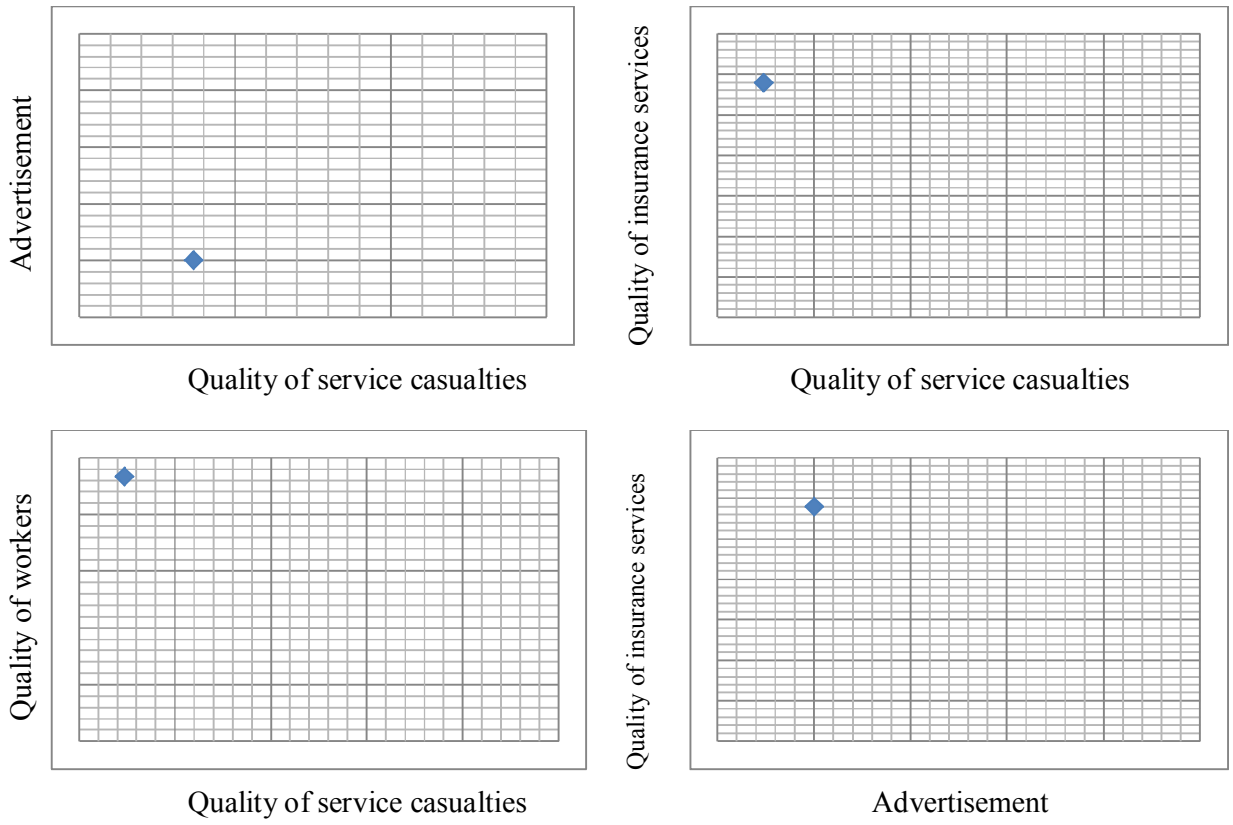
Company background and history is the last important factors with two items summarized in Table 11 where facilities and financial prosperity is the most important item.

Table 11
The summary of factors associated with company background and history

Option	Factor weight
Facilities and financial prosperity	.882
Company experience	.758

3.2. The results of comparing different factors

In this section, we compare the information of the first four factors using the weighted numbers calculated for each factor. Fig. 2 shows details of the advertisement versus quality of service casualties and quality of workers.



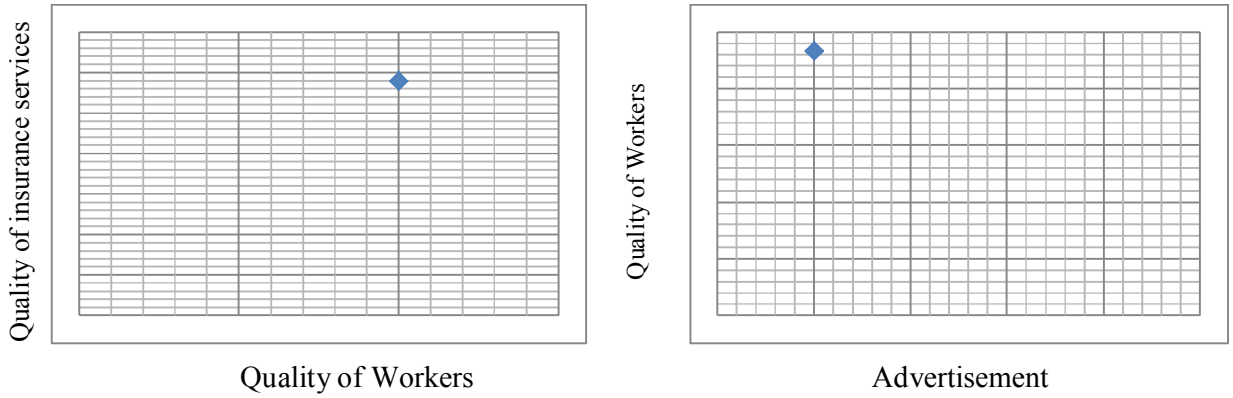


Fig. 2. The position of the firm based on selected factors

As we can observe from the results of Fig. 2, advertisement along with quality of service casualties are both in poor position and the management of must improve these items. While the qualities of insurance services are relatively in good position, the quality of service casualties seems to be relatively poor. While the quality of workers is relatively high, the quality of service casualties is relatively poor and finally, quality of insurance services is better positioned compared with sales and advertisement. Finally, it seems that quality of workers versus quality of insurance services are in good quality.

3. Conclusion

Insurance companies play essential role on people's daily activities such as having a car accident, visiting a physician, etc. When people receive good service from insurance companies, they may wish to convey a good message to others through the word of mouth advertisement, etc. This paper has presented an empirical investigation to find important factors influencing an insurance firm in Iran. The proposed study has detected eleven factors and based on the first four important factors including quality of service casualties, sales improvement and advertisement, quality of insurance services and quality of workers, we have investigated the present status of this insurance firm compared with other firms. The survey has indicated that advertisement along with quality of service casualties are both in poor position and the management of must improve these items. While the qualities of insurance services are relatively in good position, the quality of service casualties seems to be relatively poor. While the quality of workers is relatively high, the quality of service casualties is relatively poor and finally, quality of insurance services is better positioned compared with sales and advertisement.

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References

Aaker, J.L. (2010). Dimensions of brand image. *Journal of Marketing Research*, 34(3), 347-57.

Azizi, F., Jafarzadeh Kenari, M., & Nasiri, M. (2013). An AHP method for identifying influential factors on insurance cost. *Management Science Letters*, 3(9), 2479-2482.

Klumpes, P. J. (2004). Performance benchmarking in financial services: Evidence from the UK life insurance industry. *The Journal of Business*, *77*(2), 257-273.

Korhonen, P., & Voutilainen, R. (2006). Finding the most preferred alliance structure between banks and insurance companies. *European Journal of Operational Research*, *175*(2), 1285-1299.

Phillips, R. D., Cummins, J. D., & Allen, F. (1998). Financial pricing of insurance in the multiple-line insurance company. *Journal of Risk and Insurance*, 597-636.

Saaty, T. L. (1977). A scaling method for priorities in hierarchical structures.*Journal of mathematical psychology*, *15*(3), 234-281.

Saaty, T. L. (1988). *What is the analytic hierarchy process?* (pp. 109-121). Springer Berlin Heidelberg.

Sayadi, M. K., Heydari, M., & Shahanaghi, K. (2009). Extension of VIKOR method for decision making problem with interval numbers. *Applied Mathematical Modelling*, *33*(5), 2257-2262.

Shapiro, A. F. (2004). Fuzzy logic in insurance. *Insurance: Mathematics and Economics*, *35*(2), 399-424.

Tabatabaei, S.V., Shahhosseini, M., Mozaffari, A., & Taherdoost, Z. (2013). An application of Fuzzy DEMATEL electronic life-insurance development. *Management Science Letters*, 3(2), 491-498.

Taksar, M. I. (2000). Optimal risk and dividend distribution control models for an insurance company. *Mathematical methods of operations research*, *51*(1), 1-42.

Yücenur, G. N., & Demirel, N. Ç. (2012). Group decision making process for insurance company selection problem with extended VIKOR method under fuzzy environment. *Expert Systems with Applications*, *39*(3), 3702-3707.