Input Dataframe: 3.4 million orders with order and user_id, order number, order day, order hour, days since last order, number of items per order and percentage of items reordering

Factor Analysis using method = minres
Call: fa(r = df, nfactors = 2, rotate = "oblimin", fm = "minres")
Standardized loadings (pattern matrix) based upon correlation matrix

	MR1	MR2	h2	u2	com
order_id	0.00	0.00	1.5e-09	1.000	1.4
user_id	0.00	0.00	5.3e-06	1.000	1.3
order_number	0.56	0.02	3.1e-01	0.691	1.0
order_dow	0.01	-0.02	6.7e-04	0.999	1.1
order_hour_of_day	-0.04	-0.01	1.6e-03	0.998	1.1
days_since_prior_order	-0.63	0.00	4.0e-01	0.604	1.0
item_count	0.00	1.00	1.0e+00	0.005	1.0
percent_reorder	0.77	-0.01	5.9e-01	0.406	1.0

	MR1	MR2
SS loadings	1.30	1.00
Proportion Var	0.16	0.12
Cumulative Var	0.16	0.29
Proportion Explained	0.57	0.43
Cumulative Proportion	0.57	1.00

 With factor correlations of

	MR1	MR2
MR1	1.00	-0.04
MR2	-0.04	1.00

Mean item complexity = 1.1
Test of the hypothesis that 2 factors are sufficient.

The degrees of freedom for the null model are 28 and the objective function was 0.51 with Chi Square of 1700146
The degrees of freedom for the model are 13 and the objective function was 0

The root mean square of the residuals (RMSR) is 0.01
The df corrected root mean square of the residuals is 0.01

The harmonic number of observations is 3346083 with the empirical chi square 6036.86 with prob < 0
The total number of observations was 3346083 with Likelihood Chi Square = 5230.31 with prob < 0

Tucker Lewis Index of factoring reliability = 0.993
RMSEA index = 0.011 and the 90 % confidence intervals are 0.011 0.011
BIC = 5035.01
Fit based upon off diagonal values = 1
Measures of factor score adequacy

	MR1	MR2
Correlation of (regression) scores with factors	0.85	1.00

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Multiple R square of scores with factors        0.72 1.00
Minimum correlation of possible factor scores   0.44 0.99




Loadings:
                        MR1     MR2
order_id
user_id
order_number            0.556
order_dow
order_hour_of_day
days_since_prior_order -0.629
item_count                      0.998
percent_reorder         0.771

                 MR1    MR2
SS loadings     1.300 0.996
Proportion Var  0.163 0.125
Cumulative Var  0.163 0.287
```