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A study of Statistics: Use and Importance in Mathematics

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Abstract
It is very clear that statistic is a branch of Mathematics, which deals with data. Statistics in Plural stand for the datas, and in singular stands for the subject that treats its problems with help of systematic arrangement of numerals, called data. In another way it may that statistics uses data, collected through systamatic method of data collection and the conclusion. The scope, use and importance is very wide indeed. It covers vast area of human life as in the field of Natural Science Social science, Life Science, Commerce & Management and Technology, etc.
The methodology of the study is based on theoretical. The objectives of this paper are explain as firstly, introduction and historical aspects, Secondly functions of statistics, thirdly, use and importance of statistics in human life, and lastly concluded to understand the meaningful use and importance of statistics in the modern time.

Keywords:

Introductions

The term statistics is derived form the latin word 'Status' which means a political state. It was a very old human civilization. The first census (Perhaps) was held in Egypt. In India it was also held about 2000 years ago. We had on efficient system of collecting, administrative statistics, particularly, during the regim of Chandra Gupta Maurya (324-300 B.C). The system of collecting data related to births and daths is mentioned Kautiyas Arthshastra (around 300BC), A detailed account of administrative surveys conducted during Akbar's regime is given in Ain-l-Akbar written by Abul Fazi Captain john Gaunt of London (1620-1674) is known as father of vital statistics and his study is based on statistics of birhs and deaths. The theoretical development cf Statistics came during the mid-seventeenth century and continued after that with the introduction of theory of Games and Chance (I.C. Probability). Francis Gatton (1822-1921) an English man Statistician, pioneered the use of statistical methods, in the field of Biometry, But in the modern time, the very popular theory of Kari Pearson (1857-1936) is very important to use statistics in every field of human life with his discovery of 'Chi-square Test' and foundation of statistical laboratory in England (1911), Sir Ronald A. Fisher (1890-1962), is also known as the father of modern statistics and applied it to various diversified fields such as Genetics, Biometry, Education, Agriculture and other fields.

In this way we know that Statistics deals with data collection for specific purpose. We make decisions about that data by analyzing and interpreting it and also it represents data graphically and in tabular form, and value. The value is called the central tendency. As mean (Arithmetic mean), median and mode are three measures of centered tendency. A measurement of central tendency gives us a rough idea where data points are central. But, in order to make better interpretation from the data. We should also have an idea how the data are scattered or how much they are bunched around measure of central tendency.

Functionas of statistics

Statistics is an important tool of Mathematics and also holds a significant place in the modern times. It is not merely a device for collecting a data but a means of developing sound technique for the representation and analysis of data thus collected. We find an interesting conclusion of the functions of the statistics in Robert W. Burgess, when he comments, "The fundamental gospal of statistics is to put back the domain of ignorance, prejudice, rute of thumbs, arbitrary of premature decisions are made and principles are formulated on the basis of analyzed quantitative facts."

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The following are the most important functions of statistics which used in daily human life in every field
1) Presentation of facts in Definite form,
2) Simplification of Complexities and comparison,
3) Statistics helps in the formulation of policies and programs & Knowledge,
4) Statistics helps in "Forecasting and shows Relative importance, and last but not least,
5) Statistics Tests the laws of other Science.

Statistics puts every contention in figures and thereby it makes every thing look like definite obviously numerical conclusions are for more convincing and perfect. As if we say Italian is many time richer than India, it gives no definite conclusion but if we say the percapita income of Italian is 20 times greater than the percapita income in India, the conclusion is definite and will be more convincing. If data is presented through systematically arranged with statistical techniques in the from of tabulation, diagrammatic representation, graphic presentation of averages, percentages, index numbers, etc, makes much easy to understand the facts. Thus the problem of complexity of understanding a lot more things about cores of people is simplified through these statistical techniques of data presentation. Figures, without having any comparison with the figures of the same, kind have no meaning and are useless. So, statistics helps in making such comparison.

Statistics helps in the formulation of deferent types of government policies and programes Decision making becomes more convenient and correct when the statistical inferences are brought to the aid of the decision making and to those responsible for making policies and chalking out programs Many kinds of policies like wage policy, reservation policies, etc, are framed of the basis of the statistical conclusions. So many methods are used in statistics, that add to the knowledge of an individual, as well as enlarge his vision and experience about of the world of facts. Efficiency and ability of an individual is developed through due to use and study of statistics.

Statistics is always helping of forecasting the situation through estimating the variable that exist in the past, about in times to come in future events. The use of some statistical techniques like extrapolation and time series analysis, helps in saying something above the future course of events. On the other hand, the correlation between two facts is explained by statics. The one of the most important function of statistics is to investigate and establish the relationship between twp variables, like 'X' and 'Y'. Statistical methods are widely used in the formulation and examination hypothesis. It is also helped in developing new theories and concepts on the basis of old theories and concepts. For instance, on the basis of data, certain changes have in the Malthusian theory of population and Quantity Theory of Money etc.

Use and importance in human life
The use and importance of statistics in human life is very important in all branches such as in Natural Science, Strategic, Social Science, Medial Science, Commerce & Management, etc, and also in other faculties. Statistics of consumption tell us of the relative strength of the desire of a certain section of the people and its variations from time to time. By statistical analysis we can study the manner is which people spend their income over various items of expenditure namely, food, clothing house rent, etc, Statistics of production describe wealth of a nation and compare it year after year showing there by the effect of changing economic policies and other factors of the level of production. Distribution statistics disclose the economic conditions of the various classes of people. Statistics and Accounting, are the powerful instruments which the modern economist has all his disposal, and of which business, through the development of research agencies and methods, is making constantly greater use. National Sample Survey (NSS) Scheme was primarily started to collect statistical data for the use in planning in India. Not only plans of economic development are constructed on the basis of statistical data but the success that a plan achieves is also measured best by the use of statistical tools.

To day we live in a period of transition when a man enter in business he enters the profession of forecasting because success in business is always the results of precision in forecasting and failure in business in turn due to faulty reasoning and in accurate analysis of various causes affecting a particular phenomenon. A producer of any goods, like scientific instruments, chemical and other consumer and durable goods etc, estimates probable demand of his goods analysis the effect of trade cycles and seasonal and variations as also of changes in habits and customs of people on demand of his waves, and after taking all these factors into consideration finally takes decision about the quantum of production. Again cost accounting is entirely statistical in outlook. Hence public utility concerns like railway, electric supply companies, water work, etc, also make extensive use of statistics.

Statistics are very helpful to a state as they help in administration. Modern states makes extensive use of statistical data on various problems. Before enforcing its policy a state has to examine its pros and cons through numerical data. As we see that a statistical analysis of war between any country like the Indian and Pakistani casualties during war in 1965 revealed that the proportion of officers among those killed was higher on the Indian side. During the war, military requirement of goods and commodities increase tremendously. Complete inspection of each and every item involves huge expenditure and larger number of personnel and it can also not be done expediously. Here statistics come to the help of army. Thus, use of statistics in the time of peace and war is not only significant but very essential.

Modern statistical methods and statistical data are being found increasingly useful in research in different fields. In the field of industry and commerce statistician carry on many type of researches. They always try to find out the sources and causes of variations of different products from their standard quality. We thus find that the statistical methods are of very wide, almost universal applicability. Statistics, when use effectively, become deeply intertwined in the whole fabric of the subject. The universality of statistics is enough to indicate its importance, use in all faculties of human life and indispensability to the modern world.

Conclusion
In conclusion, we can say, that statistics is an important part of mathematics. It holds a significant place in the modern time. The administration of states required the collection and analysis of data of population and wealth for purpose of

war and finance. Sociology, Economics, Anthropology, Commerce & Management, Computer Science & Technology, Natural science, Agriculture, Psychology and education, all are depends on statistics. The medical research worker after rely up on statistics to determine the significance of his results. At present the world is known as computer world. The computer has become so useful in the field of statistics that there may be some tendency to forget that it has its limitations. Like any other powerful device, it should be used with care. It is important to realize that the computer will do what it is instructed to do. If wrong method of analysis are employed, the result may not help in improving decisions. No matter how rapidly the computations are made, based on complex analysis of these data may be worse than it only simple methods of analysis were used. So, it should be used with interest, care and precautions for the development of country or the modern world.

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