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Statistical Tables

Statistical Table

A way of presenting statistical data through a systematic arrangement of the numbers describing some mass phenomenon or process.

A statistical table may be regarded as representing a subject and predicate. The subject is the phenomenon or group of phenomena treated in the table. The predicate consists of the characteristics describing the subject.

Statistical tables consist of horizontal rows and vertical columns. The subject of the table is generally entered in the rows, and the characteristics making up the predicate are entered in the columns. The intersections of the rows and columns form cells, in which the numerical data are arrayed. The meaning of each number is indicated by the headings of the corresponding row and column.

Three types of statistical tables are distinguished according to the structure of the subject. In simple tables, the subject is a single phenomenon. In two-way tables, the subject exhibits classification with respect to a single factor. In multiway tables, classifications with respect to two or more factors are used in the subject.

Statistical tables should contain all the necessary information in compact form. The headings in the tables should be precise and short. The units of measurement used should be indicated, as should the place and time to which the information pertains.

Types of Tables

Statistical tables can be classified under two general categories, namely, general tables and summary tables.

General tables contain a collection of detailed information including all that is relevant to the subject or theme. The main purpose of such tables is to present all

the information available on a certain problem at one place for easy reference and they are usually placed in the appendices of reports.

Summary tables are designed to serve some specific purposes. They are smaller in size than general tables, emphasize on some aspect of data and are generally incorporated within the text. The summary tables are also called derivative tables because they are derived from the general tables. The information contained in the summary table aims at analysis and inference. Hence, they are also known as interpretative tables.

The statistical tables may further be classified into two broad classes namely simple tables and complex tables. A simple table summarizes information on a single characteristic and is also called a univariate table.

Example 3.8

The marks secured by a batch of students in a class test are displayed in Table 3.8

Table 3.8
Marks of Students

Marks	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
Number of Students	10	12	17	20	15	6

This table is based on a single characteristic namely marks and from this table one may observe the number of students in each class of marks. The questions such as the number of students scored in the range 50 – 60, the maximum number of students in a specific range of marks and so on can be determined from this table.

A complex table summarizes the complicated information and presents them into two or more interrelated categories. For example, if there are two coordinate factors, the table is called a two-way table or bi-variate table; if the number of coordinate groups is three, it is a case of three-way tabulation, and if it is based on more than three coordinate groups, the table is known as higher order tabulation or a manifold tabulation.

Example 3.9

Table 3.9 is an illustration for a two-way table, in which there are two characteristics, namely, marks secured by the students in the test and the gender of the students. The table provides information relating to two interrelated characteristics, such as marks and gender of students. It is observed from the table that 26 students have scored marks in the range 40 – 50 and among them students, 16 are males and 10 are females.

Table 3.9
Marks of Students

Marks	Number of Students		Total
	Males	Females	
30 – 40	8	6	14
40 – 50	16	10	26
50 – 60	14	16	30
60 - 70	12	8	20
70 – 80	6	4	10
Total	56	44	100

Example 3.10

Table 3.10 is an example for a three – way table with three factors, namely, marks, gender and location.

Table 3.10
Marks of Students

Marks	Males		Total	Females		Total	Total		Total
	Urban	Rural		Urban	Rural		Urban	Rural	
30 – 40	4	4	8	4	2	6	8	6	14
40 – 50	10	6	16	5	5	10	15	11	26
50 – 60	8	6	14	9	7	16	17	13	30
60 - 70	7	5	12	5	3	8	12	8	20
70 – 80	5	1	6	2	2	4	7	3	10
Total	34	22	56	25	19	44	59	44	100

From this table, one may get information relating to the distribution of students according marks, gender and geographical location from where they hail.