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A Statistical and Analytical Study of the Factors that Impede Women's Participation in Economic Activities in Kirkuk, Iraq

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This study deals with the issue of women's participation in economic activities in Kirkuk, Iraq, and the main factors that impede this participation. It employs the questionnaire form designed for this purpose, which was distributed to women in Kirkuk. Additionally, the principal components method is used to reduce the number of the variables involved in the analysis to the lowest number of factors that serve as the best representation of the variables. The findings demonstrate that eight main factors represent the study variables. These factors explained about 70% of their total variance. Based on these factors, conclusions and recommendations are made on the study subject.

Key words: *Iraqi Woman, Factor analysis, principal component method.*

Introduction

Women are an essential part of society in its public and private fields, and its present and future. She is a key means for reproducing the fundamental values and principles of society, whether through her role as a mother or participant in society. Thus, women have assumed a pivotal position, enabling them to play a prominent role. Their effects are reflected in their various contributions at the various cultural, social, political and economic levels. However, this role has sometimes been exposed to challenges that often arise from the nature of the circumstantial, social and ethnic environments surrounding the status and role of women in those societies. This has often weakened the role played by women in some fields and even marginalised it (Musa, 2018, pp. 2-7).

Thus, the importance of this study lies in highlighting the most important factors that impede women's participation in various economic activities in Iraqi society, especially in Kirkuk. It is important to mention that Kirkuk is one of the most important cities in Iraq economically. The main goal of this study is applying factor analysis using the method of principal components analysis to the variables identified as they may affect women's participation in economic activity in Kirkuk. It also aims to explain the extent to which many of these variables can be represented by principal components fewer in number than the variables included in the analysis. Thus, the results obtained from this method are utilised to reduce the number of variables. Consequently, the components resulting from the analysis are key indicators better representing the original variables and explain the majority of their variability (Spencer, 2012).

Literature Review

It is important to mention that Kirkuk is one of the most important cities in Iraq economically. In this section, we highlight recent research that studied Iraqi women affairs. The research has pointed out the obstacles that prevent their participation in different aspects of life, and their roles in the Iraqi economy.

The study by Shatha et al. (2015) showed that the Iraqi women had good rights in different country sectors. However, situations associated with wars and economic embargos on Iraq and internal conflicts have influenced their roles. Furthermore, the study summarised the challenges and available chances in the Iraqi economy. Moreover, the authors listed recommendations about how to enhance women roles in the Iraqi economy.

In 2016, the central statistical organisation of the Iraqi ministry of planning (Iraqi ministry of planning, 2016) conducted a study to create a statistical database about the situation of Iraqi women in rural areas. The aim of the survey was to prepare the required recommendations that may promote rural women in different sectors. The main objectives involved increasing the efforts to educate the women of their role and impact in: 1) Agricultural development processes; 2) Economic and social rights; 3) Legacy; 4) Incubation; 5) Education; 6) Health; and 7) Gender equality.

Omar et al. (2018) studied the situation of women after 2003 when their participation increased due to establishing political parties and pluralism. Additionally, the study has presented several negative situations because of deteriorating security in some places and the associations that opposed women’s freedom and impeded their roles.

Theoretical Section

This study is based on the most important methods of factor analysis. It is the method of principal components that will be relied upon in determining the factors that represent the variables of the phenomenon studied. Accordingly, it explains the greater proportion of their total variation, as mentioned earlier.

Factor Analysis (Rencher, 2002, p. 408)

Factor analysis seeks to detect a relatively small number of non-observed (latent) variables that adequately represent the relative relationships between a large number of measured variables. Therefore, each latent variable represents a common variation between several measured variables. This procedure facilitates dealing with several variables through the use of fewer latent variables that represent the studied variables regardless of their diversity. These are called "Latent Factors."

Generally, Factor analysis starts with the correlation matrix, which includes correlation coefficients among row variables that are also repeated in columns. The variables found in the matrix are the same as those found in columns. The diagonal cells divide the matrix into two triangles of cells; each has the value of (1) because they indicate the association of each variable with itself. The correlation matrix is then analysed using factor analysis to obtain as few factors as possible, enabling the greatest variation among these variables.

Objectives of Factor Analysis

Factor analysis performs various functions that can be expressed by two main objectives (Afifi et al.,2012 :

1. Reducing the number of measured variables to a fewer number of latent variables;
2. Detecting the latent factor structure or indicative areas that underlie the multiplicity of measured variables.

Procedures of Factor Analysis (Al-Rawi, 2017, p. 55)

1. Analysis of the matrix of correlations between the measured variables
2. Applying a method of extracting or deriving factors
3. Rotation methods to obtain significant factors or to facilitate the interpretation of factors
4. Calculating factor scores for each individual (i.e., a score for each individual for each of the extracted factors)

The assumptions required by factor analysis are the scores of measured variables and the level of their measurement (i.e., the sample). It then requires tests regarding the validity of the data or correlations matrix to apply factor analysis to it. After confirming that the data is suitable for factor analysis, the next step is implementing factor analysis methods in processing the data to extract the factors. Next, simulations are used to determine the number of extracted factors. After that, the interpretation of extracted factors is conducted by referring to Rotation Methods, including Orthogonal Rotation and Oblique Rotation. Kaiser-Mayer-Olkin (KMO) is one of the metrics used to measure the degree of correlations between variables at the matrix level. KMO aims to estimate the adequacy or efficiency of investigation. Additionally, it is an indicator for calculating the volume of correlation coefficients of the measured variables to partial correlation coefficients. KMO equation can be expressed as follows (Cerny and Kaiser, 1977):

$$\text{KMO} = \frac{\sum_{(correlation)} 2}{\sum_{(correlation)} 2 + \sum_{(partial\ correlation)} 2}$$

Both the numerator and denominator are close or equal when the total squares of the partial correlation coefficients are small compared to those of the correlation coefficients. Consequently, KMO is close or equal to 1. Furthermore, KMO ranges between zero and 1. Zero indicates that factor analysis is inappropriate. However, when it is close to 1, the correlations matrix is valid for factor analysis. Finally, it is worth mentioning that Kaiser states that this measure is accepted when it is not less than 0.5.

Evaluating the Validity of Correlations Matrix for Factor Analysis

1. Most correlation coefficients should exceed 0.30 and be significant, and the statistical significance is unreliable.
2. The absolute value of correlation matrix determinants must be greater than (0.00001). Consequently, it signifies a lack of very high correlations and the absence of linear dependence among variables (Haitovsky,1969; Field, 2009).
3. Bartlett's Test should be statistically significant and indicate that the correlations matrix is not the identity matrix (free of relationships) (Sncdccor and Cochran,1989). However, it is available to a minimum of relations. In this case, it must be strengthened by other tests.
4. Based on Kaiser's simulation, KMO test for all matrices should be higher than 0.50. This signifies that the level of correlation between each variable to other variables in the correlation matrix is sufficient to conduct a factor analysis.

Factor Analysis Methods

After testing the validity of the correlation matrix to factor analysis, one of factor analysis methods is to detect the latent factor structure that summarises the various interrelationships among the measured variables (Afifi et al.,2012).

There are two methods of factor analysis:1) Principal Component; and 2) a set of methods that are all based on Common Variance. To identify the difference between them, it is necessary to clarify some concepts represented by Common Variance, Unique Variance, Specific Variance and Error Variance. The maximum variance of the variable is 1. This general variance that composes the variables is divided into two types:

1. Common Variance: represents the common area between variables or the ratio of variance shared by a set of items or measured variables.
2. Unique Variance: is the variance in which the variable does not engage with other variables. In other words, it corresponds to the variance after deleting common variance from the total variance of the measured variable that equals 1. It is divided into two types:

a) Specific Variance: it is the variance of the variable and forms its identity and distinguishes it from other variables.
b) Error Variance: it is independent of specific variance and its display of irregularity. Its size is estimated by using Reliability, particularly Alpha for internal consistency.

Principal Component Method (Morrison, 1978)

This method is based on all variances that compose the measured variables, whether it is a common or unique variance of the two specific types and error variance. The method of the principal component in analysing the correlations matrix between variables is applied to detect groups whose components are highly correlated. Thus, these variables represent a linear combination to achieve the maximum total of the correlation squares between this combination and the original variables. This combination is known as a factor, which represents the maximum variance in measurement items. The correlation coefficients between this combination and the original items are called Loadings. After extracting the first factor, the second factor is extracted by configuring a second-best linear combination of variables with other weights so that the second factor is independent of the first one. Accordingly, the method of principal component analysis extracts gradual factors in terms of their importance, starting with the first factor and ending with the last one. Hence, the first factor is characterised by representing the largest proportion of variance and containing the greatest eigenvalue. This case indicates that its relation to the variables it represents is stronger than the relation of other factors extracted from the variables they represent.

On the other hand, the analysis method based on general variance is consistent with the method of principal components in that the extracted factors are independent and not related to each other. However, it differs from the method of principal components, which derives factors by employing common variance, excluding unique variance. The problem that faced the methods of extracting factors (based on common variance) is the mechanism for determining common variance or value of commonalities that the process of extracting factors is based on. This mechanism is the basis for the difference between the types of factor analysis based on common variance.

The value of communalities are equal to the total squares of a particular item loadings on the components or factors extracted. Furthermore, it represents the ratio of variance explained by the factors extracted in a certain item or a certain measurement variable. It is found to be equal to (1) when using the principal components method because it uses all the variance that is determined by (1) at the level of the measured variable. Whereas, the value of communalities of items or variables measured when using principal components method are generally less than (1). The reason is that this method only uses the variance part which consists of a variable that is common with the variance of other measured variables and excludes specific and error variance. Value of communalities may be equal to 0.60, 0.80 or 0.70 or any other value, which is necessarily less than (1), where (1) represents all variance that consists of measured variables.

Data Analysis

Women's Economic Position in Kirkuk

Kirkuk is a city located in Iraq's northern region about 255 Km from Baghdad. It is fifth among Iraq's cities in terms of population, which totals one million and 400 thousand inhabitants according to the 2014 census. The city is a crucial city with economic importance. Furthermore, among the factors that played a role in its importance is oil and the fertility of its agricultural lands. Moreover, its distinctive geographical and commercial location makes it a link between Central and Northern Iraq (Kirkuk, 2011, 1-5).

To identify the extent of women's participation in economic activity in Kirkuk, some information on commercial and industrial centres and the construction sector were collected for the period (2015-2018). The data collected showed women's position and involvement in economic activity in Kirkuk. The information was collected from Kirkuk Chamber of Commerce and Industry. The information was on the numbers of the following points:

1. Participants in training courses
2. Loan recipients to create small projects

3. Number and type of projects for females
4. Employees in State's institutions

Based on Table 1, the number of females was less than the number of males who participated in training courses for economic projects in Kirkuk. Hence, females represented about 29%; while males represented by 71%.

Table 1: Number of males, females, and percentage of participants in training courses

Gender	Number	Percentage (%)
Males	885	0.71
Females	358	0.29
Total	1243	

Table 2 shows the number of loan recipients to create small projects. The number of females was 41, which is much lower than that of males (which was 1,521), in obtaining the loan for economic projects in Kirkuk city. Therefore, females represented 3%; whereas males represented 97%.

Table 2: Number of males, females, and percentage of loan recipients to create small projects.

Gender	Number	Percentage (%)
Males	1521	.097
Females	41	.003
Total	1562	

Table 3 refers to the types of economic projects created by women in Kirkuk. It is noted that the sewing project was of more interest to women than other projects, reaching 51%, (i.e., more than half of other economic projects). Different projects formed about 37%, and the project of a women's barbershop formed 12%.

Table 3: Number and percentage of projects created by females.

Project type	Number	Percentage (%)
Women's barbershop	5	0.12
Sewing	21	0.51
Different projects	15	0.37
Total	41	

Finally, Table 4 refers to the number of employees in the State's institutions. It is clear that the number of female employees is 39, which is also lower than that of males (129). It seems that

the State gives more employment opportunities for males than females. Hence, the percentage of male employees is 77% versus 23% for females.

Table 4: Number of males, females and percentage of employees in State's institutions.

Gender	Number	Percentage (%)
Males	129	0.77
Females	39	0.23
Total	168	

Data Description

To obtain data on the reality of women in Kirkuk, the questionnaire designed for this purpose was adopted in this study. It consisted of 26 questions, which aimed to identify the fundamental obstacles to women's participation in economic activity in this Iraqi city. Each question was represented by the symbol Xi, (i=1,2,...,26). The questions are as follows:

X1: The dominant male culture in society is a major obstacle for women in the economic field.
X2: Considering domestic work as a basic work for women and work in the economic field and investment is for men.
X3: The inferior view of women to be as a worker and subordinate, not as a businesswoman and head of work.
X4: Identifying the type of women's self-employment and confining them to specific occupations, such as opening beauty salons, establishing nurseries, etc.
X5: The prevailing social violence against women reduces creativity, skill, and leadership for women.
X6: Women's fear of exploiting their social reputation during labour competition in the economic field.
X7: Prevailing social customs and traditions are generally a fundamental barrier.
X8: The weakness of the private sector itself reduces jobs opportunities and women's participation in them.
X9: The weakness and backwardness of technology and traditional work have limited the participation of women.
X10: Weak and a lack of sponsorship (funding) for productive projects by the government.
X11: The lack of insurance companies to protect productive projects and capital in the case of disasters and unexpected situations.
X12: The lack of law for establishing small projects, which are considered the most important economic, productive field in which women are involved.
X13: The lack of a product protection law, which in turn leads to the poor marketing process.
X14: The lack of a consumer protection law that has a direct impact on competition and progress.

X15: The lack of courts for addressing problems and disputes between work and capital, which makes it difficult for women to enter this field.
X16: Weak public sector cooperation with the private sector leads to weakness and underdevelopment of the private sector.
X17: The lack of a clear policy on the part of the government to regulate, develop, and encourage the private sector has led women to move away from the field of economic work.
X18: Poor social awareness about women's participation and employment in the private sector has led women to tend toward the public sector and government occupations.
X19: The small number of organisations and associations working in the economic field has a significant impact on the poor awareness and leadership of women to work in the private sector.
X20: The negative role of media in showing women as a tool for commercial advertisements only, not as successful businesswomen in society.
X21: Limited participation and lack of experience and practice for women in the economic field have led to men's monopolism of business associations with all their branches.
X22: The lack of social balance (man-woman) in administrative bodies of associations and unions of business with all branches, leading to weakness of moral support for women.
X23: There is no law or instructions to encourage women to participate in economic work.
X24: Civil Status Code stipulates the distribution of inheritance as 1:2 between man and woman.
X25: There are instructions issued that a woman should not obtain a passport without the consent of her guardian until a specific age.
X26: Income tax for a husband and wife is calculated as one and not as two separate persons.

After distributing the questionnaire to a sample consisting of (84) women from Kirkuk who work in various economic activities, they filled in its items and then gave it to the researchers. The answers are shown in the appendix 1. The appendix clarifies the total number of women's answers to the questions (distributed by the four items).

Results and Discussion

SPSS (18.0) was used to obtain all results for descriptive statistics and the principal component method based on the data that collected from the questionnaire (Jawdah, 2009, 255; Field A., 2009).

Table 5 shows an overview of the variables (questions) under study. The arithmetic means that the standard deviations and the number of values were included in the analysis for each variable. From the initial analysis of the relationships among (26) variables involved in factor analysis using the principal components method, the correlation matrix was different from the unit matrix. Furthermore, its determinant was greater than 0.00001, where the specified value

was equal to 0.0000493. This outcome means that there is no strong correlations and that there is a lack of linear dependence among variables.

Table 5: Descriptive statistics of the variables

Variable	Mean	Std. Deviation	N	Variable	Mean	Std. Deviation	N
X1	2.7024	1.09522	84	X16	3.0357	.78305	84
X2	2.3095	1.21215	84	X17	2.9881	.82862	84
X3	2.1429	1.17343	84	X18	3.1667	.78898	84
X4	2.2024	1.14891	84	X19	3.0238	.82105	84
X5	3.0476	.82000	84	X20	3.1310	.90220	84
X6	2.8095	1.05826	84	X21	2.9286	.88883	84
X7	2.8452	.97553	84	X22	2.8333	.92922	84
X8	3.1190	.79766	84	X23	2.7857	.93230	84
X9	2.5000	1.00000	84	X24	2.7857	1.13440	84
X10	3.1667	.92922	84	X25	2.5833	1.08892	84
X11	3.1429	.80873	84	X26	2.3810	1.12908	84
X12	2.8810	.76685	84				
X13	2.8690	.86121	84				
X14	3.0000	.80660	84				
X15	2.8333	.94210	84				

Regarding KMO and Bartlett's test, Table 6 clarifies that the KMO value is equal to 0.669, which is greater than 0.5. This result indicates that the level of correlation of each variable to other variables (in the correlation matrix) is sufficient for conducting factor analysis as well as the adequacy of sample size. The result of Bartlett's test also indicates that it is statistically significant (0.000), which is less than 0.05. This is shown by the test result in Table 3, which confirms the correlation matrix not as the unit matrix (i.e., free of relationships. However, there is a minimum of relationships among variables. Hence, factor analysis was conducted using the method of principal components.

Table 6: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.669
Bartlett's Test of Sphericity	Approx. Chi-Square	898.160
	Df	325
	Sig.	.000

Based on Table 7 below, the values of communalities of variables illustrate the ratio of variable variance that can be explained by the factors extracted. The variance ratios ranged between

77% and 57%. For example, the value (0.707) of variable X1 explains that the extracted factors explain about 71% of the variable X1. Accordingly, the interpreted variance has been obtained.

Table 7: Communalities

Variable	Initial	Extraction	Variable	Initial	Extraction
X1	1.000	.707	X14	1.000	.773
X2	1.000	.755	X15	1.000	.713
X3	1.000	.775	X16	1.000	.577
X4	1.000	.743	X17	1.000	.655
X5	1.000	.737	X18	1.000	.655
X6	1.000	.749	X19	1.000	.639
X7	1.000	.767	X20	1.000	.742
X8	1.000	.689	X21	1.000	.685
X9	1.000	.619	X22	1.000	.570
X10	1.000	.643	X23	1.000	.666
X11	1.000	.693	X24	1.000	.715
X12	1.000	.717	X25	1.000	.730
X13	1.000	.678	X26	1.000	.661

Table 8: Total variance explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings
	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total
1	5.813	22.357	22.357	5.813
2	2.991	11.504	33.860	2.991
3	2.187	8.413	42.273	2.187
4	1.706	6.585	48.842	1.708
5	1.639	6.303	55.145	1.639
6	1.352	5.201	60.346	1.352
7	1.289	4.956	65.302	1.289
8	1.072	4.124	69.426	1.072
9	.879	3.381	72.807	
10	.776	2.986	75.793	
11	.748	2.876	78.669	
12	.705	2.712	81.381	
13	.679	2.611	83.992	
14	.587	2.258	86.250	
15	.481	1.850	88.101	
16	.437	1.681	89.781	
17	.428	1.647	91.429	
18	.399	1.536	92.965	
19	.331	1.275	94.240	
20	.318	1.221	95.461	
21	.259	0.998	96.459	
22	.246	.948	97.407	
23	.221	.848	98.255	
24	.190	.731	98.987	
25	.150	.576	99.563	
26	.114	.437	100.000	

Table 8 demonstrates that there are eight basic factors that control the phenomenon under study because its eigenvalues are greater than one. This means that the method of principal compounds reduced the relationship among variables to eight factors that represent a certain percentage of the variables' information. The proportions of variance explained by each factor are as follows:

1. The first factor: 22.357%.

2. The second factor: 11.504%.
3. The third factor: 8.413%.
4. The fourth factor: 6.585%.
5. The fifth factor: 6.303%.
6. The sixth factor: 5.201%.
7. The seventh factor: 4.956%.
8. The eighth factor: 4.124%.

As shown in Table 9, the proportion of total variance explained by these eight factors is estimated at 69.426%.

Table 9: Total variance explained.

Component	Extraction Sums of Squared Loadings	
	Percentage of Variance (%)	Cumulative Percentage (%)
1	22.357	22.357
2	11.504	33.860
3	8.413	42.273
4	6.568	48.842
5	6.303	55.145
6	5.201	60.346
7	4.956	65.302
8	4.124	69.426

Table 10 is a matrix of factors that represents the loadings of factors, which reflect the degree to which each variable is related to a particular factor. The variable that is related to it helps to describe it well when the loading of a particular factor is greater than (0.3). On this basis, the results are as follows:

- The first factor includes these variables: X1, X2, X3, X5, X6, X7, X8, X9, X10, X11, X12, X13, X14, X15, X16, X17, X18, X19, X20, X21, X22, X23 and X26.
- The second factor includes these variables: X1, X2, X3, X4, X6, X8, X15, X17, X18, X21, X22 and X23.
- The third factor includes these variables: X1, X8, X10, X11, X13, X14, X18, X22 and X26.
- The fourth factor includes these variables: X4, X5, X24 and X25.
- The fifth factor includes these variables: X1, X4, X6, X15, X20 and X25.
- The sixth factor includes these variables: X4, X5, X13, X21 and X26.
- The seventh factor includes these variables: X5, X11, X14 and X19.
- The eighth factor includes these variables: X3, X7 and X8.

The component transformation matrix was then utilised to determine whether the rotation process is necessary. If the transformation matrix is a unit, it means that the rotation process is not necessary for the study. Based on the results found in Table 11, the transformation matrix is not a unit, so the rotation process is necessary for this work.

Table 10: Component Matrix.

Variable	Component							
	1	2	3	4	5	6	7	8
X1	.388	.480	.383	.024	-.328	.115	-.104	.217
X2	.302	.704	.074	-.177	.311	-.029	-.057	.176
X3	.365	.569	.230	-.138	.190	.076	.259	.370
X4	.177	.593	.129	-.307	.366	-.296	-.094	-.135
X5	.449	.253	-.179	.455	.029	-.334	.322	-.126
X6	.392	.560	.199	.013	-.388	.207	.090	-.203
X7	.523	.229	.205	-.089	-.183	-.271	-.073	-.528
X8	.349	.310	-.477	.130	-.162	-.110	.216	.376
X9	.615	.160	-.135	.070	-.243	-.264	-.246	-.050
X10	.479	-.020	-.547	.045	-.218	.163	.148	-.122
X11	.452	.045	-.576	-.127	.079	.145	.309	-.124
X12	.728	-.007	-.166	-.232	-.004	-.200	-.208	-.033
X13	.400	.038	-.427	.052	.125	.554	-.088	.061
X14	.381	.131	-.398	-.061	-.044	.204	-.633	.143
X15	.491	-.332	-.122	-.155	.487	-.039	.252	-.167
X16	.680	-.187	.079	-.132	.091	.122	.071	-.082
X17	.651	-.401	.124	-.193	-.061	-.029	-.085	.007
X18	.560	-.377	.367	-.122	-.150	.136	-.092	-.257
X19	.436	-.205	-.185	.288	.258	-.205	-.340	.226
X20	.467	-.177	.060	.199	-.561	-.178	.228	.247
X21	.504	-.369	.209	.239	.112	-.312	-.155	.014
X22	.457	-.402	.308	-.069	-.105	.159	.252	.122
X23	.608	-.370	.130	-.167	.274	-.071	.142	.183
X24	.235	-.010	.218	.677	.092	.274	-.194	-.133
X25	.148	.218	.154	.695	.357	.019	.088	-.051
X26	.499	.115	.413	.032	.191	.432	.033	.054

Orthogonal Rotation method (Varma) was employed to improve the position of the extracted factors by maximising large loadings and reducing small loadings. As listed in Table 12, after the rotation process, the matrix of rotated factors was obtained. Based on the outputs of factor analysis after rotation, the following is concluded:

- The contribution of variables (X12, X15, X16, X17, X18, X20, X21, X22, X23 and X26) to the formation of the first factor.
- The contribution of variables (X1, X2, X3, X4 and X26) to the formation of the second factor.
- The contribution of variables (X8, X10, X11, X13, X14 and X15) to the formation of the third factor.
- The contribution of variables (X1, X6, X15, X19, X20 and X26) to the formation of the fourth factor.
- The contribution of variables (X5, X24, X25 and X26) to the formation of the fifth factor.
- The contribution of variables (X5, X8, X9, X20 and X21) to the formation of the sixth factor.
- The contribution of variables (X4, X5, X6, X7, X9 and X12) to the formation of the seventh factor.
- The contribution of variables (X9, X12, X13, X14 and X19) to the formation of the eighth factor.

Table 11: Component Transformation Matrix

Component	1	2	3	4	5	6	7	8
1	.685	.251	.367	.152	.170	.290	.334	.292
2	-.542	.690	.089	.404	.105	.056	.214	-.005
3	.395	.166	-.711	.359	.207	-.216	.030	-.304
4	-.202	-.281	-.064	.013	.853	.364	-.115	.060
5	.099	.502	.026	-.676	.336	-.373	-.168	.021
6	.099	-.088	.461	.468	.180	-.525	-.492	.000
7	.112	.100	.311	-.077	-.010	.324	-.127	-.868
8	.093	.292	-.195	.053	-.211	.463	-.736	.253

Table 12: Rotated Component Matrix

variable	Component							
	1	2	3	4	5	6	7	8
X1	.149	.377	-.116	.685	.040	.176	.099	.131
X2	-.071	.827	.075	.144	.052	.009	.114	.152
X3	.150	.784	.078	.273	.048	.182	-.108	-.102
X4	-.103	.722	-.084	-.077	-.044	-.129	.421	.046
X5	.002	.169	.257	-.096	.427	.559	.358	-.100
X6	.014	.251	.205	.699	.126	.077	.357	-.086
X7	.231	.119	.023	.218	.082	.031	.802	.009
X8	-.111	.246	.425	.070	-.052	.631	-.069	.157
X9	.185	.085	.137	.168	.038	.369	.466	.420
X10	.114	-.142	.700	.074	-.015	.259	.161	.145
X11	.128	.106	.777	-.138	-.070	.148	.125	.002
X12	.427	.172	.271	-.043	-.110	.130	.496	.393
X13	.134	.056	.675	.107	.164	-.122	-.184	.337
X14	-.004	.052	.322	.144	-.040	-.086	.092	.793
X15	.559	.148	.348	-.480	.076	-.052	.118	-.071
X16	.638	.085	.299	.036	.087	-.031	.244	.066
X17	.740	-.051	.070	.017	-.111	.118	.132	.237
X18	.745	-.123	-.050	.235	.004	-.030	.107	.122
X19	.270	.044	.011	-.309	.260	.280	-.026	.567
X20	.373	-.228	.030	.314	-.028	.666	.084	-.021
X21	.565	-.020	-.249	-.191	.225	.353	.041	.299
X22	.701	-.129	.064	.143	.029	.062	-.019	-.179
X23	.749	.160	.103	-.235	.001	.105	.029	.043
X24	.113	-.153	-.009	.190	.782	-.059	.015	.167
X25	-.062	.166	-.009	-.071	.823	.098	.039	-.067
X26	.507	.340	.102	.344	.341	-.190	-.086	.010

Conclusions

Factor analysis was employed using the method of principal components. It was based on correlation coefficients between variables. The analysis results indicated that there are eight main factors affecting women's participation in the economic field as a businesswoman. Variables with a loading value of 0.3 and above, and with an Eigenvalue of more than one, were considered. These eight factors were able to explain about 70% of the total variance. The study reached the following results:

1. The study showed through descriptive statistics that the situation of women is at its lowest levels in terms of their participation in economic activity as businesswomen and the decline of their activity in education, nursing and the opening of barbershops.
2. The lack of women's involvement in the economic field, specifically in management and business, has marginalised them, allowing their breadwinner to practice domestic violence on them.
3. Traditional customs and traditions, male culture, and the inferior view of women are major obstacles to women's participation in the economic field and as businesswomen.
4. The lack of insurance companies to protect small projects that can be led by women or co-managed by them, which frighten them from disasters, fires and wars, is a crucial factor in the decline of their role and participation.
5. The weakness of the private sector, the lack of public sector support, security, and economic conditions and instability have led to women's weak participation and leadership of economic projects.
6. Tests used in data analysis showed that the matrix of correlations among variables could be analysed using factor analysis. They are also free of linear dependence and high correlations.
7. The first factor was the most important, explaining about (22.35%) of the total variance and included (23) variables in the social and economic field and the nature of work that women can perform. Hence, most researchers consider these variables to have a significant impact on the decline of the role of women and the lack of their involvement in the economic field.
8. The second factor explained about 11.504% of the total variance and included 12 variables and the rest of the factors. However, the common characteristic of all these factors confirms that the social factor, customs, traditions, male culture, and the inferior view of women are common factors. These factors significantly affect women's non-involvement in economic activity as businesswomen and leaders of economic projects.

Recommendations

In light of the findings, the study recommends the following:

1. An intensive awareness campaign by civil society organisations on the importance of women's roles and their right to participate as businesswomen and leaders of some economic projects.
2. Demonstrate women's ability to manage projects and advertise successful projects led by women or that have contributed to their success and the propagation of these experiences and projects by media.

3. Support the private sector, establish a fund to support small projects, provide the necessary materials for the success of these projects, and assign responsibility to women for their leadership and to demonstrate their capabilities.
4. Enact legislation and laws encouraging women and protecting women's rights from waste and loss.
5. Opening workshops and courses to develop women's capacities in senior and middle project management will raise the reality of women and encourage them to engage in economic activity and manage projects.

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Appendix 1: Numbers and the total number of women's answers to questionnaire questions in Kirkuk, Iraq.

Questions	Number				Total Number
	Disagree	Agree to some extent	Agree	Strongly agree	
X1	15	21	22	26	84
X2	31	17	15	21	84
X3	38	10	22	14	84
X4	34	13	23	14	84
X5	4	14	40	26	84
X6	13	17	27	27	84
X7	10	17	33	24	84
X8	3	13	39	29	84
X9	19	16	37	12	84
X10	5	15	25	39	84
X11	2	16	34	32	84
X12	2	24	40	18	84
X13	7	16	42	19	84
X14	3	18	39	24	84
X15	9	18	35	22	84
X16	4	12	45	23	84
X17	5	14	42	23	84
X18	4	8	42	30	84
X19	2	21	34	27	84
X20	6	11	33	34	84
X21	8	12	42	22	84
X22	8	20	34	22	84
X23	8	23	32	21	84
X24	23	12	29	20	84
X25	14	20	25	21	84
X26	26	17	24	17	84