International Journal of Statistical Distributions and Applications
2022; 8(3): 47-54
http://www.sciencepublishinggroup.com/j/ijsda
doi: 10.11648/j.ijsd.20220803.12
ISSN: 2472-3487 (Print); ISSN: 2472-3509 (Online)

Statistical Analysis of Financial Saving Habit of Employees at Samara University in Case of College of Science

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To cite this article:
Abdu Hailu Shibeshi, Getnet Mamo Habtie, Kassaye Getaneh Argie. Statistical Analysis of Financial Saving Habit of Employees at Samara University in Case of College of Science. *International Journal of Statistical Distributions and Applications*. Vol. 8, No. 3, 2022, pp. 47-54. doi: 10.11648/j.ijsd.20220803.12

Received: July 18, 2022; **Accepted**: August 15, 2022; **Published**: August 24, 2022

Abstract: Savings is one of the most decisive factors for successful economic and personal growth. People desire to save although they tend to postpone saving until they have some stability in their lives. The purpose of this study has been to assess saving habits and identify factors that influence the saving habits of employees at Samara University at the college of science. Of 156 all workers, 111 workers were selected from employees working at Samara University at the college of science. The sampling was based on stratified random sampling and then follows simple random sampling from each group. The analysis was done using binary logistic regression with SPSS version 25.0 statistical software. The results indicate that 64.9% of employees had no saving experience and 35.1% of the respondents have been involved in saving part of their income. The results obtained from the analysis of binary logistic regression indicate that educational level and extra income can significantly affect the saving habits of employees. Furthermore, age, sex, marital status, extra income, cost of expenditures, the habit of saving, method of saving, member of saving association plan to detect extra income and housing status are found to be important factors affecting the saving habits of employees.

Keywords: Saving Habit, Employees, Binary Logistic Regression, Samara University

1. Introduction

Personal saving has two primary functions. First, savings provide the economic security of a safety net. People can prepare for unexpected and irregular financial situations by moving resources from the present to the future through savings. Second, saving leads to accumulation of wealth that enables individuals to improve their living standard and to respond to new opportunities [1]. Everyone agrees that, starting to save early has merit in it and "Money grows on the tree of patience" and there are benefits of “power of compounding”, but few actually practice it. When it comes to saving people in general and the poor in particular might not would completely rational and completely knowledgeable [2]. The goal of promoting financial saving habit was to make people more aware of financial opportunities, choices, and possible consequences. There was a growing recognition of the importance of financial education as it relates to saving [3, 4]. Financial education was one way of increasing savings and asset accumulation. The extent to which an individual understands the process and benefits of asset accumulation is likely to affect their willingness to save [5-7].

Most developing countries have a low rate of saving habits so improving saving habits was a primary goal for people living in this part of the world [3, 8]. Improving the saving habit of individuals was given attention to look at a variety of savings services used by people/customers in the community. Improving this depends not only on attending government providers but also on the appropriate execution of recommended components of saving in the household of the community and institutions or sectors. However, most of the studies focus on descriptive statistics to produce hard-to-generalize on a wider perspective. Thus, the purpose of this study was to assess the current status of saving habits services, and factors that influence utilize of these services, and to find out the possible reasons for the underutilization of saving habit services using primary data collected from

Samara University in the college of science.

1.1. Operational Definitions

Saving: income not spent, or deferred consumption.

Employee: a person employed for wages or salary, especially at non-executive level.

1.2. Objectives of the Study

The main objective of this study is to determine saving habits and identify a factor that influences the saving habits of employees in Samara University at college of science. The specific objectives of the study are:

a) To evaluate the capacity of saving institutions that employees they used.
b) To identify factors that influences the saving habits of employees.
c) To assess the current status of saving practices of the employees in Samara University at college of science.

2. Methodology

2.1. Study Area and Population

This study would be conducted at samara university in 2011 E. C. Samara university was one of the 44 universities in Ethiopia, Which was found in the Afar regional state in samara town. Samara town was the hottest in Ethiopia that is located 588km far from the northeast of Addis Ababa. It was characterized by an arid and semi-arid climate with low and erratic rainfall. The mean annual rainfall was below 350mm, and the average annual temperature was about 35°C and 45°C. According to a methodologist, the temperature may reach up to 49°C in the hottest month from May up to October. Currently, Samara University has eight colleges. They were the college of law, college of business and economics, college of natural and computational science, college of engineering and technology, college of agriculture, college of health science, college of veterinary medicine, and college of social science and humanities. The study population consisted of all employees at Samara University in the college of natural science.

2.2. Study Design

The sampling design that would be used in this study is a cross-sectional design. It was a type of observational study that involves the analysis of data collected from a sample population at one specific point in time. The main reason to use this type of design is the data obtained by a self-administered questionnaire for the purpose to perform this research.

2.3. Sampling Technique

Stratified random sampling was used where the researcher draws simple random samples from certain aggregation units of interest (from certain census block groups) when the strata are heterogonous geographic units and also from successively smaller aggregations until the individual subject level was reached. In this study using a stratified random sampling method, departments (Sport science, Earth science, Mathematics, Statistics, Chemistry, Physics, and Biology) employees were selected with probability proportional to size without replacement (PPSWOR) as primary sample units (strata), individual employee (secondary unit samples) from each selected stratum with simple random sampling. Among the total population, the sample size from each department was calculated using appropriate sampling techniques.

2.4. Sample Size Determination

The sample size for this study was determined based on stratified sampling for Proportions of 95% confidence level [9]. The sample size formula is

$$n = \frac{n_0}{1+\frac{n_0}{N}} \tag{1}$$

Where, $n_0 = \frac{Z^2pq}{d^2}$ Since we use proportional allocation sample, $W_h = {N_h}/{N}$, where W_h stands for stratum weight, $N = N_1 + N_2 + \ldots + N_7$ where Z be the upper ${\alpha}/{2}$ point of standard normal distribution, where $\alpha = 0.05$ significance level, which is $Z_{\alpha/2} = Z_{0.025} = 1.96$. Suppose d= relative error=0.05.

$$W_h = \frac{N_h}{N} \tag{2}$$

Thus, the sample size calculation was $n = \frac{n_0}{1+\frac{n_0}{N}} = \frac{384.16}{1+2.463} = 111.$

$$K_h = \left\{\frac{nN_h}{N}\right\} = nW_h,\ h = 1, 2..$$

Where, h = types of employee = 7.

$n_h = \sum_1^7 K_h\ And W_h = {N_h}/{N}$ = Probability of stratum weight selection of h^{th} employee,

N_h = Total number of employees within the h^{th} strata, N = Total number of employee in Samara University at college science.

Table 1. *The number of stratum with their sample sizes.*

Department	N_h	W_h	Sample (n_h)
Earth Science	25	0.160	18
Mathematics	37	0.237	28
Statistics	26	0.167	21
Chemistry	20	0.128	14
Physics	14	0.090	9
Biology	31	0.199	20
Sport	3	0.019	1
Total	156	1	111

2.5. Study Variables

2.5.1. Dependent (Response) Variable

The response variable in this study was the status of saving habits in college of science at Samara University Employee. The habits of employees are identified either save out of income or no save out of income. The response variable was a dichotomous category, and thus coded as the value 1 for 'save out of income' and 2 for 'no save out of income'.

2.5.2. Independent (Explanatory) Variables

The independent variables in this study are classified as occupational variables, economic variables and demographic variables. Those variables are listed and categorized as follows: Age (20-25, 26-30, 31-35, >35), Sex (Female, Male), Educational level (certificate and below, diploma, degree, Masters and above), Monthly salary (below 2000, 2000-3000, 3000-4000, above 4000), Monthly expenditure (below 1000, 1000-1500, 1501-2500, above 2500), Housing status (owned, rented), Extra income (Yes, No), and Method of saving association (Traditional, Modern).

2.6. Statistical Methods of Data Analysis

2.6.1. Logistic Regression Model

Logistic regression analysis extends the techniques of regression analysis to research situations in which the outcome variable is categorical. Generally, the response variable is binary, such as (save or no save, presence or absence, success or failure etc) in logistic regression.

(i). Assumptions of Logistic Regression

Assumptions were should consider for the efficient use of logistic regression given below [10].

Logistic regression assumes meaningful coding of the variables. Logistic coefficients were difficult to interpret if not coded meaningfully. The convention for binomial logistic regression was to code the dependent class of interest as 1 and the other class as 0.

a) Logistic regression does not assume a linear relationship between the dependent and independent variables.
b) The dependent variable must be categorical.
c) The independent variables need not be interval, no normally distributed, no linearly related and no equal variance within each group.
d) The groups must be mutually exclusive and exhaustive; a case can only be in one group and every case must be a member of one of the groups.
e) Larger samples were needed than for linear regression because maximum likelihood coefficients are large sample estimates.
f) The logit regression equation should have a linear relationship with the logit form of the dependent variable.
g) Absence of multicollinearity among explanatory variables.

(ii). Model Description

Binary logistic regression was most useful when you want to model the event probability for a categorical response variable with two outcomes. Since the probability of an event must lie between 0 and 1, it is impractical to model probabilities with linear regression techniques, because the linear regression model allows the dependent variable to take values greater than 1 or less than 0. The logistic regression model was a type of generalized linear model that extends the linear regression model by linking the range of real numbers to the 0-1 range.

Start by considering the existence of an unobserved continuous variable, Z, which can be thought of as the "propensity towards" the event of interest. In the case of the loan officer, Z represents a customer's propensity to default on a loan, with larger values of Z corresponding to greater probabilities of default. In the logistic regression model, the relationship between Z and the probability of the event of interest is described by this link function [11].

$$\pi_j = \frac{e^{Z_i}}{1+e^{Z_i}} = \frac{1}{1+e^{-Z_i}} \quad (3)$$

$$\text{Or } Z_j = log\left(\frac{\pi_j}{1-\pi_j}\right)$$

Where, π_j was the probability the jth case expediencies the event of interest. Z_j Was the value of the unobserved continuous variable for the jth case. The model also assumes that Z was linearly related to the predictors.

$$Z_j = b_0 + b_1X_{i1} + b_2X_{i2} + \cdots + b_PX_P \quad (4)$$

Where, X_P is the jth predictor for the j^{th} case, b_P Is the j^{th} coefficient, and p the number of predictors. If Z were observable, you would simply fit a linear regression to Z and be done. However, since Z is unobserved, you must relate the predictors to the probability of interest by substituting for Z.

$$\pi_j = \frac{1}{1+e^{-(b_0+b_1X_{i1}+b_2X_{i2}+\cdots+b_PX_P)}} \quad (5)$$

The regression coefficients are estimated through an iterative maximum likelihood method. More generally, the response variable in logistic regression was usually dichotomous, we were define such a response variable as Y, and denote the even y=1, when the subject was the characteristic of interest and y=0, when the subject does not have that characteristic of interest. So an alternative form of the logistic regression equation is the logit transformation of Pi given as:

$$logit[P_i] = log\left(\frac{Pi}{1-P_i}\right) = \beta_0 + \beta_1X_{11} + \beta_2X_{12} + \cdots + \beta_kX_{1k} \quad (6)$$

The coefficient can be interpreted as the change in the log-odds associated with a one unit change in the corresponding independent variable or the odd increases multiplicatively by$e^{\beta_t}$for every one unit change increase inX_t=1, 2…k.

(iii). Parameter Estimation for Logistic Regression

The maximum likelihood and non-iterative weighted least squares were the two most computing estimation methods used in fitting logistic regression model [10].

Consider the logistic model$P(X_1) = \frac{e^{X\beta}}{1+e^{X\beta}}$, since observed values of Y say, Yi's (i=1, 2…n) are independently distributed as binomial and, the maximum likelihood function ofY is given by:

$$L(\beta|Y) = \prod_{i=1}^{8} p(Y_t|X_{t1}, X_{t2} \dots . X_{tk}) = \prod_{t=1}^{8} \left[\frac{e^{X\beta}}{1+e^{X\beta}}\right]^{Y_t} \left[\frac{1}{1+e^{-X\beta}}\right]^{1-y_t} \quad (7)$$

Assessing goodness of fit involves investigating how close values predicted by the model with that of observed values [12, 13]. The comparison of observed to predicted values using the likelihood function is based on the statistic called deviance.

$$D = -2\sum_{i=1}^{8}\left[Y_t ln\left(\frac{\hat{p}_t}{Y_t}\right) + (1-y_t)ln\left(\frac{1-\hat{p}_t}{1-Y_t}\right)\right] \quad (8)$$

For purposes of assessing the significance of an independent variable, the value of D is compared with and without the independent variable in the equation as given below: x^2= D (model without the variable)−D (model with the variable). The goodness-of-fit χ^2 process evaluates predictors that are eliminated from the fullmodel, or predictors (and their interactions) that are added to a smaller model.

2.6.2. Likelihood-Ratio Test

The likelihood ratio test statistic (G^2) was the test statistic commonly used for assessing the overall fit of the logistic regression model. The likelihood-ratio test uses the ratio of the maximized value of the likelihood function for the full model (L1) over the maximized value of the likelihood function for the simpler model (L0). The likelihood-ratio test statistic is given:

$$G^2 = -2\log\left(\frac{L_o}{L_1}\right) = -2[log(L_o) - log(L_1)] = -2[L_0 - L_1] \quad (9)$$

It was compared with a distribution with 1 degree of freedom. This log transformation of the likelihood functions yields a chi-squared statistic.

2.6.3. The Hosmer and Lemeshow Test Statistic

The final measure of model fit is the Hosmer and Lemeshow goodness-of-fit statistic, which measures the correspondence between the actual and predicted values of the dependent variable. The Hosmer and Lemeshow test statistics, provides the number of responses among the covariate patterns, and is the average estimated probability.

2.6.4. The Wald Statistic

The Wald statistic was an alternative test, which was commonly used to test the significance of individual logistic regression coefficients for each independent variable (that was to test the null hypothesis in logistic regression model that a particular logit coefficient was zero). If the Wald test is not significant, and then these explanatory variables can be omitted from the model. Wald χ^2statistic was used to test the significance of individual coefficients inthe model and was calculated as:

$$Z = \frac{\widehat{\beta_J}}{SE(\widehat{\beta_J})} \quad (10)$$

Each Wald statistic was compared with aχ^2distribution with 1 degree of freedom. Wald statistic was easy to calculate but their reliability was questionable, particularly for small samples.

2.6.5. R^2 Statistic

A number of measures have been proposed in logistic regression as an analog to R^2 in multiple linear regressions. The Cox and Snell measure was based log-likelihoods and considers sample size. The maximum value that the Cox and Snell R^2attain is less than 1. The NagelkerkeR^2 is an adjusted version of the Cox and Snell $R^2$and covers the full range from 0 to 1, it was often preferred. Therefore, in this study R^2 statistic to indicate how useful the explanatory variables are in predicting the response variables were used [13].

$${R_{js}}^2 = 1 - e^{\left[-\frac{2}{n}[D(modelwithoutthevariable) - D(modelwiththevariable)]\right]} \quad (11)$$

The Nagelkerke measure was as follows:${R_N}^2 = \frac{{R_{cs}}^2}{{R_{MAX}}^2}$, Where ${R_{MAX}}^2 = 1 - \exp[2(n)^{-1} D(modelwithoutthevariable)]$.

3. Results and Discussions

3.1. Descriptive Statistics

The data comprised a sample of 111 employees, who were working in college of science at Samara University. The response variable considered in this study was the financial saving habits of the employees (either save or not save).

Table 2. *Descriptive Analysis.*

Variable	Category	Yes		No		Total	
		count	%	count	%	count	%
Age	20-25	22	19.8	13	11.7	35	31.5
	26-30	14	12.6	10	9.0	24	21.6
	31-35	23	20.7	13	11.7	36	32.4
	Above 35	72	64.9	3	2.7	16	14.4
Sex	Female	7	6.3	8	7.2	15	13.5
	Male	65	58.6	31	27.9	96	86.5

Variable	Category	Yes		No		Total	
		count	%	count	%	count	%
Marital status	Single	31	27.9	24	21.6	55	49.5
	Married	40	36.0	15	13.5	55	49.5
	Divorced	1	0.9			1	0.9
	Widowed						
Educational level	Certificate &below			2	1.8	2	1.8
	Diploma	2	1.8	5	4.5	7	6.3
	Degree	22	19.8	19	17.1	41	36.9
	Master &above	48	43.2	13	11.7	61	55.0
Monthly salary	Below &2000			2	1.8	2	1.8
	2000-3000	1	0.9	3	2.7	4	3.6
	3000-5000	9	8.1	13	11.7	22	19.8
	5000-10000	41	36.9	6	5.4	47	42.3
	Above 10000	21	18.9	15	13.5	36	32.4
Cost	Below 1000						
	1000-1500	2	1.8	6	5.4	8	7.2
	1500-3000	13	11.7	14	12.6	27	24.3
	Above 3000	57	51.4	19	17.1	76	68.5
Housing status	Owned	21	18.9	8	7.2	29	26.1
	Rented	51	45.9	31	27.9	82	73.9
Extra income	Yes	49	44.1	12	10.8	61	55.0
	No	23	20.7	27	24.3	50	45.0
Detect extra income	Yes	29	26.1	22	19.8	51	45.9
	No	43	38.7	17	15.3	60	54.1
Saving association	Yes	48	43.2	8	7.2	56	50.5
	No	24	21.6	31	27.9	55	49.5
Saving method	Traditional	9	8.1	1	0.9	10	9.0
	Modern	45	40.5	5	4.5	50	45.0
	None	18	16.2	33	29.7	51	45.9

From above table 2 among 111 the age of respondents 35 (31.5%), 24 (21.6%), 36 (32.4%), 16 (14.4%) of the employee are 20-25, 26-30, 31-35 and above 35 respectively. Sex 15 (13.5%) are female and 96 (86.5%) are male. marital status 55 (49.5%), 55 (49.5%), 1 (0.9%) are single, married and divorced respectively and educational level 2 (1.8%) certificate, 7 (6.3%) diploma, 41 (36.9%) degree and 61 (55%) master and above. monthly salary, about 2 (1.8%) of the respondents reported their income per month during the survey period was below 2000 birr, 4 (3.6%) were between 2000-3000birr and, 22 (19.8%) were between 3000-5000birr and 47 (42.3%) of the respondents were above 5000-10000 and 36 (3.4%) were above 10000. Also considering extra income, about 61 (55%) were reported that have an extra income and 50 (45%) were there no extra income.

Considering monthly expenditure, about of the respondents reported their expenditure income per month during the survey period was below 1000 birr, 8 (7.2%) were between 1000-1500, 27 (24.3%) were between 1500-3000 and 76 (68.5%) of the respondents were above 3000. and also 51 (45.9%) plan to detect an extra income and 60 (54.1%) do not have a plan to detect an extra income. housing status 29 (26.1%) are owned and 82 (73.9%) are rented. we consider 56 (50.5%) a member of the saving association and 55 (49.5%) not a member of the saving association. Finally, we see saving methods 10 (9.0%) use traditional saving methods 50 (45.0%) use modern saving methods and 51 (45.9%) do not use saving methods.

The table shows that the respondents reported that the satisfaction of job affect saving with 25 (22.5%) Far location of saving institution (i.e. national and private banks, social saving practices like Eder, Equb, etc.) with 2 (1.8%) respondent's habit of saving can affect the saving with 23 (20.7%) and 61 (55%) no reasons.

Table 3. *Reasons for not saving.*

Reason for not saving	Category	No of employees	
		Count	%
Your job satisfaction status in the sector	Yes	9	8.1
	no	16	14.4
	total	25	22.5
Far location of financial institution	Yes		
	no	2	1.8
	total	2	1.8
Your habit of saving	Yes	8	7.2
	No	15	13.5
	Total	23	20.7
None	Yes	55	49.5
	No	6	5.4
	Total	61	55.0

3.2. Inferential Analysis

3.2.1. Chi-square Test

a) To test the independence of variables from the above table is as follows:

Step 1, Ho: there is no association between independent variables and dependent variable.

H1: there is association between independent variables and dependent variables

Step 2 α = 0.05 level of significance

Step 3 Test statistics $\chi^2 = \sum\sum \frac{(o_{ij}-\varepsilon_{ij})^2}{\varepsilon_{ij}} \sim \chi^2((R-1)(C-1))$.

Step 4 decision: - reject Ho if p-value is less than 0.05 from the chi square table.

Step 5 conclusions: - there is significant association between education level and saving habit of employees is shows from the above table with the p-value=0.002 which is less than α- value=0.05. Similarly, there is significant association between salary, cost, extra income, member of saving association.

b) To test the independence of variables from the above table is as follows

Step 1, Ho: there is no association between independent variables and dependent variable.

H1: there is association between independent variables and dependent variables.

Step 2 α = 0.05 level of significance.

Step 3 Test statistics $\chi^2 = \sum\sum\frac{(o_{ij}-\varepsilon_{ij})^2}{\varepsilon_{ij}} \sim \chi^2((R-1)(C-1))$.

Step 4 decision: - reject Ho if p-value is less than 0.05 from the chi square table.

Step 5 conclusions: - there is significant association between sex and attitude of students to ward reading is shows from the above table with the p-value=0.014 which is less than α- value=0.05. Similarly, there is significant association between attend in class, economy status of family, family education level, effect of whether condition and attitude of students to ward reading is shows from the above table with the p-value=0.027, 0.030, 0.027 & 0.035 which is less than α- value=0.05 respectively.

Table 4. *Chi-square test of association.*

Independent variable	Pearson chi-square	Df	p value
Age	2.411	3	0.297.
Sex	2.520	1	0.112
Education	15.112	3	0.002
Marital status	3.778	2	0.151
Salary	23.014	4	0.000
Cost	12.315	2	0.002
Housing status	0.982	1	0.322
Extra income	14.208	1	0.000
Detecting extra income	2.651	1	0.103
Saving association	21.557	1	0.000
Factor of saving	39.096	3	0.000
Saving method	36.201	2	0.000

3.2.2. Binary Logistic Regression

(i). The Overall Significant of the Model

Table 5 shows the logistic coefficient ($\hat{\beta}$) associated with the intercept as it is included in the model. This table is similar to and contains analogs information as the coefficient in a standard regression. The logistic coefficient for constant is similar to the y-intercept term in the standard regression. The value of exp ($\hat{\beta}$) is the estimated odd ratio attributed to variable for the intercept-only model is ln (odds) =--.613, If we exponentiated both sides of this expression we get that Exp ($\hat{\beta}$) =.542. That is the predicted odd of having attitude towards reading is 0.542.

Table 5. *Variables in the Equation.*

		B	S. E.	Wald	Df	Sig.	Exp (B)
Step 0	Constant	-.613	.199	9.509	1	.002	.542

Table 6. *Omnibus Tests of Model Coefficients.*

		Chi-square	Df	Sig.
Step 1	Step	98.137	24	.000
	Block	98.137	24	.000
	Model	98.137	24	.000

Table 6 gives the result of the “Omnibus test”. “Omnibus” means “Overall,” and so this output tells whether the model with all explanatory variables predicts the response than the intercept-only model which is given in table 5. The result shows the model with explanatory predicts better and is statistically significant at $p < 0.05$.

The Omnibus test gives a chi-square of 98.137 with 24 df, significant beyond 0.000. This is a test of the null hypothesis that adding explanatory variables to the model has not significantly increased our ability to predict the decisions made by our subjects. Since the Omnibus test is significant we can conclude that adding the explanatory variables to the model has significantly increased our ability to predict the attitude of students towards reading.

Table 7. *Model Summary.*

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	45.781[a]	.587	808

Table 7 gives the result of “Model summary” which are summary statistics for the model at “step1” which is the model with 12 predictors. Under Model Summary, we see that the -2log likelihood statistic is 45.781. This statistic measures how poorly the model predicts the decision. And “Cox & Snell R Square” or “Nagelkerke R Square” is an analog statistic in logistic regression to the coefficient of determination R2 in linear regression, but not close analog. In this study, Cox & Snell R Square indicate that 58.7% of reading attitude is explained by the independent variables. In addition to this Nagelkerke’s R Square indicates that 80.8% of the dependent variable is also explained by the independent variable.

Table 8. *Hosme and Lemeshow Test.*

Step	Chi-square	df	Sig.
1	5.947	8	.0.653

The “Hosmer and Lemeshow Test” is a measure of fit which evaluates the goodness of fit between predicted and observed probabilities in classifying the response variable. Similar to the -2log likelihood test, we want this chi-squared value (χ^2 (8, 0.05)) =5.947 to be high and statistically significant (p-value=.0.653), there for our fitted logistic regression model is a good fit.

(ii). Estimation of Model Parameters

Table 9. *Result of Binary Logistic regression.*

		B	S. E.	Wald	Df	Sig.	Exp (B)	95.0% C. I. for EXP (B)	
								Lower	Upper
Step 1[a]	Age			1.871	3	.600			
	age (1)	2.989	2.867	1.087	1	.297	19.874	.072	5.483E3
	age (2)	1.308	2.076	.397	1	.529	3.698	.063	216.243
	age (3)	2.659	2.151	1.528	1	.216	14.276	.211	966.796
	sex (1)	-1.780	1.937	.844	1	.358	.169	.004	7.510
	Education			7.091	3	.069			
	educ (1)	24.575	1.718E5	.000	1	1.000	4.708E10	.000	.
	educ (2)	6.127	3.127	3.839	1	.050	458.048	.998	2.102E5
	educ (3)	5.298	2.031	6.807	1	.009	199.946	3.737	1.070E4
	Marital			.014	2	.993			
	marital (1)	17.802	4.019E4	.000	1	1.000	5.387E7	.000	.
	marital (2)	17.956	4.019E4	.000	1	1.000	6.282E7	.000	.
	Salary			8.200	4	.085			
	salary (1)	16.631	1.718E5	.000	1	1.000	1.670E7	.000	.
	salary (2)	-2.222	3.260	.465	1	.496	.108	.000	64.595
	salary (3)	-2.594	2.397	1.172	1	.279	.075	.001	8.190
	salary (4)	-5.618	2.004	7.855	1	.005	.004	.000	.185
	Cost			1.456	2	.483			
	cost (1)	-.018	3.139	.000	1	.995	.982	.002	461.709
	cost (2)	-1.665	2.070	.647	1	.421	.189	.003	10.927
	housing (1)	-.248	1.269	.038	1	.845	.780	.065	9.390
	income (1)	-.888	1.160	.586	1	.444	.412	.042	4.000
	detect (1)	1.283	1.154	1.236	1	.266	3.609	.376	34.668
	saving (1)	-1.366	1.044	1.714	1	.191	.255	.033	1.973
	Method			.000	2	1.000			
	method (1)	-4.445	4.159E4	.000	1	1.000	.012	.000	.
	method (2)	13.656	4.019E4	.000	1	1.000	8.523E5	.000	.
	Factor			.066	3	.996			
	factor (1)	16.918	4.019E4	.000	1	1.000	2.226E7	.000	.
	factor (2)	39.046	4.876E4	.000	1	.999	9.071E16	.000	.
	factor (3)	17.233	4.019E4	.000	1	1.000	3.051E7	.000	.
	Constant	-35.311	5.684E4	.000	1	1.000	.000		

Table 9 above contains the estimated coefficients (under column$\hat{\beta}$) and the estimated values of logistic regression model that predict the saving habit of employees. The standard error of the estimate will help in computing Wald statistics. The Wald statistics which is the square of the ratio of the coefficient to its standard error has a chi-square distribution with 1 degree of freedom. The significance of the Wald statistic tells the importance of the predictor variable in the model. The column exp ($\hat{\beta}$), is the factor by which the odds of the saving habit change. If $\hat{\beta}_i$ is positive exp ($\hat{\beta}_i$) will be greater than one, which means the odds of saving habit and vice versa.

3.2.3. Estimated Odds Ratio and 95% Confidence Interval

An estimated odd ratio 199.946 implies that the odd of education level of degree is 199.946 times more to have saving habit compared to education level of master and above as a reference. An estimated odds ratio 0.004 implies that the odd of employees have salary 5000-10000 is 0.004 times less likely to have saving habit than employees have salary above 10000.

Variable(s) entered on step 1: Educational level, salary

The model of the logit model can be written as: Logit(p(y=1)/p(y=o)= -35.311 + $5.298X_1 - 5.618X_2$ Where, X_1 = Educational level and X_2= Salary

From the above output we have the p-values of educational level and salary are 0.009 and 0.005 respectively less than the α-value=0.05 indicate that there is sufficient evidence to conclude that the factors which are listed above have a significant effect on the saving habits. The positive coefficient 5.298, for the variable of educational level, and the negative coefficient -5.618 for salary respectively indicates that both thus variables can affect the economic status negatively and positively. The estimated odds ratio of educational level is 199.946 implies that the odds of satisfied on the saving habits of employees who are Degree education of level are 199.946 times more likely to occur than from Master & above education of level. The odds ratio of salary is 0.004, which has 0.004 times more likely to occur than salary of employees above 10.000.

4. Conclusions and Recommendations

The main objective of this study was to study factors that affect the saving habits of employees. The descriptive analysis of saving habits shows that of the employees considered, 64.9% were found to have no saving habits and 35.1% of them were found to be saving habits at the time of the study period. The binary logistic regression showed that age, sex, marital status, educational level, monthly salary, cost of expenditures, housing status, and extra income in the job were the major factors that affect the saving habits of employees in the college of science at Samara University. Mainly, habits of saving and lower salary are indicators of low saving habits of employees. The binary logistic regression indicated that employees with higher education levels have higher saving habits than those who do have not so much higher educational levels and salary is significantly related to the saving habits of employees. This study also indicated that age, sex, marital status, cost of expenditure, extra income, saving method, member of saving association, and plan to detect extra income and housing status were not significant predictors of saving habits of employees.

To minimize factors of no saving habits of employees in the institute, the level of education should be considered when an employee has complicated living conditions. When this is the case, appropriate monthly salary and house should be given special attention. Putting the above consequences of no saving habits, the following recommendation should be implemented by the concerned bodies: Since the level of education is one of the problems identified in this study, attention should be given to education and training of employees; extended working time has been observed, and as a result employees' satisfaction to their work is low. Hence, either an additional allowance should be given or their monthly salary should be increased for the employees; Work more on awareness creation and advocacy; Support and promote the activities of saving associations.

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