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Estimation and analysis of the social factors affecting the migration using multiple regression analysis (Case Study: Sudanese university professors in Saudi Universities) (The time period 2011 – 2016)

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Abstract:

This paper aims to identify the equation of multiple regression and determine the relationship between social factors and migration. The problem of the study was the impact of social factors on the migration of Sudanese university professors to Saudi Arabia. The scientific methodology was used by applying multiple regression analysis to the questionnaires that were polluted by the Sudanese university professors in the Saudi universities. The SPSS program was also used. A number of results were reached, the most important of which is that Sudanese scientists and thinkers suffer from the spread of scientific illiteracy among the communities in which they live, by 84.4%, causing their emigration. The prevalence of nepotism has created a social imbalance of 81.8% in Sudanese society, Migration, and the rise of ethnic, sectarian and sectarian conflicts, which caused the migration of Sudanese university professors by 68.7%, the study recommends more statistical methods in such studies as neural networks, including Box-Jenkins and logistic regression, between them

Key words: Migration, multiple regressions, variance analysis, scientific competencies

INTRODUCTION:

The methods of regression analysis are the most important methods of statistical analysis widely used in different fields of study. The regression analysis aims to derive the interrelationship between two or more variables of the study. It also aims to evaluate the effect of independent variables on dependent variables. Most scientific research depends on variables classified into two groups, one called the set of independent variables, and the other is called the set of dependent variables. These two sets of variables are interrelated, and the researcher should benefit from that relationship Mathematical model called the regression model, to measure the effect of independent variables on the dependent variable (1) .

Regression analysis is generally defined as a mathematical measure of the mean of the relationship between two or more variables, one of which is the dependent variable of the response variable And variable or other variables called Explanatory Variable (2) .

The Study Problem:

The theory of attractions and expulsion factors is one of the most widely used theories in the analysis of the reasons why individuals migrate. (3)

There is no doubt that the mere presence of repulsive factors in the home country will not lead the individual to emigrate unless he is aware that there are better opportunities elsewhere. The study consisted of the following questions:(4)

1. Are social factors one of the main reasons for the migration of university professors?
2. What are the expulsion factors that led to the migration of university professors?

3. What is the material return of the migration of university professors?

The importance of the study:

The importance of research stems from the importance of the subject of mind migration itself [5], because the professors are on the shoulders of the graduates of current and coming generations of universities in different disciplines . These objectives are:

1. Identify the social factors that led to the migration of university professors.
2. Identify the impact of social factors that led to the migration of university professors.
3. Knowledge of multiple linear regression analysis.
4. The importance of the material return of the migration of university professors.

Objectives of the study:

The study aims to achieve the following objectives:

1. Identify the causes of migration of university professors.
2. Knowledge of the social factors of the migration of professors to Saudi Arabia.
3. Know the implications of this migration.
4. Recognition of multiple regression analysis.

Methodology of the study:

Data on the study were collected by means of the questionnaire along with the secondary sources, such as periodicals, government official statistics and others.

The study is based on descriptive analytical methodology for the purpose of producing results that contribute to the achievement of the research objectives .The analytical method uses some such correlation and multiple regression in order to know all the details related to these data.

Multiple linear regression:

Prepare regression linear multiplexing from methods statistics advanced which included accuracy inference from y up improvement results search about road the use optimum data at finding relations causality between phenomena theme search and regression linear multiplayer he phrase about finding equation sports cross about relationship between variables or more are used valuable precedent to predict valuable futuristic, and he phrase also about decline of the variable affiliate (y) on many from variables independent X_1,X_2,... X_K so it is uses at forecasting changes variable affiliate which impact in it several variables independent which depends his idea on relations threads which used what known in a manner dispersion or proliferation, that regression linear multiplayer not just style one but, rather collection from methods which can use to find out relationship between a variable follow continuous number from variables independent which habit what be continuous. At regression multiplayer suppose that we've got variable follow one we allude for him with the code y and group from variables independent number m variable we allude to her with the code

$$X_1, X_2, \dots, X_m$$

status especially at regression simple is being m = 1

We want here get on best equation decline represent relationship between variable dependent variables independent and so on if available we've got data from a sample its size n .

so it is sample athlete linearity he

$$Y_R = \beta_O + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta X_{qq}$$

variable affiliate represent with the code yj variables independent and their number m variable an actress

with symbols xij where that :

$$i = 1, 2 \dots, m, j = 1, 2, \dots, n$$

milestones line parameters which constants anonymous represent with the code ßj where

$$j = 1, 2 \ldots, m$$

the error at sample represent with the code Ɛj and he a variable randomly exist collection from assumptions about the error they are: sum errors random equal to zero and so on is being average the errors are equal zero contrast the error amount fixed for every views and equal σ^2 there heterogeneity of heterogeneity between which two errors equal to zero and so on no exist engagement between mistakes and some supposedly that the error distributed according to the distribution natural on average zero and a common variation σ^2 .

Multiple linear regression(The Model)

In Applied Statistical Questions we interpret values Y By averages of other variables x_1 , x_2 , ..., x_p . The relationship between the dependent variable Y And independent variables x_1 , x_2 , ..., x_p Often represented in the view matrix observations As follows :

$$\begin{matrix} X_{11} & x_{21} & \ldots & x_{q1} & Y_1 \\ X_{12} & x_{22} & \ldots & x_{q2} & Y_2 \\ . & & & . & \\ . & & & . & \\ . & & & . & \\ X_{1n} & x_{2n} & \ldots & x_{qn} & Y_n \end{matrix}$$

Each row is called an information point data point . And using n From the information points we see we want to establish a relationship between the dependent variable dependent and independent variables independent variables the relationship is often indicated as linear :

$$Y_R = \beta_O + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_q X_q \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$Y_R = \beta_O + \sum_{j=1}^{q} \beta j \, X j \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Whereas β_O, ..., β_q Are constants called regression parameter Other names are regression Coefficient And partial regression coefficient A linear relationship is a common or general choice for three reasons :

1. Easy to work with .
2. Often the approximation of the first order of the nonlinear relationship is
3. often used as an argument that there is no reason to assume that the relationship is nonlinear.

And we get the geometric shape of $\mathbf{Y}_R$ if it was q = 1 Represents a straight line . If they are q = 2 The $\mathbf{Y}_R$ It will be a surface in the space consisting of three coordinates Three-dimensional space And when they are Y_{X2} And for three or more independent variables Y_R he claims hyper plane (Hyper line).

Unfortunately Y_R Cannot explain the data set form a line Line Or surface Plane Meaning that it is not calculated to deviate points from the line or surface .

This difficulty can be avoided by creating a random variable error limit error term In the form .

$$Y= Y_R +Є \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

And any single value Y_i Explained by

$$Y_i = \beta_O + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_q X_{qi} + Є_i \ldots\ldots\ldots\ldots\ldots (4)$$

If any point of data does not fall on the line or surface, there is no longer any problem, because we will blame or blame the differences (Y_i - Y_{Ri}) On $_i$ Є.

In order to facilitate statistical analysis, we have made the following assumption about error : E Distributed naturally in the center 0 And a standard deviation fixed σ (They are naturally distributed and symbolized N (0, σ) (6) .

Estimating the parameter of model :

Can not find Y_R Exactly, so as to our lack of knowledge of those values for Є Which occurred . Anyway we can appreciate Y_R As a pointer .

$$\tilde{y}_R = b_o + b_1x_1 + \dots + b_qx_q \dots\dots\dots\dots\dots (5)$$

We use Greek characters to denote the parameters to be estimated, and the English characters we use to denote the estimate, Van b_o Is an estimate for β_O. b_1 Is an estimate for β_1 And so on . These estimates are called regression coefficients for sample or partial regression coefficients of the sample .

Choose an appropriate function for the sample values for each unbiased linear estimation that has the smallest possible variations . Is the choice of font, surface or multiple surface which gives the smallest sum of squares of differences between real and estimated values (ie, differences between Y_i And $\tilde{y}_{Ri}$). Find estimates b_o , b_1 , ..., b_q Equal to the mathematical issue that is smaller minimize

$$\sum_{j=1}^{n}(Yi - \tilde{y}Ri)^2 = \sum_{j=1}^{n} ei^2 \dots\dots\dots\dots\dots (6)$$

The difference $\tilde{y}_{Ri}$ Y_i - = e_i Called the rest Residual Which represents the differences between the observed value of the dependent variable and the estimated value by the linear relationship can be written.

$$\sum_{j=1}^{n} e^2 = \sum_{j=1}^{n} [Yi - (b0 + b1x1i + b2x2i + \dots + bqxqi)]^2 \dots\dots (7)$$

Note that the values of x_{ji} Values are constants as long as the issue is minimized minimize Quantity e_i^2 Since these values represent the real values observed for the data we are studying when q = 1 A linear relationship can be found by trial and error trial and error So make sure that the value is lower for e_i^2 .

Segmentation of squares:

The concept of lower squares does not mean that it equips us with a way of estimating the parameters of the presumed linear relationship, but it is the basis for many other tests and interpretations .

We can count the sum of squares of deviations as a measure of how much the variable differs from a given value, for example the sum of squares of deviations from the mean value of values Y The view is a measure of the amount of variance of the variable values adopted by the center its own mean We now want to know how much these deviations are and how much they are . By a successful linear relationship fitted Linear relationship If it is a large part of the differences Variation at Y Annotated by the form model .

$$\sum_{j=1}^{n}(\mathrm{Yi}-\bar{y})^{2}+\sum_{j=1}^{n}(\mathrm{Ri}\tilde{y}-\bar{y})^{2}+\sum_{j=1}^{n}(\mathrm{Yi}-\tilde{y}\mathrm{Ri})^{2}\ldots\ldots\ldots(8)$$

The limit $(Y_I - \bar{y})^2$ It is a measure of the changes of the adopted variable . The difference is attributed to two reasons : - For the deviations of the linear relationship from the middle $(\tilde{y}_{Ri} - \bar{y})^2$, And to attend the residences Residuals $(Yi - \tilde{y}_{Ri})^2$ Total squares of residues or unexplained variation by $\tilde{y}_{Ri}$. (Sum of squares around the mean = Sum of squares due to regression + Sum of squares around the regression)

Analysis of Variance

The degrees of freedom indicate the number of independent parts of the information including the dependent variable that we need to rank the sum of squares .

$(Y_i - \tilde{y})^2$ to her (n-1) Of degrees of freedom . This result can be obtained or justified by one function per Y_i , s Or meaning y Were used to calculate the sum of squares, so only one degree of freedom was lost . This logical justification is practical to find the degrees of freedom to the sum of the

squares around the regression in (Y_i - $\tilde{y}_{Ri}$)^2 Function $\tilde{y}_{Ri}$ Fully determined by m Of values to b_o , b_1 , ..., b_q This means that the total will be lost m Of degrees of freedom which degrees of freedom are (n - m). To find the degrees of freedom of the total squares of the slope we will follow some of the twisted paths, noting that the degrees of freedom on the left must equal the degrees of freedom on the right .

n -1 = degrees of freedom for $\sum(\tilde{y}\,Ri - \bar{y})2$ + n -m

In order to solve the equation, we will find the total squares of the regression Sum of square due to regression Her degrees of freedom . The sum of squares and their degrees of freedom can be summed up by a table traditionally called the variance analysis table Analysis of variance table [5] , [6] .

Analysis of variance

Source of variation	Sum of squares	Degrees of freedom	Mean square
Due to regression	$\sum(\tilde{y}Ri - \tilde{y})^2$	m – 1	$\frac{\sum(\tilde{y}\,Ri - \tilde{y})^2}{m - 1}$
About regression	$\sum (Yi - \tilde{y}Ri)^2$	n-m	$\frac{\sum(Yi - \tilde{y}\,Ri)^2}{n - m}$
Total sum of squares	$\sum(Yi - \tilde{y})\ 2$	n-1	$\frac{\sum(Yi - \tilde{y})\ 2}{n - 1}$

The average squares are calculated by dividing the number of squares by the number of degrees of freedom associated with that total, and the average of the three squares are statistics Are of high value since any of them can be used to estimate o^2 Which is the variation end to zero [7] .

Analysis, interpretation and discussion of results

The societal and political factors of the Sudanese university professor's migration were analyzed using the statistical package (SPSS) Which were as follows :

X_1 : Spread Illiteracy Scientific studies
X_2 : scientific competencies to Minorities Religious or Doctrine or Ethnic groups
X_3 : Impact Passive Of civilization West
X_4 : Persecution Political
X_5 : Non Stability Political
X_6 : Non Compatibility Ideologically With Systems the governor .

The results of the analysis were as follows :
The use ofthe chi square test of the null hypothesis hid t , which states that there are no statistically significant differences relationship between social factors and Political and The Migration of Sudanese University Professors against the Alternative Hypothesis There is a statistically significant relationship between social factors and Political and The migration of Sudanese university professors , if the value of the level of significance (Sig) Below the moral level 0.05 We reject the null hypothesis and accept the alternative hypothesis as follows:

Table (1) Chi-Square test

	Social factors and Political situation					
	X_1	X_2	X_3	X_4	X_5	X_6
The value of the Chi-Square	34.087	7.478	34.870	19.391	41.652	41.130
Degree of freedom	4	4	4	4	4	4
Values Sig	0 .000	0 . 113	0 .000	0 .00 1	0 .000	0 .000

Source: The Researcher By SPSS

From Table (1) we find that the majority of the values of the Chi square test are significant and significant because the values of Sig Lower than the 0.05 level for most social factors Political therefore we reject the null hypothesis and

accept the alternative hypothesis, and this means that there is a statistically Significant correlation between social factors and Political and The migration of Sudanese universities professors, except ye E worker competencies to Minorities Religious or Doctrine or Ethnicity has nothing to do with the migration of Sudanese university professors.

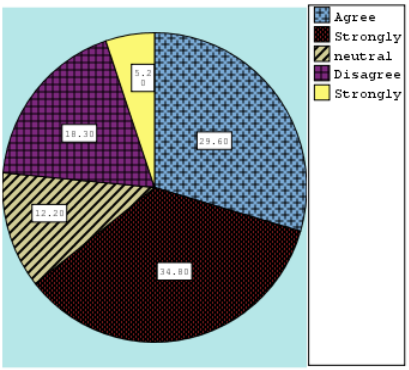
Table (2) Spread Illiteracy Scientific studies

the answer	frequency	percent
strongly agree	34	29.6
Agree	40	34.8
Neutral	14	12.2
Disagree	21	18.3
strongly disagree	6	5.2
Total	115	100.0

Source: The Researcher By SPSS

Table (2) shows that 29.6% of the respondents agree that they suffer Scientists And thinkers at Sudan From Spread Illiteracy Scientific studies between Communities Which They live Where and 34.8% strongly disagree, while 12.2% neutral, 18.3% disagree, 5.2% disagree strongly. The total of these percentages is lower than those approved and strongly approved, and we have determined that scientists and thinkers in Sudan suffer from proliferation Illiteracy Scientific research Communities Which They live.

We conclude by 64.4% that the social factor is widespread Illiteracy Scientific scholars suffer from it and thinkers at Sudan. See graph (1) .



Source: The Researcher By SPSS
Figure (1) Spread Illiteracy Scientific studies

Table (3) Scientific rank and prevalence Illiteracy Scientific studies

			Spread Illiteracy Scientific studies					Total
			strongly agree	Agree	neutral	disagree	strongly disagree	
Scientific level	professor	the number	2	3	1	0	0	6
		Rank %	33.3%	50%	16.7%	0.0%	0.0%	100%
	Teaching assistant	the number	19	18	8	10	3	58
		Rank %	32.8%	31%	13.8%	17.2%	5.2%	100%
	lecturer	the number	9	14	4	5	2	34
		Rank %	26.5%	41.2%	11.8%	14.7%	5.9%	100%
	Co-professor	the number	4	5	1	6	1	17
		Rank %	23.5%	29.4%	5.9%	35.3%	5.9%	100%
	Total	the number	34	40	14	21	6	115
		Rank %	29.6%	34.8%	12.2%	18.3%	5.2%	100%

Source: The Researcher By SPSS

Table (3) we find that 50.0% of the respondents who rank scientific professor, agree that his suffering Scientists And thinkers at Sudan From Spread Illiteracy Scientific studies between Communities Which They live In which While 35.3% of those ranked by the scientific associate professor do not agree with it.

And according to the participating professors that scientists And Thinkers at Sudan does not suffer from proliferation Illiteracy Scientific studies between Communities Which They live Where , which means the spread Illiteracy Science is not a reason for the migration of Sudanese university professors.

Table (4) experience in universities Sudanese and spread Illiteracy Scientific studies

			Spread Illiteracy Scientific studies					Total
			strongly agree	agree	neutral	disagree	strongly disagree	
Number Years Experience Universities Sudanese	Less than 5	the number	11	21	7	7	3	49
		Year %	22.4%	42.9%	14.3%	14.3%	6.1%	100%
	5And Less than10	the number	8	7	4	7	2	28
		Year %	28.6%	25%	14.3%	25%	7.1%	100%
	10And Less than15	the number	9	9	3	2	1	24
		Year %	37.5%	37.5%	12.5%	8.3%	4.2%	100%
	More than 15	the number	6	3	0	5	0	14
		Year %	42.9%	21.4%	0.0%	35.7%	0.0%	100%
	Total	the number	34	40	14	21	6	115
		Year %	29.6%	34.8%	12.2%	18.3%	5.2%	100%

Source: The Researcher By SPSS

Table (4) shows that 42.9% of respondents with years of experience in Sudanese universities less than 5 years agree that they suffer Scientists And Thinkers at SudanFrom Spread Illiteracy Scientific studies between Communities Which They live Which , while 42.9% of the number of years of experience Sudanese universities more than 15 years and strongly agree.

And according to the number of years Experience Universities Sudanese that more than 15 years that scientists And Thinkers at Sudan suffers from proliferation Illiteracy Scientific studies between Communities Which They live Where, which means the spread Illiteracy Scientific reason of the reasons for the migration of Sudanese university professors.

We conclude from the above that the spread Illiteracy Scientific studies between Communities Which They, live In which Scientists And Thinkers at Sudan Has no reason for the migration of Sudanese university professors in terms of scientific rank while according to the number of years

Experience Universities Sudanese cause for the migration of Sudanese university professors to Saudi Arabia.

Table (5) Outbreaks Nepotism

the answer	frequency	percent
strongly agree	53	46.1
agree	41	35.7
neutral	14	12.2
disagree	6	5.2
strongly disagree	1	0.9
Total	115	100.0

Source: The Researcher By SPSS

Table (5) shows that 46.1% of the respondents strongly agree that the outbreak Nepotism Created Something From Non Balance Social development at the society Sudanese , 35.7% agree while 12.2% are neutral, 5.2% disagree, and 0.9% strongly disagree. These percentages are lower than those approved and strongly approved.

And we conclude by 81.8% that an outbreak Nepotism Find Something From Non Balance Social development at the society Sudanese and Sudanese university professors, causing their emigration. See graph shown in figure (3).

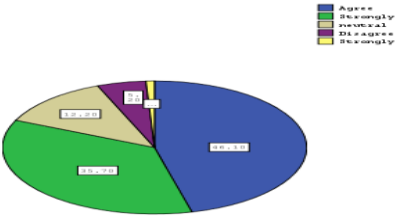


Figure (2) The prevalence of nepotism

Table (6) Scientific rank and prevalence Nepotism

			spread Nepotism					Total
			strongly agree	agree	neutral	disagree	strongly disagree	
Scientific level	professor	the number	3	3	0	0	0	6
		Rank %	50.0%	50.%	0.0%	0.0%	0.0%	100%
	Teaching assistant	the number	25	18	11	3	1	58
		Rank %	43.1%	31%	19.0%	5.2%	1.7%	100%
	lecturer	the number	19	12	2	1	0	34
		Rank %	55.9%	35.3%	5.9%	2.9%	0.0%	100%
	Co-professor	the number	6	8	1	2	0	17
		Rank %	35.3%	47.1%	5.9%	11.8%	0.0%	100%
	Total	the number	53	41	14	6	1	115
		Rank %	46.1%	35.7%	12.2%	5.2%	0.9%	100%

Source: The Researcher By SPSS

Table (6) shows that 50.0% of the respondents who were ranked by the scientific professor and 43.15% of those who were ranked by the scientific teaching assistant and 55.9% of those ranked by the scientific lecturer and 35.3% of those who ranked their scientific associate professor strongly agree that the outbreak Nepotism Created Something From Non Balance Social development at the society Sudanese .

And according to the scientific rank that the outbreak the nepotism between the scientific competencies and university professors in the society Sudanese created Something from Non Balance Social and this means that the prevalence of nepotism is one of the social and political factors affecting the migration of Sudanese university professors to Saudi Arabia.

Table (7) years of migration and outbreaks Nepotism

			Spread Illiteracy Scientific studies					Total
			strongly agree	agree	neutral	disagree	strongly disagree	
Number Years work at The king dom Saudi Arabic	Less than 5	the number	25	16	8	2	0	51
		Year %	49.0%	31.4%	15.7%	3.9%	0.0%	100%
	5And Less than10	the number	12	14	3	3	0	32
		Year %	37.5%	43.8%	9.4%	9.4%	0.0%	100%
	10And Less than15	the number	12	6	2	0	1	21
		Year %	57.1%	28.6%	9.5%	0.0%	4.8%	100%
	More than 15	the number	4	5	1	1	0	11
		Year %	36.4%	45.5%	9.1%	9.1%	0.0%	100%
	Total	the number	53	41	14	6	1	115
		Year %	46.1%	35.7%	12.2%	5.2%	0.9%	100%

Source: The Researcher By SPSS

Table (7) shows that 49.0% of the respondents have years of work in The kingdom Arabic Saudi Arabia less than 5 years, and 37.5% of the number of years worked in The kingdom Arabic Saudi Arabia is 5 years and less than 10 years old, 57.1% of whom have years of work in The kingdom Arabic Saudi Arabia ranges from 10 to 15 years, and 36.4% of the number of years they work in The kingdom Arabic Saudi Arabia more than 15 years strongly agree that the outbreak Nepotism Created Something, From Non Balance Social development at the society Sudanese .

And according to the number of the number Years the work at The kingdom Arabic Saudi Arabia that an outbreak of The nepotism between the scientific competencies and university professors in the society Sudanese created Something From Non Balance Social development .

And we conclude and make sure of the above and according to the scientific rank and number Years the work at The kingdom Arabic Saudi Arabia that the spread of nepotism social and political factor affects the migration of Sudanese university professors to Saudi Arabia, any reason for the

migration of Sudanese university professors to the Kingdom Arabic Saudi Arabia .

Table (8) Not Stability Political

the answer	frequency	percent
strongly agree	37	32.2
agree	42	36.5
neutral	15	13.0
disagree	14	12.2
strongly disagree	7	6.1
Total	115	100.0

Source: The Researcher By SPSS

Table (8) shows that 32.2% of respondents strongly agree that it has suffered Sudan From Non Stability Political Because Growing Disputes Ethnic groups And Sectarianism And Sectarian and 36.5% disagree, while 13.0% neutral, 12.2% disagree, 6.1% disagree strongly. These percentages are lower than those approved and strongly approved.

We therefore conclude that 68.7% Non Stability The politician suffered from it Sudan Because Growing Disputes Ethnic groups And sectarianism And sectarianism This is a social and political factor, which caused the migration of Sudanese university professors. See graph shown in figure (4).

We therefore conclude that 68.7% Non Stability The politician suffered from it Sudan because of Growing Disputes Ethnic groups And sectarianism And sectarianism This is a social and political factor, which caused the migration of Sudanese university professors. See graph shown in figure (4).

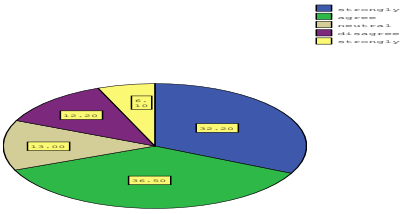


Figure 3 : Political instability suffered by Sudan

- **Hypothesis is the social factors have a significant impact on migration: -**

In order to test this hypothesis, the researcher analyzed the social variables affecting the migration of Sudanese university professors using the Kay square test to determine whether the social factors were affected by migration, by testing the null hypothesis that social factors have no effect on the migration of Sudanese university professors Against the Alternative Hypothesis Social factors have an impact on the migration of Sudanese university professors. The data of the social variables were then reconciled using the multiple regression model and their predictive contribution in the model. The results of the analysis were as follows

Table (9) Test Chi-Square [8]

the test	the value	Degree of freedom	Significances.
Chi-Square	21.928	12	0.038
Number of cases	115		

Source: The Researcher By SPSS

Table (9) shows that the significance value Sig. Which is 0.038 less than the level of morale 0.05 and therefore reject the hypothesis of nothingness and accept the alternative hypothesis , and from the table we find that the value of the test box Kai is

21.928 and this value has significant significance, which indicates that the social factors have a significant impact on the migration of Sudanese university professors .

To estimate the effect social factors the researcher appreciated depth multiple regression model of social variables (independent) , which has five levels and strongly OK , OK , neutral , not OK and not OK so strongly there will be four independent variables number (j-1) Where j The number of levels were coded as 0 and 1 , and the group that takes 0 No. (13) at all levels is called the comparison group as follows :

the level	X_1	X_2	X_3	X_4
Agree	0	0	0	0
Strongly Agree	1	0	0	0
neutral	0	1	0	0
Disagree	0	0	1	0
Strongly Disagree	0	0	0	1

The dependent variable (migration) is the number of years of migration. The estimated model is as follows :

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \dots \dots\dots\dots (9)$$

Where :

Y : Number of years migration

X_1 : Number of Years Experience Universities Sudanese

X_2: Factors Social (Strongly agree)

X_3 : Factors Social (Neutral)

X_4 : Factors Of the social (disagree)

X_5 : Factors Of the social (Strongly disagree), where the factors are Economic development (agree) is the comparison group

Table (10) Summary of the Multiple Regression Model of Social Factors

Sample	R value	value R^2
2	0.322	0.103

Source: The Researcher By SPSS

Table (10) shows that the value of the coefficient of selection R^2 Which is equal to 0.103 . This means that 10.3% of the changes in the dependent variable result (migration) are caused by the independent variables explained (the variables affecting). This indicates that the model weakens the data . And that the suitability of the model to the data look at the value F In the variance analysis table .

Table (11) Analysis of variance

Source of variation	Total squares	Degree of freedom Df	Average boxes	Values F	Values Sig.
Regression	255.60	5	51.120	2 . 514	0 .0 34
Residual	2216.174	109	20,332		
Total	2471.774	114			

Through Table (11) we find that value F Significant because the value of Sig (0.034) is less than the moral level (0.05) . This means that the model fits the data .

Table (12) Transactions Social Factors Model

sample	Variable coefficients		T values	Values Sig.
	ß	Standard error		
constant	8 . 704	8 41	10 . 347	0.000
X 1	-0.2 91	.08 7	3.3 37	0.001
X 2	0 . 551	1 . 264	0. 4 35	0. 664
X 3	1 . 291	1. 0 93	1. 180	0. 240
X 4	-0. 589	1 .393	-0. 423	0. 673
X 5	0.829	2.120	0.391	0.696

Source: The Researcher By SPSS

And compensation of transactions $_{n}$ ß of the table 12 (In equation) 9) We get the following form:

Y = 8.704-0.291X $_{1}$ + 0.551X $_{2}$ + 1.291X $_{3}$ - 0.589X $_{4}$ + 0.8291X $_{5}$ ... . (10)

That value -0. 291 Means that when the number of years of migration increases in years, the number of years of experience for the Sudanese universities professor will be reduced by headquarters 0.29 With the stability of the rest of the independent and statistical variables t This value has significant significance and this means that the variable can be predicted X $_{1}$.

And that the value of the second variable is the coefficient of 0.551 represents the difference between OK and strongly agree that social factors have a significant effect on migration Masters Universities Sudanese and statistical t This value is not significant and this means that the variable cannot be predicted X $_{2}$ If the person is strongly agreeable compared with that it is OK. And the value of the third variable coefficient of 1.291 is the difference between people Neutrals and conformists on the factors that have a significant social impact on migration Masters Universities The Sudanese Statistical t This value is not significant and this indicates that the variable X $_{3}$Unpredictable.

The coefficient of the fourth variable X $_{4}$, Compares the group of people who disagree with the group who agree with that value -0.589 This comparison represents any difference between disagreeing and agreeing that social factors have a significant effect on migration Masters Universities Sudanese and this difference is negative and means less answer than OK to disagree and the statistics t This value is not significant and this means that the variable can not be predicted X $_{4}$ That is, it does not contribute to the predictive power of the model.

And that the value of 0.829 represents the difference between strongly disagreeing and agree that social factors have

a significant impact on migration Masters Universities Sudanese and statistical t This value is not significant and this means that the variable can not be predicted X_5 .
In the light of these results appears to be independent variables X_2 And X_3 And X_4 And X_5 They have no ability to predict .

RESULTS

1. Scientists and thinkers in Sudan suffer from proliferation Illiteracy Scientific research Communities Which They live In which (64.4%) . Fifty percent of the professors who were appointed by the scientific professor agree with 35% of those who do not have a scientific rank as associate professor. 42.9% of those in Sudan are less than 5 years old while 42.9 % have more than 15 years of experience . Strongly agree that we conclude that the spread of scientific illiteracy is not a reason for the migration of Sudanese university professors .
2. That outbreak Nepotism Find Something From Non Balance Social development at the society Sudanese and Sudanese university professors by 81.8% and we find that 50% of the professors who were ranked by the scientific professor strongly agree and 43.15% of the teaching assistants strongly agree and 55. 9% of those who rated them agree strongly, And 35 . 3 % Of those ranked by the scientific associate professor strongly agree and find that 57.1 % of the number of years in the Kingdom between 10 and less than 15 years strongly agree and 36.4% of the number of years in the Kingdom more than 15 years strongly agree we conclude that the prevalence of nepotism is a social and political factor which t cause in their migration to the Kingdom of Saudi Arabia .

3. that Non Stability The politician suffered from it Sudan because of Growing Disputes Ethnic groups And Sectarianism The sectarian and this social worker and politician by 68.7% than t cause the migration of teachers Sudanese universities to Saudi Arabia .

Recommendations

1. The study recommends comparisons between multiple regression and neural networks .
2. Conduct continuous studies on the causes of migration of university professors.

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