



Analysing Learners Perception about Data Analysis on Microsoft Excel

Aditi Nath

Assistant Professor, Department of Social Work, Assam University, Silchar, Assam, India

Corresponding author: aditinath1@gmail.com

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ABSTRACT

Microsoft Excel has been considered as one of the important tools for data analysis. Curt fyre was the author who started with the foundational concepts, including basic calculations in excel. It is widely used by all sectors because of the two very important reasons like the convenience and cost associated with using MS Excel. The current study has been planned to aim to analyze the learners' perception about data analysis on Microsoft excel. The descriptive study design has drawn a sample of 119 learners constituted of students, doctoral research scholars, academicians, corporate professionals who have attended a one-week training programme on research and data analytics on MS Excel organized by a central university of Assam in October 2020. Primary data has been collected using Google form when journals, scholarly articles, and websites are secondary data collection sources. The analysis has been done on MS Excel and presented through tables and charts. The results indicated that 43.7% of learners had poor practice knowledge on MS Excel before attending the sessions but after attending the session 47.9% of learners had gained good knowledge. 56.3% have not used excel software for analyzing data before but after attending the sessions all the 119 learners have expressed their interest in analyzing data on excel in the future. The study suggested that participants with basic knowledge of MS Excel can be provided with advanced training and that can also be introduced by the respective organizations for quality output in all sectors.

Keywords: Microsoft Excel, Data analysis, Research

Data has become the world's most valuable resource these days. Collecting precise and reliable data by using suitable methods and extracting the relevant information from the collected data for further manipulation and interpretation has become the prerequisite to good research. Data has been defined

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by Webster's new collegiate dictionary in 1973 as "factual information" considered as the basis for reasoning, discussion, or calculation. The entire process of research involves certain calculations and evaluation to explore the most pertinent data is called data analysis (Ibrahim, 2015). In research data is gathered involving various techniques according to the goal of the exploration. After information assortment, it is vital to examine the information accurately for understanding and application. It is essential to realize that even after collecting data if the assorted data is not analyzed systematically then at that point, it won't solve the purpose of the study.

Sometimes the nature of data also demands specific steps to reach conclusions. If data is simple, it can be organized easily but if it is complex, proper processing would be required. In simple words, analysis means studying the data to determine inherent facts which involves a systematic way of organizing data. By Selltiz, Johoda, analysis is a process that facilitates data for operations and designs to conclude further manipulations. There are different steps associated with data and these are classification & tabulations; graphical portrayal; the proportion of area; the proportion of Variability; the proportion of relationship; assessing the obscure; testing of theory (Ibrahim, 2015). For analyzing information and visualization there are a whole lot of devoted programming packages and tools starting from Microsoft Excel to SPSS, R, Python, Nvivo, etc. (Bodleian libraries, 2021).

Among all, Microsoft Excel performs traditional analysis yet is widely accepted by all sectors because of the role it plays. It is a popular spreadsheet application launched in 1985 by Microsoft Corporations that allow carefully organizing all data and sorting the information in any way as per the choice of the user (career insights, 2018).

Excel's Statistical Tools

The convenience and the expense are presumably the two vital motivations behind why most information experts like to utilize Excel for analyzing data. Nonetheless, to dissect information with MS dominant a specialist needs to have deliberate focus, knowledge on data analysis, and dynamic abilities for decision making. (Digital Vidya 2020).

Along with statistics Microsoft Excel provides mathematical functions too. Microsoft Excel facilitates users with statistical functions like descriptive statistics which includes the meaning, median mode, standard deviations, and rank statistics.

The measurable investigation tool-pack is an add-in incorporated with Excel which assists with breaking down fluctuation including single direction, two-way without replication, and two-way offset with replication; correlation and covariance networks; tables of descriptive statistics; histograms with user-defined bin values; rank and percentile scores; multiple linear regression; t-tests, including paired and two-sample, assuming equal and unequal variances χ^2 tests (Verk & Cery 2007).

Objectives of the study

This research's overarching objective was to analyze learners' perception about data analysis on Microsoft excel. The objective was achieved by answering the following questions:

- How are learners practice knowledge on Microsoft Excel?
- Whether learners used Microsoft Excel ever for data analysis?
- How was overall learning on Microsoft Excel during the training program?
- Are learners interested in using Microsoft Excel in the future for data analysis?

Methodology

The study has been led in light of the reactions of the learners who went to a one-week training program on research and data analytics on Microsoft Excel coordinated by a central university of North Assam during the long stretch of October 2020. The learners of the programme were students, doctoral research scholars, academicians, and corporate professionals from across India who constituted a sample size of 119 for the study. The descriptive study design used Google form to collect primary data when journals, reports, and websites are secondary data collection sources. The analysis has been done on Microsoft excel and presented through tables

RESULTS AND DISCUSSION

To analyze learners' perception about data analysis on Ms Excel, the researcher had studied learners' learning before and after attending the training session. To understand the knowledge level of the learners, well before the programme a set of questions were shared with them through Google form, and at the end of the programme the same set of questions were shared with them to analyze their learning and perception. The findings are shared below.

Knowledge on Microsoft Excel

The participants were asked to share their practice knowledge on Microsoft Excel before attending the programme. The question was asked to understand how many of the participants had a basic knowledge of Ms excel. Responses have also been taken in this regard after the training. The results indicated that the majority (43.7%) of the participants had poor practice knowledge on Microsoft Excel before attending the session but after the session 57 (47.9%) of respondents gained a good knowledge of Microsoft Excel software. (Table 1).

Table 1: Practice Knowledge on Microsoft Excel

Practice knowledge	Number of respondents (N=119)	
	Before attending the session	After attending the session
Poor	52 (43.7%)	NIL
Fair	33 (27.7%)	15 (12.7%)
Good	25 (21.0%)	57 (47.9%)
Excellent	09 (7.6%)	47 (39.4%)
Total	119 (100%)	119 (100%)

Use of Microsoft excel software for data analysis

The participants were asked to share their opinion about the use of MS Excel for analyzing data before attending the programme. The purpose of asking this question was to know whether the learners have used excel software for data analysis before or not and to make a point for analyzing what impact the programme would create among learners after attending the sessions. Responses of the learners revealed that 56.3% have not used excel software for analyzing any data whereas 4.7% had basic knowledge on working with Microsoft excel.

Table 2: Use of Microsoft excel software for data analysis

Use of Ms excel soft ware for data analysis	Number of Participants (N=119)
Yes	52 (43.7%)
No	67 (56.3%)
Total	119

Overall learning on Microsoft Excel

As mentioned above, seven topics were covered during the training programme. Out of these topics, five sessions were hands-on training on Microsoft excel. The purpose of studying this objective was to understand the learners’ experience working with Microsoft Excel before attending the program as well as to capture post-training experience. Responses indicated that 45.5% of learners had poor learning experiences with Microsoft Excel before attending the sessions. But after the session, 45.4% have gained good and 34.4% gained excellent knowledge on Microsoft excel as shared.

Table 3: Overall learning on Microsoft Excel

Learning on Microsoft Excel	Number of Participants (N=119)	
	Before	After
Poor	54 (45.5%)	NIL
Fair	31 (26.0%)	24 (20.2%)
Good	22 (18.5 %)	54 (45.4%)
Excellent	12 (10.0%)	41 (34.4%)
Total	119 (100%)	119 (100%)

Use of Microsoft excel Software in Future

After conducting all the sessions on Microsoft Excel, the participants were asked to share their opinions about the use of excel software in the future for data analysis. The intention behind taking their opinion was to know how the learners found Microsoft Excel software and how many of them would go with excel software for data analysis in the future. The data indicated that all the participants i.e. 119 have expressed that they found the software very useful and they all are going to use Microsoft Excel software for data analysis in the future.

Table 4: Use of Microsoft excel software in future

Use of Microsoft excel soft ware for data analysis	Number of Participants (N=119)
Yes	119 (100%)
No	NIL
Total	119 (100%)

DISCUSSION

Microsoft Excel or the spreadsheet software has been widely applauded for its ease of use (Berk & Carey, 2007). The comprehensive features of the software include consolidating information, numerical formulae, text, and illustrations together in a solitary exercise manual, making excel an indispensable tool for business and popular for scientific research. The findings of the study have also revealed the same. All the learners have expressed their willingness of using Ms excel in the future for data analysis. Even the content-specific sessions on Microsoft Excel have enhanced learners' knowledge level. The covered contents were, Fundamentals of Research; Data: Types & Collection; Graphical Presentation of Data; Descriptive Statistics; Measurement of Scales; Hypothesis testing by Comparing Variances; Correlation; Linear Regression. The findings indicated that the learners gained excellent knowledge of Microsoft Excel software after attending the sessions. Responses have also revealed that the majority of the learners 56.3% have not used excel software before whereas only 4.7% had a basic knowledge of Microsoft excel. Thus, they had a poor learning experience with Microsoft Excel before attending the sessions but the meaningful and engaging sessions motivated all the 119 learners, to begin with, Microsoft Excel for data analysis purposes in the future.

SUGGESTION

To make data analysis accurate and precise a decent arrangement and a sound foundation of statistics are required or else the outcomes may guide to a faulty decision. Therefore, there is a need of arranging considerable training for the learners if possible even in the classroom and at the workplace regularly to improve the quality of data analysis. Advanced Excel training can be introduced to the learners who have basic knowledge of Excel and are satisfied with analyzing data on Microsoft excel. Such advanced training programmes will make learners of diverse fields able to visualize, manipulate and evaluate the data more scientifically.

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