

CASE STUDY 3

Factor Analysis*

Problem

A cigarette manufacturer is interested in determining which variables his potential customers think about when they consider his product. To get an answer to the above, a set of 10 statements were prepared by the manufacturer with the help of a market research agency. The statements are listed below. The sample size was 20, which comprised male smokers only.

The respondents were asked the following questions and were requested to rate them on a 7-point scale (1 = completely disagree and 7 = completely agree). The answers given by the respondents were related to their perceptions and some attributes of the cigarettes.

- It makes me feel very manly.
- I feel women get attracted to me when I smoke.
- When I am in a group, it makes me feel superior with a cigarette in my hand, if others in the group are non-smokers.
- I support the ban of cigarette advertisements.
- I prefer lighter cigarettes, which cause less harm to the body.
- Tension is relieved /relaxation when I smoke.
- I endorse the view that all cigarette boxes should carry the statutory warning—"Cigarette smoking is injurious to health".
- I tend to smoke more when tension prevails in my mind.
- I smoke because I like the smell of tobacco.
- A cigarette enhances my overall personality.

Input Data

TABLE 1.1

S.No.	Var. 1	Var. 2	Var. 3	Var. 4	Var. 5	Var. 6	Var. 7	Var. 8	Var. 9	Var. 10
1	1	1	1	7	3	3	3	7	7	2
2	5	4	4	6	4	7	4	6	7	5
3	2	3	2	6	5	5	1	7	6	1
4	3	1	2	6	4	5	5	6	7	2

(Table 1.1 con)

(Table 1.1 contd)

5	4	3	3	5	1	5	2	7	6	4
6	6	6	5	7	4	1	1	2	3	7
7	7	1	1	7	6	7	5	7	7	4
8	1	1	1	7	1	7	7	7	7	1
9	4	5	6	7	4	6	2	6	7	3
10	5	3	1	6	4	3	5	6	5	4
11	1	2	1	6	2	2	3	3	6	2
12	2	1	1	6	2	3	3	4	3	3
13	2	1	1	7	1	2	1	1	7	1
14	7	6	5	7	5	1	2	7	3	7
15	2	5	4	5	2	7	2	6	7	2
16	5	1	1	7	5	1	7	6	7	2
17	2	1	1	7	3	4	5	7	7	3
18	7	7	6	5	5	2	4	6	4	5
19	2	4	3	7	6	6	4	7	6	3
20	3	1	5	7	4	3	7	7	5	4

Factor Matrix

TABLE 1.2

Variable	Factor 1	Factor 2	Factor 3
VAR00001	.77112	.27848	-.18824
VAR00002	.84576	-.01080	.41042
VAR00003	.77488	.14957	.33485
VAR00004	-.15129	.20147	-.71795
VAR00005	.45747	.65975	-.25427
VAR00006	-.38258	.48225	.64023
VAR00007	-.35218	.61831	-.38608
VAR00008	-.09983	.83597	.22909
VAR00009	-.73658	.29934	.25642
VAR00010	.88771	.12770	.14985