

have succeeded to channelize multilateral support and billions of dollars of aid and assistance for post-conflict reconstruction of Afghanistan.

EMPLOYMENT NEWS

connectivity" with the rest of the region.

The sixth ministerial meeting in Amritsar, attended by 14 partner countries and around 40

The Declaration, at the end of the summit, stressed "the need for advancing regional cooperation as an effective means to

"early finalization of the Comprehensive Convention on International Terrorism with consensus."

Continued on page 31

PAGE NO. 01& 31

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CAREER OPPORTUNITIES IN STATISTICS

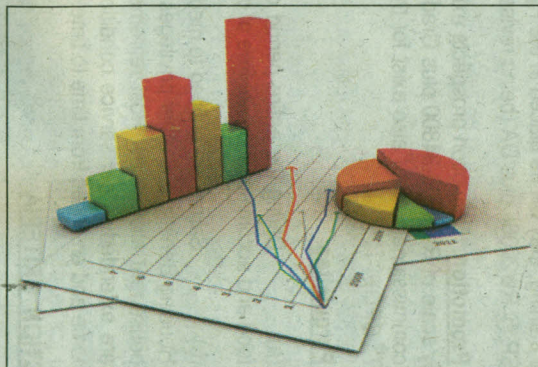
Usha Albuquerque & Nidhi Prasad

We collect data for everything. Virat's batting averages, stock market fluctuations, pollution levels compared to other cities, and right now as the country struggles through the demonetization experiment everyone has data on how much money is in circulation, how many ATMs are functioning, how long will it take to print out new notes etc. The world is becoming more and more quantitative and data focused. Whatever information you may have, there are statistics to back it.

Statistics essentially involves putting mathematics to scientific use in the collection, analysis, interpretation, and presentation of masses of numerical data. Statistics is the study of the collection, organisation, analysis, interpretation and presentation of data.

Statisticians use this knowledge to design, collect, and interpret data surrounding many different fields from economics, medicine, psychology, marketing, public health, biology, even sports, and other fields. Statistics plays a vital role in

every field of human activity. Statistics has important role in determining the existing position of per capita income, unemployment, population growth rate, housing, medical facilities



etc. in a country. Different areas of statistics include crime statistics, census statistics, ecological statistics, medical statistics, statistics on education, film statistics, cricket statistics, oil statistics, market statistics, accident statistics, labour statistics, population statistics, election statistics, district-city-state statistics, tourism statistics etc. so application of statistics is very wide.

There is abundant data in every field or department. While

collection of data is no small task, interpreting and presenting it requires special skills. Hence a statistician needs to undergo fundamental training in analytical aspects. Statistics, is a branch of applied mathematics, but it's not just about numbers. A statistician's role is to give life to data.

Statistics is indispensable in this modern age aptly termed as "the age of planning". Statistical data and techniques of statistical analysis are immensely useful in solving economic problems such as wages, price, time series analysis, demand analysis. It is an irreplaceable tool of production.

Various responsibilities of a statistician include:

- Collecting information
- Developing newer and more efficient methods of collecting data
- Organizing data
- Developing newer methods to analyze the information

Statisticians are also heavily involved in the development of products and quality factors. They often work for automobile, pharmaceutical, or computer software companies in trial testing and product evaluation. Apart from development, statisticians are also involved with the manufacturing, asset, liability, and risk management, and marketing departments of firms.

There are some important fields in which statistics is commonly applied.

Mathematics: Statistics is branch of applied mathematics, and also plays a central role in almost all natural and social sciences. The methods of natural sciences are most reliable but conclusions drawn from them are only probable, because they are based on incomplete evidence. Statistics helps in describing these measurements more precisely.

Banking: Statistics play an important role in banking. The banks make use of statistics for several purposes. The banks work on the principle that all the people who deposit their money with the banks do not withdraw it at the same time.

Continued on page 31

CAREER OPPORTUNITIES ...

Continued from page 1

State Management (Administration):

Statistics is essential for a country. Different policies of the government are based on statistics. Statistical data are now widely used in taking all administrative decisions. Most government organizations and agencies hire statisticians to evaluate population, demographic, and economic measurements. Statisticians use sampling techniques to determine sizes of relative populations and demographics, the unemployment rate, literacy levels, malnutrition numbers, dowry deaths and many other sociological issues. For example if the government wants to revise the pay scales of employees in view of an increase in the living cost, statistical methods will be used to determine the rise in the cost of living.

Accounting and Auditing:

Accounting is impossible without exactness. For decision making purposes, so much precision is not essential and the decision may be taken based on approximation, known as statistics. In auditing sampling techniques are commonly used. An auditor determines the sample size of the book to be audited based on error.

In Natural and Social Sciences: Statistics plays a vital role in almost all the natural and social sciences. Statistical methods are commonly used for analyzing the experiments' results, testing their significance in Biology, Physics, Chemistry, Mathematics, Meteorology, Research studies of commerce, Sociology, Business, Public Administration, Communication and Information Technology etc.

In Astronomy:

Astronomy is one of the oldest branches of statistical study; it deals with the measurement of distance, sizes, masses and densities of heavenly bodies by

means of observations. During these measurements errors are unavoidable so most probable measurements are arrived at by using statistical methods. For eg since the old days astronomers have used statistical methods for finding the movements of stars and the distance of the moon from the earth.

In Medicine:

The job of Medical statisticians involves monitoring and surveillance of diseases and health patterns of the sample under study. It involves establishing the cause of disease or the factors associated with disease and death as well as analyzing studies to determine if new drugs and medical devices are safe and effective for pharmaceutical companies, medical research centers, or the Food and Drug departments.

Agriculture & Environment

In the field of agriculture and agri-business, statisticians analyze data from agricultural experiments to increase productivity and yield. They also evaluate the environmental impact of air, water, and soil pollutants at a research laboratory, commercial environmental clean-up firm, or for the Environmental Protection Agencies.

ELIGIBILITY

The minimum educational qualification required in this field is a bachelor's degree with a major in statistics or mathematics. To apply for an undergraduate course in Statistics the student should have passed 10+2 or equivalent examination with a minimum of 50% marks in the aggregate in Physics, Maths plus any one of the following: Chemistry, Statistics, or Computer Science. Though knowledge of mathematics is essential, statisticians should also have scientific knowledge and the ability to use computers to interpret the data.

Indian Institute of Statistical Science (ISI) offers course in B.Statistics. (Hons) & Master's in Statistics. For bachelor's in 3-year B Stat (Hons) course requirement

is Successful completion of Higher Secondary (10+2) or equivalent with Mathematics and English. Selection of candidates is based on merit as judged by their performance in written tests and interviews conducted by the Institute.

Specialized fields in Statistics in India:

Colleges/universities offer several specializations in statistics at undergraduate, postgraduate and research level. They include:

- Actuarial Science • Applied Information Economics • Biostatistics • Business Statistics • Data Analysis

SKILLS REQUIRED

- Statisticians must possess good IT skills, numerical skills, analytical skills. • They should be able to assess results, analyse trends, applying statistical methodology to complex data. • Statisticians need to be flexible and have a curious and disciplined mind. • It is very important to have a good background in computers as statisticians use computers extensively.

They should also have intellectual creativity, attention to detail, problem-solving skills, logic, and ability to take decisions independently.

SCOPE

Students with a degree in B.Sc. Statistics are eligible to apply for various jobs in Banking, IT, Quality control etc. They can even take up Actuarial Science as a specialization and join in various financial and share trading companies. Candidates with good flair and knowledge in Statistics are in huge demand in the present scenario.

A student with Masters or Ph.D. in Statistics can apply for jobs such as business analyst, statistics lecturer, professor etc. They can also go for jobs like software engineer, investigative officer, statistics analyst, researcher etc.

Statisticians can work as:

- Econometrician • Statistician • Research Analyst • Biostatistician

- Biometrician • Epidemiologist • Data Scientist • Sports Statistician • Medical Statistician

Jobs in Government Sector after Bachelor's in Statistics

Most government organizations and agencies hire statisticians to evaluate population, demographic, and economic measurements. Many other environmental, scientific, and agricultural agencies hire statisticians for similar type of work in their respective fields. Even national defence organizations hire statisticians to assess weapons and strategy effectiveness.

In the government sector, UPSC carries out entrance exam as to recruit candidates to the Indian Statistical Services. For this a Masters in Statistics or math's is required to apply for the post. The SSC also carries out a recruitment process as to appoint eligible candidates into the Statistical Investigators post. The Private sector also requires qualified Statisticians in the Insurance, IT and software fields. Some of the most renowned global Statistical organizations are Euro-stat, IAOS, OECD, PARIS21 and UNESCO.

SOME OF THE COLLEGES OFFERING COURSES IN STATISTICS

- Indian Statistical Institute (ISI), Bangalore • Indian Institute of Technology (IIT), Kanpur, Mumbai • Indian Statistical Institute (ISI), Delhi • University of Delhi (DU), Delhi • Indian Agricultural Statistics Research Institute (IASRI) • Loyola College, Chennai • Indian Statistical Institute (ISI), Calcutta • St. Xavier's College, Mumbai

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