Identifying the Factors of Agents Affecting Business: A Case Study of an Insurance Company in Sri Lanka

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ABSTRACT

The purpose of this study is to identify the significant factors of agents that affect the business of one of the insurance companies in Sri Lanka. In this research, gender, working areas, civil status, experience, age and educational qualifications of agents and agents' achievement at the Insurance Board of Sri Lanka (IBSL) exam were identified as independent variables to find the relationship with business categories of the insurance company. All businesses except the life insurance were considered and secondary data, which include information about island wide agents, were obtained from the insurance company and a sample, which includes all branches, was considered for this study. In analyzing the data, descriptive analysis was carried out and the results were interpreted as graphical representations. Moreover, multinomial logistic regression method was used to identify significant factors and Chi-square test was done to identify significant relationship between the dependent variable and the independent variables separately. It can be concluded that, from the results of the multinomial logistic regression method that the gender and the working area of agents significantly affect the business of the selected insurance company. Out of these significant factors, male agents and agents who were working in rural areas brought more business.

KEYWORDS: Business Categories, Insurance Agents, Working Area

1 INTRODUCTION

According to the Annual Report of 2014 of the Insurance Board of Sri Lanka (IBSL) there are 21 insurance companies in operation. Since all the insurance companies try to earn profits and improve their business, there is a competition among them. People try to have an insurance policy from a company where they can get more benefits from a claim or at an issue. Agents of an insurance company, in general, licensed to conduct business on behalf of the insurance company, play the main role in the business because most of the time customers do not directly involve with the company. Therefore the company should find out which factors of agents affect its business.

2 LITERATURE REVIEW

Hale (1988) stated that all the constituting elements of an organization are important for its success, it is its enhanced ability to attract and retain the best quality talent that separates it from the others. Further, it is found out that training, size, length of the operation and the nature of the industry are significantly related to the sales of agents.

Direct carriers need to get the attention of the potential direct buyers and to build momentum in relatively new products. Then agents can easily make their business with satisfaction of the followings. Options include: Launch a mass advertising, multi-media campaign, Go viral by creating a social media and customer-driven campaign, Create go-to-market relationships with regional groups, associations and common vendors, Bundle insurance sale with delivery of other goods and services targeting the small-business market, Cross-sell to those who have already bought personal lines direct over the web (Friedmen & Attia, 2013).

The functions and activities of the insurance agents are important mainly because the agents are usually the most efficient vehicles in closing insurance transactions. This magazine discusses the examinations that insurance agents must pass to be licensed as interns or as licensed agents and discloses the passing rates on these exams. This study also shows trends in this part of the insurance industry (agents' commissions, mergers among insurance agencies, and agents' training), and the activities of the Exemptions Committee (Insurance Agents, 2000)

3 RESEARCH PROBLEM

Business of the agents is the major income of the company. Identifying factors that affect the business is the aim of this study. Therefore the top management of the company may consider some factors of agents, such as

- Which kinds of agents bring more business to the company?

  o Who can make more business when comparing young and experienced agents?

  o Which group makes more business when considering male and female agents? etc.

- From which area (rural or urban) the company can make more business?

4 METHODOLOGY

This study was carried out using secondary data to identify the factors of agents affecting the business of the selected insurance company out of 4457 registered agents between 2009-2015, 293 agents from all the branches Island wide were selected as a sample. Convenience sampling technique was used in sample selection. Descriptive analysis was used to compare variables and identify the behavior of the variables. The multinomial logistic regression method was used to identify the significant factors.

5 RESULTS AND DISCUSSION

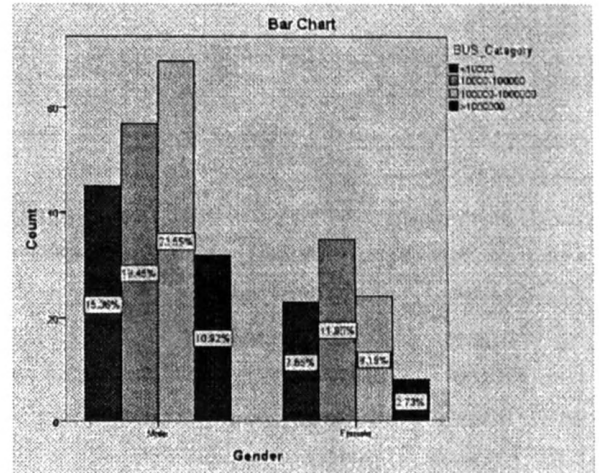The following bar charts illustrate how the Agents' business category relates to the seven factors of the agents.

Figure 1: Behaviour of the Business Category with the Agents' Gender

Fig. 1 indicates that male agents had done more business than female agents. Moreover, it can be observed that the number of male agents, who brought income more than 0.1 million, is greater than the total number of the female agents.
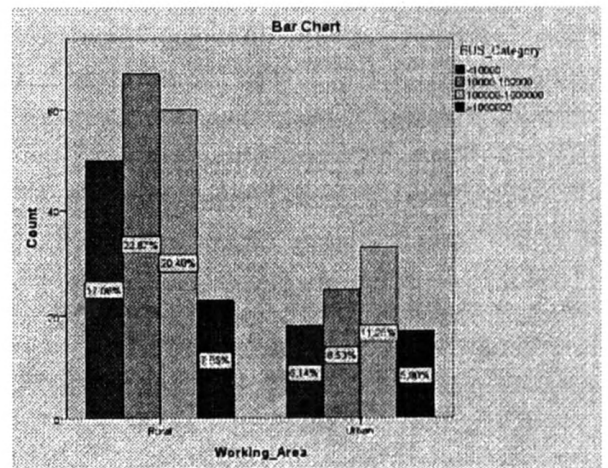

Figure 2: Behaviour of the Business Category with the Agents' Working Area

Fig. 2 indicates that the agents who were in rural area had done more business than the agents in urban areas. Among those in rural area, nearly 20% of the agents were able to bring business in the range of 0.1 million to 1 million.
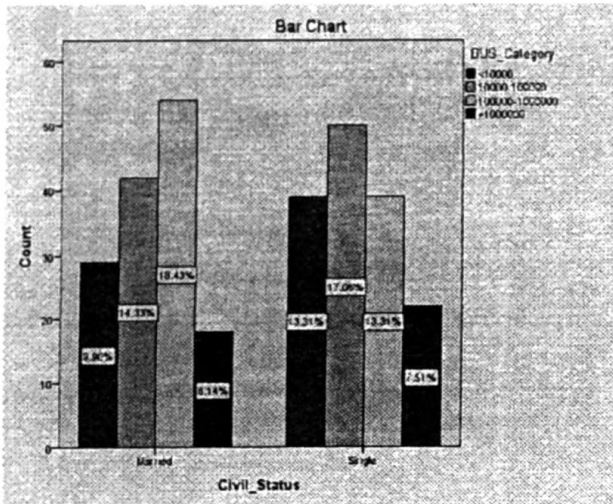
Figure 3: Behaviour of the Business Category with Civil Status

Fig. 3 indicates that married agents have brought business about 51.2% of the total business while single agents have brought about 48.8% of the total business. That is both the married and single agents contributed well in bringing business to the company.
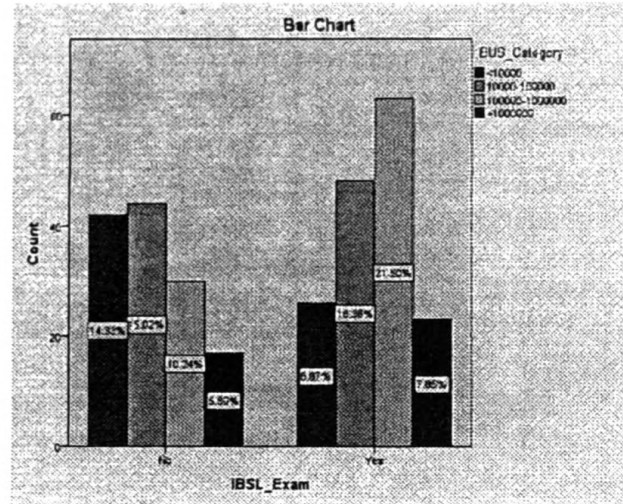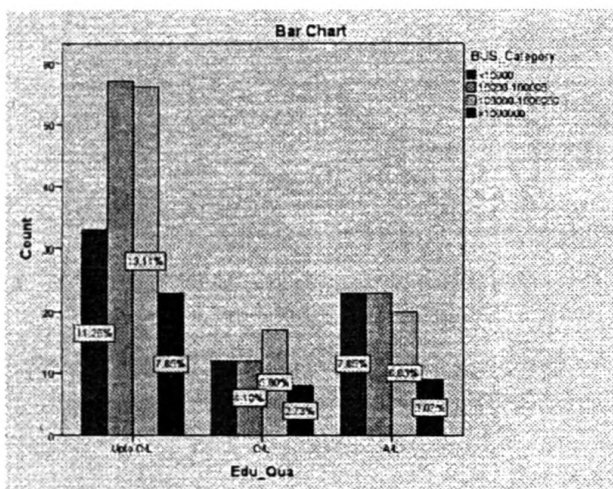

Figure 4: Behaviour of the Business Category with the Educational Qualifications

Fig. 4 indicates that most of the agents have educational qualifications up to O/L.

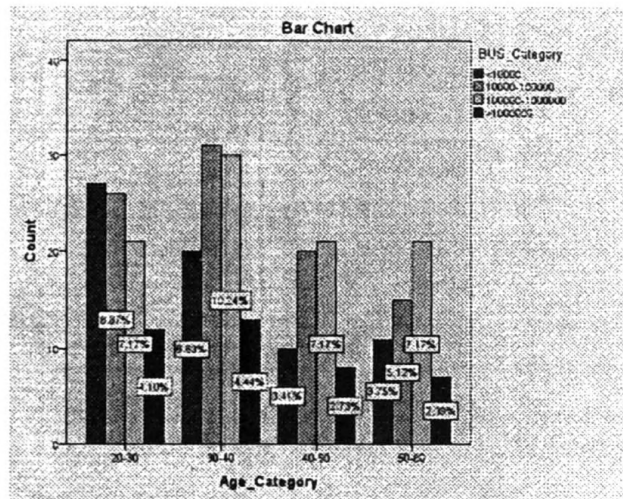Fig. 5 indicates that most of the agents have passed the IBSL exam.

Figure 5: Behaviour of the Business Category with the Agents' Achievements of IBSL Exam

Figure 6: Behaviour of the Business Category with the Age

Fig. 6 indicates that agents who are in age between 30-40 years bring more business to the company.
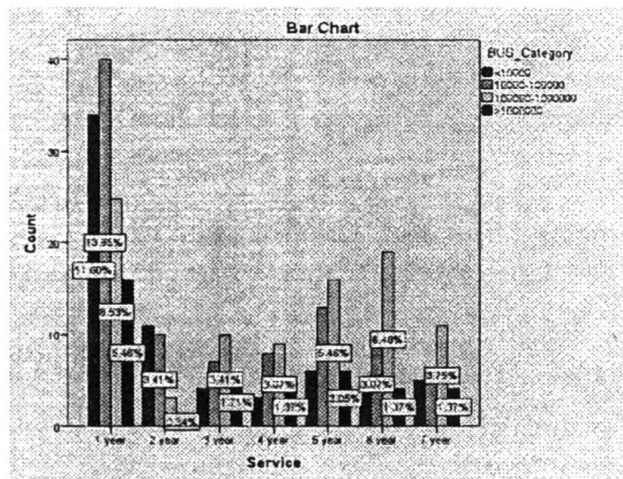

Figure 7: Behaviour of the Business Category with the Experience

Fig. 7 indicates that there are nearly 40% of agents within one-year service range.

The multinomial logistic regression method was used to identify the factors of the agents affecting business of the selected insurance company.

Table 1: Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	624.389			
Final	563.822	60.567	45	.014

For this study hypothesis can be written as follows:

H_0: All of the regression coefficients in the model are equal to zero

H_1: At least one of the regression coefficients in the model is not equal to zero.

According to the results given in Table 1, the significant level $0.014 < 0.05$, the hypothesis H0 is rejected. Therefore there is an improvement of the model by adding independent variables at 5% level of significance.

Table 2: Pseudo R- Square

Cox and Snell	.187
Nagelkerke	.201
McFadden	.077

According to Table 2 Cox and Snell value, Nagelker value and McFadden value are laid in between 0 and 1. Therefore the model is a good model.

Table 3: Goodness of Fit Test

	Chi-Square	df	Sig.
Pearson	500.751	456	.072
Deviance	458.798	456	.454

Hypothesis

H_0: The model adequately fits the data

H_1: The model does not adequately fit the data

According to Table 3, The Pearson and Deviance statistics have Chi-square distributions with the displayed degrees of freedom. Since the level of significance is $0.072 > 0.05$, H0 is accepted at 5% level of significance. Therefore there is significant evidence that the model adequately fits the data.

Table 4: Fitted Model

Business catogery	Factor	B value	Sig.	Exp (B) value
<10000	Male (Gender=0)	.356	.022	1.427
<10000	Rural (Working Area=0)	1.166	.012	3.210
10000-100000	Male (Gender=0)	.471	.028	1.371
10000-100000	Rural (Working Area=0)	.914	.036	2.494

According to the results in Table 4, the fitted model can be written as

Logit (P_{ij}) = (Area of the Agent)$_i$ + (Gender of the Agent)$_j$,

Where P_{ij} is the probability of bringing business to the company by an Agent in i^{th} Area and j^{th} Gender.

From Table 4, the following two equations can be derived to explain the business category with significant factors.

Equation 1

The variables that have a statistically significant relationship to the business category of less than 10000 with respect to the business category of greater than 1000000,

- $Z=Log[P(\text{Business Category}<10000) /P(\text{Business Category} >1000000)]$

$Z= 0.260 + 0.356(\text{Male}) +1.170 (\text{Rural Area})$

Equation 2

The variables that have a statistically significant relationship to business category of 10000 - 100000 with respect to the business category greater than 1000000,

- Z=Log[P(Business Category 10000 - 100000)/P(Business Category 1000000)]

Z= 0.623 + 0.316 (Male) + 0.914 (Rural Area)

According to Table 4, the odds of being in the business category 1 (<10000) rather than business category 4 (> 1000000),

- Increased by a factor of 1.427 being Male (Gender=0) agent rather than Female (Gender=1).
- Increased by a factor of 3.210 in Rural (Working Area=0) area rather than Urban (Working Area =1).

According to Table 4, the odds of being in the business category 2 (10000-100000) rather than business category 4 (> 1000000),

- Increased by a factor of 1.371 being Male (Gender=0) agent rather than Female (Gender=1).

- Increased by a factor of 2.494 in Rural (Working Area=0) area rather than Urban (Working Area =1).

6 CONCLUSION

According to the descriptive analysis it can be concluded that the male agents have done more business than the female agents. Most of them are engaged in the business category 10000-100000 & 100000-1000000.

Moreover, this study concludes a special fact about the agents. That is to bring more business to the selected insurance company, educational qualification is not an important factor but the agents' achievement of IBSL Exam.

Using the multinomial logistic regression analysis it can be concluded that the gender and the agents' working area were associated factors with the business of the selected insurance company. By considering the significant factors, male agents bring more business compared to the female agents and the agents who are working in rural areas bring more business compared to those who are working in urban areas. Finally, from both the analyses, it can be concluded that the gender of the agents and the working area of the agent affect the business of the selected insurance company in Sri Lanka.

REFERENCES

- Friedmen, S., Attia T., (2013). Brace yourselves for direct sales to small-business insurance consumers, Handout given at the Annual Meeting of Casualty Actuarial Society Annual Meeting, Minneapolis, MN, USA.

- Hale, J. (1998) Strategic Rewards: Keeping your best talent from walking out the door. *Compensation & Benefits Management* 14(3), 39-50

- Insurance Agents (2000). Retrieved from http://en.m.wikipedia.org>wiki>Independent Agents.