

MG 222/301: Take Home Part 2013

Due Date: *December 13, 2013*

A survey is conducted to elicit the kind of strategic initiatives firms typically undertake to gain competitive advantages over other firms within an industry. For this purpose a survey questionnaire containing 22 items, listed in the table below, is sent to all the auto-part manufacturers in five identified industrial belts in Karnataka, Tamilnadu and Maharashtra, of whom 250 responded.

1.	New product development
2.	Operating efficiency of the business unit
3.	Continuous overriding concern for cost reduction
4.	Enforcing strict quality control procedure
5.	Price
6.	Quality of product
7.	Broad product range
8.	Building brand identification
9.	Influencing channels of distribution
10.	Efforts to insure the availability of raw materials
11.	Innovation in manufacturing process
12.	Extensive customer service capabilities
13.	Specific attempts to insure a pool of highly trained and experienced personnel
14.	Maintaining low inventory levels
15.	Refining existing products
16.	Innovations in marketing techniques and methods
17.	Promotion and advertising above industry average
18.	Capability to manufacture specialty products
19.	Products in high price segments
20.	Serving special geographic segments
21.	Efforts to enhance quality of advertising
22.	Efforts to build reputation

The survey instrument asked the respondents to rate the importance they attach to each of the above 22 competitive methods in their strategic pursuit and business unit performance, in 1-7 Likert scale, with a higher rating indicating attaching more importance.

Responses of the 250 firms to these 22 items are available in the “Data Files” page of the “MG 222/301” page under your name. The data file contains 250 rows and 22 columns with the j -th column containing the response to the j -th item for $j = 1, \dots, 22$ as in the above table. Answer the following with the correlation matrix of the 22 observables:

1. Perform a Principal Component Analysis and comment on the underlying number of

hidden dimensions with an eye on the proportion of variability that is being explained by them.

2. Perform an Exploratory Factor Analysis and comment on your findings.
3. Is there any item, that appears to be perfunctory?
4. Appropriately name the factors, and very briefly comment on the different strategic dimensions that the auto-parts manufacturers seem to be broadly focusing on.