

FACTORS AFFECTING SALES PERFORMANCE OF CROP INSURANCE AT ETHIOPIAN INSURANCE CORPORATION

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ABSTRACT

This paper presents a result of a study undertaken to examine factors associated within institutional and personal framework that affected sales performance of crop insurance at Ethiopian Insurance Corporation. Primary data of the study were collected using interview from the top management of the corporation who were chosen based on purposive sampling and questionnaires from 204 respondents consisting of the corporation's management staff and commercial farmers who were selected by using a combination of census, stratified and simple random methods. The data collected were carefully edited, coded, encoded using spreadsheet, and analyzed by using both descriptive and inferential statistics, such as regression model. The results of the analyses revealed that awareness level, accessibility and prompt service, professional capability of staff selling insurance, premium level and scope of policy cover were identified by the top management as key factors determining the sales performance of crop insurance. The study has supported the established relationship between sales performance of crop insurance and institutional and personal factors. Based on their respective magnitude, awareness level of commercial farmers have the strongest positive relationship while scope of policy cover has relatively lower positive impact on sales performance of crop insurance. Premium is the only factor with a negative relationship with the sales performance of crop insurance. It shows that if these factors are taken into consideration by EIC and other insurance companies, sales performance of crop insurance might be significantly improved.

Key Words: Crop insurance, Awareness, Accessibility and prompt service, Professionalism, Premium and Scope of cover

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Introduction

Agriculture remains an important economic sector in many developing countries. It is a source of growth and a potential source of investment opportunities for the private sector. Two-thirds of the world's agricultural value added is estimated to be created in developing countries (World Bank, 2008).

Ethiopia's economy is highly dependent on the agricultural sector, which provides direct livelihood for about 83% of the population, contributing 43–45% of the country's Gross Domestic Product (GDP), 87% of its export earnings and around 73% of the raw material requirement of agro-based domestic industries (Araya, 2011). Above all, the agricultural sector is the prime source of food for the ever growing population of the country.

In Ethiopia, 85% of the population lives in rural areas and depends on rain-fed agriculture (Block, Strzepek, Rosegrant, & Diao, 2008). Although Ethiopia is affected by various natural disasters such as wild fire, wild animals and birds, grasshopper, army worm (*temch*), drought is the most frequent and devastating natural factor. Moreover, studies indicate that climate change could result in more intense and prolonged droughts (IGAD & ICPAC, 2008). Flooding is also an increasing concern (Murendo, 2009). Natural disasters can reduce production, income, investments, consumption and food security. Coping mechanisms to reduce the impact of natural disasters can be ex-ante to smooth income in the presence of the threat of natural disasters and ex-post to smooth consumption after natural disasters actually occur. Income smoothing strategies, such as favoring traditional or drought-tolerant crops and plot diversification, not only may be limited in their ability to prevent income losses if the natural disaster occurs, but can

also have high implied risk premiums, keeping households in poverty traps as they avoid investments that would otherwise increase their productive capacity (Dercon & Christiaensen, 2010).

The agricultural sector in Ethiopia is currently composed of 12.6 million smallholder farmers (who operate on farms averaging 1.2 hectares each) and several thousands of commercial farms. The combined annual crop production of these two groups of farms is 31 million tons, with 71% of this output comprised of grains (cereals, pulses, and oil crops) and the remainder consisting of vegetables, fruits, and cash crops (mainly coffee, sugarcane, chat, and *enset*). According to the latest GDP statistics, growth in the sector has been nearly 8% in recent years and in value terms the combined output of the agricultural sector is now worth an estimated Birr 221 billion (\$13 billion) (Access Capital, 2012).

Agricultural commercialization was not high on the policy agenda until recently, as Government rather prioritized ensuring food security and poverty reduction at household level.

Data from Ethiopian Insurance Corporation has indicated that, there were about 10,139 registered commercial farmers, of which 32% are in crop production, on the basis of registration record between July 1992 and January 2015. Of those 3,148 crop production investments, 344 were registered as operational. Overall distribution of commercial farmers varies from 1% in Gambella and Somali regional states to 31% in Tigray Regional State (Ethiopian Investment Agency, 2015).

The Ethiopian Insurance Corporation (EIC), herein after called The Corporation, annual gross premium income is Birr 2.0 billion. The premium

is lower than the projection by Birr 618.2 million or 23.8%, as well as, last year's same period performance by Birr 183.4 million or 8.5% (Ethiopian Insurance Corporation, 2014).

Even though, Ethiopia's economy is highly dependent on the agricultural sector, which provides direct livelihood for about 83% of the population, contributing 43 – 45% of the country's Gross Domestic Product (GDP), 87% of its export earnings, of which coffee and various other crops have the upper portion, one can say the Corporation is totally failing to grab the huge opportunity from this sector. According to data from EIC (2014), in 2014 budget year, out of the Birr 1.9 billion or 95% of the gross premium collected from the general insurance business, only Birr 14 million or 0.8% was collected from crop insurance class of business. And this poor performance was even worse during the last three years with aggregated premium of only Birr 5.4 million for the three years.

The corporation, as a governmental institution, is mandated to provide full support to agricultural development of the country since this sector still constitute a greater portion of the country's GDP.

The government has been taking initiatives on modernizing and commercializing the agricultural sector. The second Plan for Accelerated and Sustained Development to End Poverty (PASDEP) formulates a more pronounced strategy towards smallholder commercialization. Commercialization of agriculture and the growth of the non-farm private sector are two main thrusts of the initiative to accelerate growth for the strategic five years (2005/06-2009/10). PASDEP had also recommended specialization both at farm and community level, a shift to high-value crops, promotion of niche high-value export crops, a stronger focus on selected

high-potential areas, supporting the development of large-scale commercial agriculture where it is feasible, and facilitating the commercialization of agriculture, among others, through improved integration of farmers with markets - both at local and global level. Current government policy on commercialization focuses both on small and large farms (Ministry of Finance and Economic Development, 2006). This strategy which revealed two broad paths for the commercialization of Ethiopian agriculture: commercialization of smallholder agriculture through market-led production, and commercialization via the emergence, growth and expansion of modern agricultural enterprises.

Considering the various risks attached to the agriculture, such as wild fire, wild animals and birds, grasshopper, “temch”(army worms), especially in drought prone area like Ethiopia, the government’s effort would be meaningless if there are no strong supports from the insurance industry to help farmers and/or investors cope-up with the weather and associated risks involved in the business.

The corporation’s effort to provide sufficient cover with reasonable premium is essential for the corporation to prove its commitment on being a development partner for the country and exploit the huge opportunity in the area.

The corporation is currently facing a serious problem in the area of retaining existing customer and attracting new ones. To this effect most customers are retaining the risk by themselves and when its mandatory for them to have insurance because of some credit arrangement from banks, they transfer their insurance to private insurance companies. So the corporation’s gross

written premium on this class of business is very low over the years. This problem may have occurred due to different reasons.

So far, studies on agricultural insurance in Ethiopia have focused on micro-insurance. Little effort was made by the corporation to improve performance and to determine factors that could influence crop insurance sales. It was within this context that this study was launched with the objective of identifying the factors that affect the sales performance of crop insurance at the corporation.

Methodology

Conceptual Framework of the Study

The following diagram shows the variables included in the study and the conceptualization of the relationship between the independent and dependent variables based on the interview findings held with the top management of the corporation.

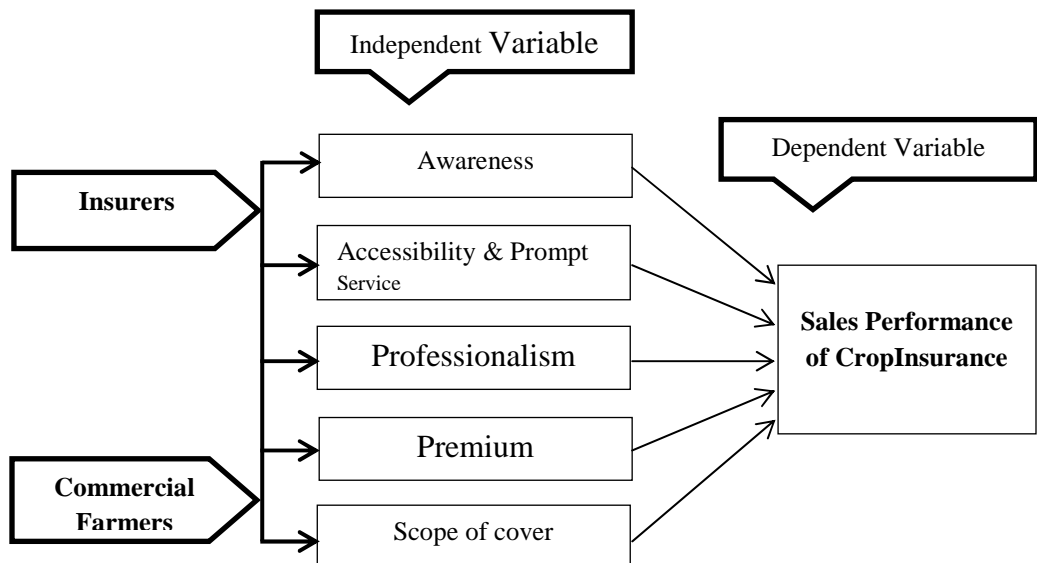


Fig.1. Conceptual framework of the study

Research Design

Since the purpose of this study was to identify the factors behind the poor performance of crop insurance and analyze their relationship with sales performance of crop insurance, the study employed a mixed, specifically a sequential exploratory method. For the exploratory part, using qualitative methods, semi-structured interview was used, to help the researcher get insights of factors that are affecting the sales performance of crop insurance while structured questionnaires were chosen to collect explanatory data and analyze the cause and effect relationship between the earlier identified factors to sales performance of crop insurance.

And as far as time horizon was concerned, this study was typically a cross-sectional study, in that data were collected from a cross section of commercial farmers and management staff of the corporation at one period of time.

Data Sources and Data Collection Methods

Both qualitative and quantitative data was collected using different methods of data collection, such as semi-structured interview and questionnaires. Both primary and secondary data was also collected and the primary data was obtained from the management staff of the corporation and commercial farmers regarding factors that affect the sales performance of crop insurance using self-developed semi-structured interview and with the use of questionnaires. The secondary data was collected from records of the corporation, the National Bank of Ethiopia, the Ethiopian Investment Agency and the Internet through well designed documentary analysis.

Population and Sampling Technique

Target Population

The target population for the exploratory study was the top management of the corporation since they are endowed with vast practical experiences and could see the big picture clearly. According to EIC's Human Resource Directorate, they accounted for only 9 persons.

The target population for the explanatory part has been broadly categorized under two major groups:

- First, external population, consisting of commercial farmers specialized on crop productions that are operational currently. According to data from Ethiopian Investment Agency, they were a total of 344 farmers.
- Second, internal population, consisting of lower level Management staff working in the Corporation's Insurance Service Process, as they are the ones with non-stop interaction with customers and having several years of practical experience in the operation. According to data from the Corporation's Human Resource Directorate, they were 117 management staff. The total number involved in the explanatory part of target population was 461.

Sampling Techniques

The sampling technique adopted for the exploratory part for collecting qualitative data was census method whereby all corporation top management staff were involved.

On the explanatory part, since the target population to be interviewed was heterogeneous, it would be appropriate to make use of stratified sampling method. For collecting quantitative data, simple random sampling technique was used.

Sample Size

For populations that are large the following equation was developed to yield a representative sample for proportions: $n_o = \frac{Z^2 p q e^2}{e^2}$, which is valid where n_o is the sample size, Z^2 is the 1- α equals the desired confidence level, which is 95%, e is the desired level of precision, p the estimated proportion of an attribute that is present in the population, and q is $1 - p$. The value of Z is found in statistical tables. So, for the purpose of this study a sample size is formulated assuming p is 0.5 (maximum variability), 95% of confidence level and +/- 5% precision, the sample size would have been 385. But since the population of this study was low it was calculated using the following formula:

$$n = \frac{N}{1 + \frac{(n_o - 1)}{N}}$$

where, n_o is the sample size which is 385 units and N is the population size which is 461.

Thus, the sample size for the second phase becomes 210 units. In order to perform a regression analysis it's mandatory that the number of observations of all variables must be equal. So, 105 commercial farmers and 105 management staff of the corporation were selected as samples for the study.

Data Collection

- a. In the exploratory stage, semi-structured questions were used in the interviews of top management of the corporation.
- b. In the explanatory stage, structured questionnaires were developed to collect quantitative data from other respondents. The questions were framed using Likert's scale of measurement ranging from 5 points for strongly agree to 1 point for strongly disagree.

The interview was administered through personal contact by the researcher and the questionnaires were administered with the help of the corporation's insurance professionals posted in the corporation's outlying branches across the country.

Validity and Reliability

To test for internal consistency of the research instrument, the researcher distributed the questionnaires to 30 respondents as a pilot test to test the fitness of the instrument to measure the sales performance of crop insurance.

To test reliability, the widely used method by many scholars is Cronbach's alpha. Cronbach's alpha reflects that the extent to which the items in the questionnaire are related to each other. The values of Cronbach's coefficient alpha normally range between 0 and 1. High value indicates high degree of internal consistency. Although, different author accept different values of this tests to reach on internal reliability of the instrument, the most commonly accepted value is equal to or greater than 0.70 to reach on reliability of acceptable instrument (NUNALLY, 1978). Based on an overall Cronbach's alpha coefficient result of **0.858**, the questionnaire distributed under the study was considered reliable (Table 1).

Table 1. Cronbach's Coefficient alpha test result for internal consistency of the research instrument

Reliability Statistics		
Variables	Cronbach's Alpha	No. of Items
Sales Performance	0.934	4
Awareness	0.923	4
Accessibility & Prompt Service	0.855	3
Professionalism	0.846	4
Premium	0.833	4
Scope of Policy Cover	0.916	3
Overall	0.858	22

Data Analysis

Statistical package for social science (SPSS) version 20.0 was used to analyze the data, and the information was presented through frequency distribution for the descriptive statistics, and multiple linear regression model was chosen to understand and examine the causal relationship of the identified variables and sales performance of crop insurance.

The multiple regression model framework of the study was:

$$Sls = \alpha + \beta_1 Awr + \beta_2 APS + \beta_3 Prf + \beta_4 Prm + \beta_5 Scp + U_i$$

Where; **Sls** = Sales performance of crop insurance

α = The constant, or Y intercept

β_i = The coefficient of the independent variables

Awr = Awareness level of commercial farmers

Aps = Accessibility and prompt service

Prf= Professionalism

Prm =Premium

Scp= Scope of policy cover

Ui =the error term

Results and Discussion

Results

Respondents' Demographics

Age

Around 35% of the management staff respondents were between the ages of 30 and 35, 18.8% were in the range of 24 to 29, 17.9% were between the age of 36-40 and 15.4% of them were categorized above 40 years of age (Table 2).

Table 2. Age of the Corporation's Management Staff

Age			
Age		Frequency	Percent
Age category	24-29	22	21.6
	30-35	41	40.2
	36-40	21	20.6
	Above 40	18	17.6
	Total	102	100.0

Source; Own survey, 2015

Education

More than 90% of the management staff was first degree holders while the remaining had MastersDegree (Table 3).

Table 3. Educational level of the Corporation's Management Staff

Education level of The Corporation's management staff			
		Frequency	Percent
Education level	1st degree	92	90.19
	Master's degree	10	9.81
	Total	102	100.00

Source; Own survey, 2015

Experience

The majority (49%) of the management staff of the corporation had less than five to ten years of experience while it varies for the remaining ones (Table 4).

Years		Frequency	Percent
Experience in years	Below 5	7	6.9%
	5-10	50	49.0%
	11-15	25	24.5%
	Above 15	20	19.6%
	Total	102	100.0%

Source; Own survey, 2015

For the second group, i.e. the commercial farmers, demographic characteristics of the respondents are given on table 5.

Table 5. Demographic Information of Commercial Farmers

Age			
		Frequency	Percentage
Years	30-35	30	29.4
	36-40	37	36.3
	Above 40	35	34.3
Total		102	100.0
Experience			
		Frequency	Percentage
Years	Below 5	8	8
	5-10	16	16
	11-15	39	38
	Above 15	39	38
Total		102	100
Education			
		Frequency	Percentage
Stages	Literate (Read & Write only)	17	16.7
	Attended primary school	20	19.6
	Attended high school	12	11.8
	Diploma	26	25.4
	1st degree	27	26.5
Total		102	100.0

Source: Own survey

Almost 70% of the respondents fall under the categories above 36 years of age, indicating that the majority of commercial farmers were mature, highly experienced. However, when it comes to education, only 51% of them have attended college education, but the remaining 49% of the farmers fall under different categories, i.e. high school, primary school or read and write only.

Economic Status of the Commercial Farmers

With regard to size of land holdings, only 4% of the respondents occupy as much as 750 hectares of land each for crop farming. The biggest share (36%) goes under the category of land holdings between 101 and 250 hectares, while 25% of the farmers hold a size of land below 100 hectares each (Table 6).

The approximate capital investment figure also shows that most farmers (33%) fall under the category of investment between Birr 1 and 3 Million while 23% of them invested below Birr 1,000,000.00 (Table 6).

With regard to last year's crop insurance coverage, only 25% of farmers were insured, indicating that the other 75% of the commercial farmers were not insured at all. Out of the total revenue collected by the commercial farmers, which amounted to about Birr 661 million, the amount insured was only Birr 56 million, which was considered as very low by any standard of assessment (Table 6).

Last year's crop yield was also low; only 40% of the farmers had harvested amounting to 1,000 to 6,000 quintals, while 18% had harvested even lower, i.e., below one thousand quintals each. Only 1% of the respondents were

able to harvest more than 24 thousands of quintals each. The low production of some farmers can be attributed to fear of risks (Table 6)

Table 6. Economic Characteristics of Commercial Farmers

Size of land			
		Frequency	Percentage
Hectares	Below 100	26	25
	From 100 to 250	37	36
	From 251 to 500	23	23
	From 501 to 750	12	12
	Above 750	4	4
	Total	102	100
Approximate Capital Invested			
		Frequency	Percentage
Birr	Below 1,000,000.00	23	22.5
	From 1,000,000.00 to 3,000,000.00	34	33.4
	From 3,000,001.00 to 6,000,000.00	20	19.6
	From 6,000,001.00 to 9,000,000.00	16	15.7
	From 9,000,001.00 to 12,000,000.00	9	8.8
	Total	102	100.0
Insurance Coverage Last Year			
		Frequency	Percentage
Birr	Below 1,000,000.00	7	26.9
	From 1,000,000.00 to 2,000,000.00	9	34.6
	From 2,000,001.00 to 4,000,000.00	6	23.1
	From 4,000,001.00 to 6,000,000.00	2	7.8
	From 6,000,001.00 to 8,000,000.00	1	3.8
	Above 8,000,000.00	1	3.8
	Sub-total	26	100.0
Missing	No Cover	76	
Total		102	
Last Year's Yield			
		Frequency	Percentage
Quintals	Below 1,000.00	18	17.6
	From 1,000.00 to 6,000.00	41	40.2
	From 6,001.00 to 12,000.00	17	16.7
	From 12,001.00 to 18,000.00	20	19.6
	From 18,001.00 to 24,000.00	5	4.9
	Above 24,000.00	1	1.0
	Total	102	100.0

Last Year's Total Revenue			
		Frequency	Percentage
Birr	Below 1,000,000.00	16	15.7
	From 1,000,000.00 to 5,000,000.00	37	36.3
	From 5,000,001.00 to 10,000,000.00	25	24.5
	From 10,000,001.00 to 15,000,000.00	13	12.7
	From 15,000,001.00 to 20,000,000.00	9	8.8
	Above 20,000,000.00	2	2.0
	Total	102	100.0
Last Year's Profit			
		Frequency	Percentage
Birr	Below 1,000,000.00	58	56.9
	From 1,000,000.00 to 3,000,000.00	30	29.4
	From 3,000,001.00 to 5,000,000.00	12	11.7
	From 5,000,001.00 to 7,000,000.00	1	1.0
	Above 7,000,000.00	1	1.0
	Total	102	100

Regression Analysis of Factors Affecting Sales Performance of Crop Insurance

The study used a multiple linear regression model and examined the effects and magnitudes of the independent variables identified from the interview with the top management of the corporation on the sales performance of crop insurance.

Before analyzing the data gathered by the questionnaires, the researcher has checked the necessary assumptions that have to be fulfilled in order to undertake analysis by multiple regression models.

Assumptions of Multiple Regression Model

Five tests for CLRM assumptions namely, normality, linearity, homoscedasticity, multicollinearity and independence of residual were conducted.

1. Test for Normality of Data

Test for normality, was calculated to determine whether the data is well modeled by normal distribution or not. This test of normal distribution could be checked by graphical (histogram and dot plot) method of tests. The normality assumption assumes a critical role when a study is dealing with a small sample size, data less than 100 observations (Gujarati, 2004).

Even though the normality assumption is not a treat since the observation or sample size of the study is large enough, more than 100 observations, the data were tested by using normal probability plot (NPP). The decision rule is, if the fitted line in the NPP is approximately a straight line, one can conclude that the variables of interest are normally distributed (Gujarati, 2004) (Fig. 3).

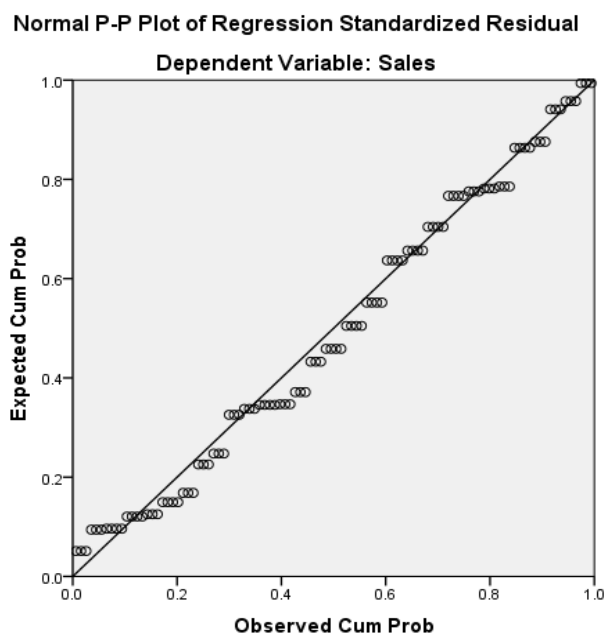


Figure 3. Graphical test of Normality Assumption

Source; SPSS result of Normality, 2015

From the figure above, one can see that residuals of the model are approximately normally distributed, because a straight line seems to fit the data reasonably well.

2. Test for Linearity and Homoscedasticity

Multiple linear regression model assumes there is a linear relationship between the independent variables and the dependent variables. Homoscedasticity assumption means the range of variance for the dependent variable is uniform for all values of the independent variables.

Both assumptions can be checked by scatter plot diagram stated below.

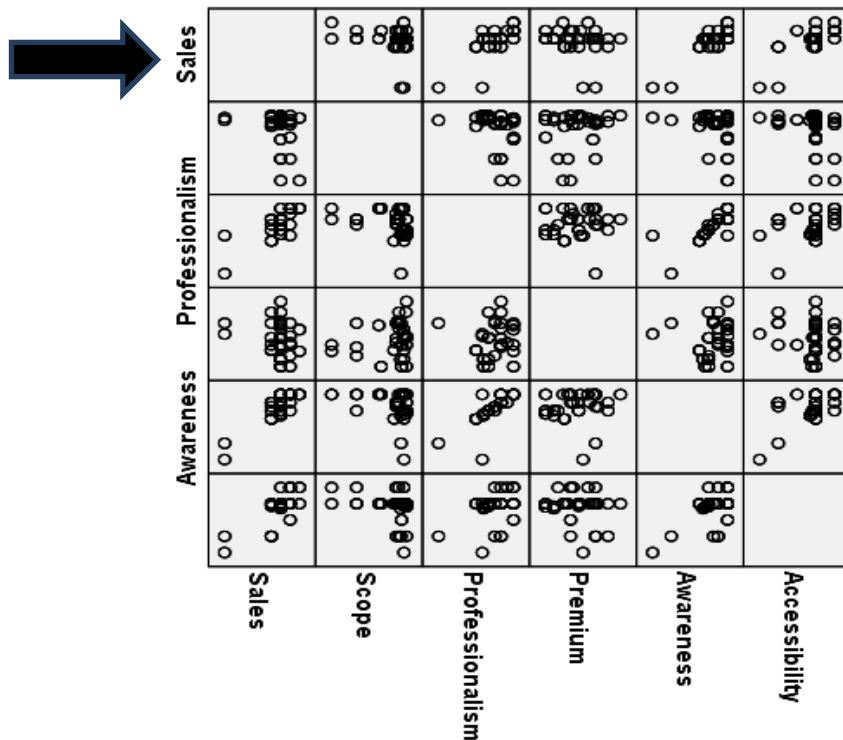


Figure 4. Scatter plot diagram for test for homoscedasticity

Source; SPSS result, 2015

As shown on figure 4, both assumptions were not serious threat to the study since one can draw one straight line to approximate the observations for all independent variables against the dependent variables, sales, and also the variance between the upper and lower cases of the observations.

3. Test for Multicollinearity

Another assumption that has to be met to undertake multiple linear regression model is the assumption of multicollinearity. It's an indication for a linear relationship between the independent variables (Gujarati, 2004).

Variable Inflation Factor (VIF) technique was used to measure the reciprocal of the complement of the inter-correlation among the predictors:

$$VIF = 1 / (1 - r^2)$$

The rule adopted is that a variable with VIF value of greater than 10 indicates the possible existence of multicollinearity problem. Tolerance (TOL), defined as $1/VIF$, is also used by many researchers to check on the degree of collinearity. The rule for Tolerance is that a variable whose TOL value is less than 0.1 shows the possible existence of multicollinearity problem (Gujarati, 2004).

Table 7. VIF values of Predictors

Variables	Collinearity Statistics	
	Tolerance	VIF
Awareness	.300	3.335
Accessibility	.624	1.603
Professionalism	.384	2.607
Premium	.895	1.117
Scope	.828	1.207

Source: SPSS Results, 2015

VIF values for all variables became less than the tolerable value, i.e. 10. Tolerance value of all variables also became above 0.1 which indicates that this model is free from multicollinearity problem between the dependent variables (Table 7).

4. Test of Independent of Residuals

Multiple linear regression model assumes that the residuals are independent of one another.

The Durbin-Watson statistic is used to test for the presence of serial correlation among the residuals. The value of the Durbin-Watson statistic ranges from 0 to 4. As a general rule, the residuals are not correlated if the Durbin-Watson statistic is approximately 2, and an acceptable range is 1.50 - 2.50.

Table 8. Test of Independence of Residuals

Durbin-Watson
2.420

Source; SPSS Results, 2015

Based on the information given on table 8 above, the assumption of independence of residuals has been met (Table 8).

Generally, the study discussed five major assumptions that must be fulfilled for one to analyze data using multiple linear regression model. So, since all five assumptions were not violated, the data collected through the questionnaires were examined by using multiple regression model.

Results of Regression Analysis

The model for the study that depicted factors that affect the sales performance of crop insurance at Ethiopian Insurance Corporation is;

$$SIs = \alpha + \beta 1Awr + \beta 2APS + \beta 3Prf + \beta 4Prm + \beta 5Scp + Ui$$

Where; **SIs**= Sales performance of crop insurance

α = The constant, or Y intercept

βi= The coefficient of the independent variables

Awr = The level of awareness of commercial farmers

aps =Accessibility and prompt service

Prf = Professionalism

Prm = Premium

Scp=Scope of policy cover

Ui= The error term

Table 9. ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.794	5	3.159	178.998	.000 ^b
	Residual	1.694	96	.018		
	Total	17.488	101			

Table 10. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.950 ^a	.903	.898	.13284	2.420

Source; SPSS Result, 2015

The result in the ANOVA table confirmed the significance of the overall model by p-value of 0.000 which is below the alpha level, i.e. 0.05, which means, the independent variables taken together have statistically significant relationship with the dependent variable under study.

The other major result under the model summary table showed that the R or coefficient of correlation of the model is 0.95 or 95% and Adjusted R-Square or coefficient of determination of the model is 0.898 or 89.8%.

The regression analysis was done using sales performance of the corporation as dependent variable and Awareness, Accessibility and Prompt service, Professionalism, Premium and Scope of cover as independent variables.

All independent variables have statistically significant relationship with the dependent variable since their p-value is below the alpha level (0.05) (Table 11).

Table 11. Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.017	.151		13.362	.000
	Awareness	.277	.028	.579	9.986	.000
	Accessibility	.154	.018	.349	8.683	.000
	Professionalism	.139	.035	.207	4.028	.000
	Premium	.118	.018	-.223	-6.644	.000
	Scope	.078	.018	.155	4.440	.000

Source; SPSS Results, 2015

a. Dependent Variable: Sales

Considering the standardized beta coefficients, the strongest predictor of the dependent variable (sales performance of crop insurance) is Awareness with 0.579 value and Accessibility and Prompt service, Professionalism, Premium and Scope of cover with a beta value of 0.349, 0.207, -0.223, 0.155, respectively (Table 11). All the independent variables have positive relationship with the dependent variable except the variable Premium which has a negative relationship with the dependent variable.

Based upon the information obtained so far, the following model fits the relationship of independent and dependent variables, i.e. the factors affecting sales performance of crop insurance.

$$Sl_s = 2.017 + 0.277Awr + 0.154APS + 0.139Prf - 0.118Prm + 0.078Scp$$

Discussion

The ANOVA test that produced a P-value of 0.000 which is below the alpha level, i.e. 0.05 had indicated that the overall independent variables had statistically significant relationship with the dependent variable, i.e. sales performance of crop insurance.

The R (Coefficient of Correlation), simply measures the degree of (linear) association or co-variation between the dependent variable and the independent variables jointly (Gujirat, 2004). In this case the value of R which is 0.95, indicates that there is a very strong relationship between the independent variables as a whole and sales performance of crop insurance or this can also mean that independent variables taken together and sales

performance of crop insurance of the corporation vary together 95% of the time.

The adjusted R square (Coefficient of Determination), can be defined as the proportion of the total variation or dispersion in the sales performance of crop insurance of the corporation (dependent variable) that explained by the variation in independent variables in the regression (Gujarati, 2004). Thus, with adjusted R Square value of 0.898, meaning that 89.8% of the variation in sales performance of crop insurance, is explained by the linear relationship with all the independent variables. The corollary of this is that only 10.2% of the variation in sales performance of crop insurance is unexplained by the relationship or these percentages of change in sales performance of the crop insurance accounts for other variables not mentioned under this study. Thus, when adjusted R square is high it means that the independent variables included in the study play an important part in affecting the dependent variable.

Generally speaking, the regression model developed under the study can be considered as a good fit or predictor of sales performance of crop insurance of the corporation.

The individual effects of the independent variables can be explained by their respective beta coefficients. As per the regression result, the sale performance of crop insurance and awareness level of commercial farmers have the strongest positive relationship, i.e., 1 unit increment in Awareness level of commercial farmers can cause about 28% growth in sales of crop insurance. This corroborates with the views of G/Giorgis (2014), Geoffroy, Fabian & Felice (2012), Timothy & Richards (2000) and Ebitu, Ibok,

Mbum(2012) who found in their respective studies that increasing the level of awareness would have a positive impact on consumption or sales performance.

The second variable under study was accessibility and prompt service, and according to the regression result, it has a positive relationship with the sales performance, i.e., 1 unit increment on this variable will cause about 15.4% increment on sales performance of crop insurance. Here, it is understandable that if one insurance company makes itself more accessible to the public or target market and provides prompt service to its customer the sales performance would increase. And these ideas were shared in the study by Fatima & Maria (2007) and Ebitu, Ibok, Mbum (2012) that providing a prompt and dependable service and being easily accessible to the public is a good way to construct a long run healthy relationship with customers who in turn increase consumption of insurance.

The third variable was Professionalism. This factor also has a positive relationship with the sales performance of crop insurance with a magnitude of 1 unit increase in Professionalism causes about 14% increase in sales. G/Giorgis (2014), G/Mariam (2014) and Fatima & Maria (2007) reported similar results on their respective findings that the insurance companies should have their professionals be well informed and up-to-date about the policies they sell. Since the insurance companies fight for the same customers, establishing an informative, honest, and open relationship with potential customers that would allow trustworthiness. In the long run, trust and integrity along with good prices would allow better chances to retain loyal customers.

The other factor under study was premium, and this factor has a negative relationship with the sales performance, i.e., with 1 unit increment in premium will cause about 11.8% decrease in sales performance of crop insurance. Geoffroy, Fabian % Felice (2012) and Timothy & Richards (2000), had also stated that an increase in premium rate would have a negative impact on consumption. The implication is that insurance companies must consider charging competitive price or premium to improve sales performance.

The final factor this study considered was the scope of policy cover. The result had shown a positive relationship but with relatively lower impact, i.e., 1 unit increase in scope of cover would have an impact of about 7.8% increase in sales performance. And this finding supports the finding of G/Giorgis (2014) that mentioned rigid scope of policy cover is a reason for low consumption and thus recommends that insurance companies should be more flexible on their scope of cover to meet their customers' need which eventually improve the consumption of insurance.

Conclusion

The study sought to identify the most important factor or factors that are behind the poor sales performance of crop insurance in the corporation. Those factors the corporation's management believed to have an impact on the poor sales performance were low level of awareness about the uses and benefits of crop insurance, low level of accessibility and delay in service delivery due to very limited agricultural experts, low level of professionalism that came due to low level of knowledge about the crop insurance among the staff members of the corporation, rigid scope of policy cover that are due to reinsurers fear of

risk, information asymmetry and expensive premium rate as perceived by the public in comparison to that of private insurance companies.

Based on the findings from the regression analysis, it was concluded that those factors identified by the management of the corporation are indeed the institutional and personal factors that inhibit the sales performance in the corporation and that the seemingly low sales performance of crop insurance was a result of low level of awareness of the public about the uses and benefits of crop insurance and the other factors as perceived by the public relative to that of private insurers.

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