The Impact of Computer in Research

Sapna Mittal
Assistant Professor,
Post Graduate Department of Computer Science and Applications,
R.S.D College, Ferozepur, Punjab, India

ABSTRACT *The development of technology has made problem solving activity easy. Problems can be solved with the help of computers rapidly .Today computer is used in every walk of life. It is immensely used in education also. Researchers are using it for conducting their research effectively. Computers are very useful and important when large sample in used. It saves the time of researcher and gives more accurate and fast results. The present paper focuses on what is computer? How does it function? How does it help in research?*

I. INTRODUCTION

Computer has always helped in serving the difficulties faced by human beings. By the passing of time Computers have been reduced from a size of room to six of human palm. Computer performs many functions and does variety of jobs with speed and accuracy. Today, life has become impossible without computers. They are used in Schools, Colleges and have become indispensable part of every business or profession. Research is also an area where computer are playing a major role.

Computer is comprised of an input device, a Central Processing Unit and an output device. It has the following features:

Speedy Device - Computer is known for its speed and takes few seconds to perform any function.

Storage Device - Computer can store and retrieve huge data. It can be used when needed. There is no risk of forgetting and loosing data.

Accurate Device - Computer is known for its accuracy. Sometimes it can be inaccurate due to some Technological weaknesses and poorly designed system.

Automatic Device - The programs which are run on computer are automatic. They can be operated through some instruction.

Diligent Device - Computer works tirelessly and does not suffer with lack of concentration. Large calculations can be done with accuracy and speed with the help of computer.

II. COMPUTER IN RESEARCH

Computers are used in scientific research immensely and it is an important tool [4]. Research process can also be done through computers. Computers are very useful and important when large sample in used. It has many storage devices like floppy discs, compact discs and auxiliary memories. Data can be used from these storage devices and retrieved later on. There are various steps necessary to effectively carry out research and the desired sequencing of these steps in the research process [1]. This data can be used for different phases of research process.

Computer and phase of Research

Research process has five major phases. Computer can be used in these following phases.

Conceptual phase and computer

In this phase, formulation of research problem, review of literature, theoretical frame work and formulation of hypothesis. Computer helps in searching the existing literature. It helps in finding the relevant existing research papers so that researcher can find out the gap from the existing literature. Bibliographic references can also be stored through World wide Web. In the latest computers, references can be written automatically in different style like APA, MLA etc. This saves time of researcher. He needs not to visit libraries and wastes his time. it helps researchers to know how theoretical framework can be built.

Design and planning phase and computer

Computer can be used for deciding population sample questionnaire designing and data collection. These are different internet sites which help to design questionnaire. Several softwares can be used to calculate the sample size. It makes pilot study of the research possible. In pilot study, sample size calculations, standard deviation are required. Computer helps in doing all these activities.

Empirical phase and computer

Computer helps in collecting data and in data analysis. After collecting data, it is stored in computers in word files or excels sheets. The important applications used in scientific research are data storage, data

analysis, scientific simulations, instrumentation control and knowledge sharing[2]. Necessary corrections are made or edited whenever it is required. Otherwise it will be a time consuming process. Computers help in reffering, editing and managing of data. Computer allows for greater flexibility in recording the data and made the analysis of data easy.

In research, preparation and inputting data is the most labour intensive. It consumes much time data is being converted in a form which is suitable for the computer. It can be coded on the excel sheet. These excel spread sheets can be directly opened with the statistics software for analysis.

Data analysis and computer

Data analysis and interpretation can be done with the help of computers. For data analysis, softwares are available. These software help in using the techniques for analysis like average, percentage and correlations etc. These softwares are SPSS, STATA, Sysat etc.

These can also be used for checking the reliability of data, establishing and testing hypothesis etc. Computers are used in interpretation also. They can check the accuracy and authenticity of data. It helps is drafting tables by which a researcher can interpret the results easily. These tables give a clear proof of the interpretation made by researcher.

Research Dissemination and Computer

After interpretation, computer helps is converting the results into a research article or report which can be published. It can be written in a word format or in a PDF format. Article can be stored or published on website.

References and computer

After completing the word document, a researcher need to give source of the literature studied and discussed in references. Computers help in preparing references. References can be written in different styles like APA/MLA etc. All the details of authors journals, publication volume. Books can be filled in the options 'reference' given in computer and it automatically change the information into the required style. Some softwares like 'Medley' are also used to manage the references. A researcher needs not to worry about remembering all the articles from where literature in taken, it can be easily managed with the help of 'Medley'.

III. CONCLUSION

Computers can be used for making research more effective. It saves the time of researcher and gives more accurate and fast results. Researchers should also takes the precautions for using computer for better results.

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Be a yardstick of quality. Some people aren't used to an environment where excellence is expected.

~ Steve Jobs