**Άσκηση**

Με στόχο την μείωση του αρχικού πλήθους των μεταβλητών πραγματοποιήθηκε παραγοντική ανάλυση. Οι πίνακες παρουσιάζουν τα αποτελέσματα της ανάλυσης.

| **KMO and Bartlett's Test** |
| --- |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0,739 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1961,822 |
| df | 91 |
| Sig. | 0,000 |

| **Total Variance Explained** |
| --- |
| Component | Initial Eigenvalues | Extraction Sums of Squared Loadings | Rotation Sums of Squared Loadings |
| Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2,922 | 20,875 | 20,875 | 2,922 | 20,875 | 20,875 | 2,607 | 18,620 | 18,620 |
| 2 | 2,678 | 19,126 | 40,001 | 2,678 | 19,126 | 40,001 | 2,199 | 15,709 | 34,328 |
| 3 | 1,818 | 12,983 | 52,983 | 1,818 | 12,983 | 52,983 | 1,986 | 14,183 | 48,512 |
| 4 | 1,040 | 7,426 | 60,409 | 1,040 | 7,426 | 60,409 | 1,666 | 11,897 | 60,409 |
| 5 | ,876 | 6,254 | 66,663 |  |  |  |  |  |  |
| 6 | ,819 | 5,847 | 72,509 |  |  |  |  |  |  |
| 7 | ,736 | 5,256 | 77,765 |  |  |  |  |  |  |
| 8 | ,641 | 4,575 | 82,341 |  |  |  |  |  |  |
| 9 | ,580 | 4,140 | 86,481 |  |  |  |  |  |  |
| 10 | ,535 | 3,818 | 90,299 |  |  |  |  |  |  |
| 11 | ,402 | 2,871 | 93,170 |  |  |  |  |  |  |
| 12 | ,353 | 2,525 | 95,695 |  |  |  |  |  |  |
| 13 | ,325 | 2,320 | 98,014 |  |  |  |  |  |  |
| 14 | ,278 | 1,986 | 100,000 |  |  |  |  |  |  |
| Extraction Method: Principal Component Analysis. |

| **Rotated Component Matrixa** |
| --- |
|  | Component |
| 1 | 2 | 3 | 4 |
| Q1 | -,017 | ,146 | ,735 | ,020 |
| Q2 | -,041 | ,019 | ,856 | ,106 |
| Q3 | -,045 | -,009 | ,808 | ,031 |
| Q4 | ,853 | -,015 | -,001 | ,031 |
| Q5 | ,813 | ,002 | -,005 | ,140 |
| Q6 | ,880 | -,148 | -,027 | -,010 |
| Q7 | ,609 | -,069 | -,074 | ,113 |
| Q8 | ,089 | ,184 | ,074 | ,610 |
| Q9 | ,126 | ,106 | ,152 | ,766 |
| Q10 | ,066 | ,131 | -,060 | ,707 |
| Q11 | -,010 | ,846 | ,085 | ,082 |
| Q12 | ,017 | ,854 | -,028 | ,079 |
| Q13 | -,170 | ,611 | ,114 | ,179 |
| Q14 | -,103 | ,518 | ,022 | ,341 |
| Extraction Method: Principal Component Analysis.  Rotation Method: Varimax with Kaiser Normalization. |

**Questions and** Answers:

1. **Are the data appropriate for factor analysis? Why?**

The data are appropriate for factor analysis because K.M.O index of Sampling Adequacy is greater than the suggested limit of 0,7 and the Bartlett’s test of sphericity is significant at 5% level. (Table KMO and Bartlett's Test)

1. **How many factors have resulted?**

The resulted factors are 4, while the initial number of items was 14.

(Table Total Variance Explained)

1. **Which is the criterion for the extraction of the factors?**

The criterion is eigenvalue greater than1. As we can see the last factor has an eigenvalue equal to 1,04.

(Table Total Variance Explained)

1. **Which is the cumulative % explained by the factors?**

The first factor explains the 18,62% of the variance, the second factor explains the 15,7% of the variance, the third factor explains the 14,18% and the last factor the 11,89% of the variance. The total variance explained by the four factors is 60,409%.

(Table Total Variance Explained)

1. **Can you refer the items of every factor?**

|  |  |
| --- | --- |
| **Factor** | **Items** |
| 1st  | Q4, Q5, Q6, Q7 |
| 2nd | Q11, Q12, Q13, Q14 |
| 3rd  | Q1, Q2, Q3 |
| 4th  | Q8, Q9, Q10 |