**NAME**

**DATE**

**TOPIC:** WHY ARE SCIENTISTS USING STATISTICS

**INTORODUCTION:**

**Definition:**

Statistics is a branch of science that involves collecting and analysing numerical data on a given population sample Lane, et al (2017). The discipline is scientific in nature since it involves calculations and mathematical formulae that have been developed on mathematical and scientific methodologies to achieve a given output.

Scientists on the other hand are professional persons who have been trained in the field of sciences majorly Chemistry, Biology, Physics, Chemistry and Mathematics to helps solve real world problems by researching and applying scientific knowledge and information to these problems.

**Background of statistics**

According to Lehoczky et al (2018), statistics came to the life as early as 1662 when the famous inventors of this discipline John Gaunt and William Pettey invented it. The invention came at a time when there was a need to address the census and population issues of that time in Early Europe. Later on, Muhanad Aweis, would take the discipline further and apply probability to it, making him be known as the father of statistics. Overtime, statistics has been broadly embraced and accepted by most universal principles and laws among scholars and learning institutions from grade school to high level tertiary institutors. In view of such, most institutions today have adopted Statistics as a subject of study for students who in turn graduate and qualify as statisticians.

Software engineers have also developed algorithms and gone ahead to develop statistical software that can solve most of the statistical problems in almost any field. Further, most software engineers with a background in specific scientific fields have gone ahead to invent and develop statistical programming applications that are specifically focused on solving problems around these field. These include languages like LISP, Julia, SCALA, Python and R packages that have been widely accepted and are in use across the industry,

**Applications of statistics:**

Despite its ability to solve most of the problems around multi discipline, it has been widely accepted and used in various industries and real world applications. As put by Bensken, et al (2021), in medicine and research, scientist and doctors use this statistics to calculate, mean, median and weighted averages of diseases, and predict future probabilities of case sceneries and disease treatment. In finance and accounts, this discipline is used in determining costs, expenditures and forecasting future incomes and risks. In geography and space science, the discipline is applied to help predict weather patterns, crop and plant behaviour and also to help manage the climatic conditions of certain regions for optimal productivity.

**Why statistics for scientists.**

The fact that statistics was invented by scientists only means that they have to use it, even though necessity is the mother of invention, statistics was one way to solve many problems that scientists were facing at the time.

Everything revolves around numbers. According to Galeano et al (2019), with the evolution of technology, applications have paved way for the world to generate more data. This translates into what we can defines as big data. Big data is data that is fast moving and in large quantities. The topics generated around these data is keenly harnessed by medical, academic, technological and other analytical scientists to help them solve their day to day problems. For example, during the spike on covid 19 numbers in 2020, a lot of data concerning the diseases was generated among social media users on twitter, Facebook and instagram, these data formed the basis and opinions of what people what users are talking about across the world and in turn harnessed by scientists to have a peek into some of the possible forecasts of solving the disease.

Faster analyses of problems. Unlike the early days, statistical formulae and methods have been translated into algorithms and code to help scientists solve their problems faster and with less tussle. Some of the existing open source applications that exist to solve these problems include SPSS, which is used in academies and scholarly research. IBM is another tool used by professional data scientist. Microsoft excel is another tool which is widely used by almost everyone to solve their everyday statistical problems like coefficients and covariance.

Problems and data are here to stay. Every day we generate data across touch points, from financial transactions, social media usage, and medical diagnosis to web browsing. These data is needed by analysts and scientist across these fields to make meaning of the current problems that they are trying to solve. Certain applications and packages have also been developed to capture and mine data across the internet to help the users from such fields to solve certain problems. As they say, data science is the gold of the future.

**RERERENCES**

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