

A study of factors considered by Research Scholars in selecting QT software/ Statistical software

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ABSTRACT

As quantitative research grows, application of QT (Quantitative Technique) software or statistical software (SS) becomes a more crucial part of data analysis. Researchers are experiencing a transition from manual analysis with paper to more efficient digital analysis with statistical software. QT Software has contributed immensely in improving not only in demography studies and social investigation but also among other professionals' researches. However, this study is an attempt to understand the factors considered by the research scholars in selecting the QT software or statistical software. The study has been carried out by selecting 150 research scholars from the city of Hyderabad, India. The study reveals more insight about the views of the scholars in selecting statistical or QT software.

1. Introduction

The advent of statistical software or QT (Quantitative technique) software has certainly contributed immensely to the development in research studies in this 21st century era. An extraordinary premium placed on information and communication technology by academicians, individuals, organizations and researchers and organizations has certainly made it a major drive of every nation. Statistical Software (SS) is a vital tool for research analysis, data validation and findings.

Over the course of history, different forms of data analysis methods have been in existence. Initially, it was paper and pen and later the advent of which computer has helped invention of punching machines and later upgraded to simple calculator and complex scientific calculator. Nevertheless, pundits have revealed that statistical software is a software program that makes the calculation and presentation of statistics relatively easy. Statistical software allows researchers to avoid routine mathematical mistakes and produce accurate figures in their research if they input all data correctly.

Research has been identified as one of the important duties of academic staff (NUC, condition of service: FUYOE, 2013) and the common saying No publish! You perish. And also making mandatory for the research scholars to publish their research (UGC Ph.D. Rules & Regulations). This has led many lecturers and research scholar to look for different means of ensuring their work is given excellent statistical analysis. Development of statistical software allows them to conduct more quantitative studies easily (Chris McGann, 2009). Many researchers, professionals, scientists and business managers also can clearly present accurately prediction of the future using statistical software. Many proprietary and freeware statistical software packages are available that are suitable for different statistical analysis, depending on the user's needs: Some of the proprietary Software are SPSS, STATA, EVIEW, MINITAB, BMDP etc., and few among open or free Statistical software are R, EPI-INFO, CS-PRO, to mention but few. The emergence of statistical.

2. Objectives

- To find the various factors considered by researchers while selecting QT software or Statistical software in their research work.

3. Scope

The study has broader scopes which provide significant information about the views of the research scholars in selecting the QT software or statistical software. In this era, where difficult to find the manual practices of quantitative techniques in data analysis, and at the same time, very rare to find the training and learning of QT or statistical software provided by the universities to their research scholar in pursuing their research work. Therefore, this study has a vital scope which gives out the insight of the factors considered by research scholars in selecting statistical software.

4. Limitations of the study

The study has been surrounded by many limitations, which are as follows;

- Sample size is 150 research scholar of selected universities, which is too less to generalized the findings for all.
- The study is based on the survey technique of quantitative method. If the any other method adopted, the findings may differ.
- The study has been limited with its geographical area i.e. Hyderabad city of Telangana State only

5. Literature Review

Balderston, (1974, p. 230) The transformation of data into information, also called information analysis, was supported by management information system processes. "It helped to make an immediate distinction between data and information and was a determinant in administrators' understanding of the quantitative approach in a specific decision-making context"

Gray (1980) developed a faculty model for policy planning. The approach, using a computer-based model, permits the prediction of probabilities of death, resignation, and other faculty variables to develop scenarios for future years under different policies. Each faculty member was tracked separately, beginning from the person's current status. The model has been implemented in many universities in the country.

Kwak&Schniederjans, (1982) A programming problem is linear if it calls for optimization of an objective function that is a linear combination of the control variables under a set of constraints in the form of linear inequalities. A linear inequality is simply a mathematical statement to the effect that some linear combination is greater or less than some constant number. An objective function means that each unit of value measured by the function is the direct proportional result of assigning a certain value to a control variable

(Sax, 1985; Heck, 2004) The quality of quantitative research in education has been harshly criticized, however, and it remains a matter of concern for policy analysts and quantitative researchers. Some common critiques are that educational researchers are not adequately trained to approach social problems quantitatively, and that researchers often dismiss as irrelevant data that does not seem to match the expected results, offering explanations, after the fact, of why this data was not included in the final analysis. Quantitative research in curriculum construction and evaluation grew out of the common school movement in the nineteenth century and, though popular in the early to mid-twentieth century, drew increasing criticism into the late twentieth and early twenty-first centuries (Pinar et al, 2004).

However, at about the time it was losing popularity with educational researchers, quantitative research gained new importance in the newly developed field of education policy studies. Addition to concerns of reliability and bias, quantitative research must also be accurate and valid. Accuracy refers to the extent to which the experimental results accord with theoretical models, or the extent to which empirical results measure the phenomenon in question. Validity in the social sciences can be assessed in three ways: content, criterion, or construct (Twycross& Shields, 2004).

Muijs Daniel (2010) 'Over the course of history, different forms of data analysis methods have been in existence. Initially, it was paper and pen and later the advent of which computer has helped invention of punching machines and later upgraded to simple calculator and complex scientific calculator. Nevertheless, pundits have revealed that Quantitative Technique Software is a software program that makes the calculation and presentation of statistics relatively easy. Quantitative Technique Software allows researchers to avoid routine mathematical mistakes and produce accurate figures in their research if they input all data correctly.

ATS, UCLA Edu, (2014) any quantitative research cannot be done effectively without Quantitative Technique Software. Moreover, it enables pundit's faction research data for easy presentation. It helps professionals to interact with data thereby paving way for creativity and innovation. Some are user friendly interface with drop-down tips for beginners.

6. Research Methodology

This study is based Quantitative research study (survey method).The on-field survey has been conducted by providing a list of questionnaire after screening the eligibility of the participants. The sample of 150 research scholar has been taken, who are pursuing their Ph.D. from the Universities situated in the city of Hyderabad. The data has been analyzed with SPSS 20.

7. Data Analysis

Factors considered while selecting Quantitative software or statistical software by Research scholars	Frequency	Percentages (%)
I would consider the cost factor while purchasing QT or statistical software	16	10.67
I would consider, my software handling knowledge.	61	40.67
I would go for the software which support my existing device	23	15.33
I would follow my supervisors' recommendations for selecting software	13	8.67
I would go for the software which is freely available in my circle, rather purchasing or following supervisors' recommendations	37	24.66

Total Numbers, N	5
Sum, Σx	150
Mean (Average), \bar{x}	30
Sum of the Square of the Values, Σx^2	6044
Mean of the Square of the Values, \bar{x}^2	1208.8
Population Standard Deviation, σ	17.572706109191
Population Standard Variance, σ^2	308.8
Sample Standard Deviation, s :	19.646882704388
Sample Standard Variance, s^2	386
Geometric Mean	25.507303284936

The majority of the research scholars i.e. 40.67% considers their software knowledge before selecting any QT software or statistical software. The second majority of the research scholars i.e. 24.66% prefer to go for the software which is freely available in their circle, rather purchasing or following supervisors' recommendations. Around 15.33% research scholar prefer to go for the software which support their existing device. And few of the research scholars considers the cost factor and supervisors recommendations while selecting any QT software or statistical software.

Universities must include the training of QT software or statistical software in Ph.D. curriculum?	Yes 93.67%	No 6.33%
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Here, a question has been asked to get the views of the research scholars about the inclusion of QT software or statistical software training in the Ph.D. curriculum. Almost every research scholar feel, universities must include it in the Ph.D. curriculum. As most of the scholars prefer to go with the software in which they are familiar. In view of this, these figures clearly making an appeal to the universities to include the training of statistical software in the Ph.D. curriculum.

8. Conclusion

The study concluded that most of the research scholars considered their software knowledge as a key factor while

selecting any QT software or statistical software. However, there are considerable number of scholars, preferred to go for the software which is freely available in their circle, rather purchasing or following supervisors' recommendations. The cost factor does not matter a lot for the scholars, as most of them are preferring to get the software which is freely available in their circle. This study is making an appeal to the universities on behalf of the research scholars for the inclusion of the statistical software or QT software training in the Ph.D. curriculum.

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