# Analysis of Data Processing Software Mastery Level and Influencing Factors in Office Administration Education Students

**Maulid Maulana Muhammad[1], Marsofiyati[2], Eka Dewi Utari[3]**

[1] **State University of Jakarta, Faculty of Economic and Business, Jakarta, Indonesia.**
[2] **State University of Jakarta, Faculty of Economic and Business, Jakarta, Indonesia.**
[3] **State University of Jakarta, Faculty of Economic and Business, Jakarta, Indonesia.**

***Email:**
maulid.maulana,muhammad@mhs.unj.ac.id

**Abstract.** The purpose of this study is to examine the factors impacting Office Administration Education students' data processing software skill level. Surveys and interviews are among the data gathering techniques used in this quantitative study. According to the results, the majority of students are proficient enough in using particular data processing programs, like Microsoft Excel and SPSS. However, factors including learning experience, access to resources for support, and personal drive all affect differences in performance. In order to better prepare students for the workforce, the study emphasizes the necessity for educational institutions to raise the caliber of instruction pertaining to data processing software.

**Keywords:** Office Administration Education, data processing, contributing factors, and software proficiency.

## Introduction

Indonesia has entered the 4.0 era where rapid digitalization has increased in various sectors. One of them is in the education sector, in the education sector students are required to think critically, innovatively and be able to solve complex problems. This is one of the goals of the importance of higher education in the midst of people's lives in Indonesia. Higher education is required to provide knowledge to its students about soft skills and hard skills that can help in the world of work later.

However, before entering the world of work, students are required to create and write a thesis as a requirement for graduation from a college to get a bachelor's degree. Students who hear the word "thesis" will certainly assume that this is a big problem in college. It is not uncommon for many students to feel frustrated and depressed because they experience excessive stress in writing their thesis. The characteristic of students who experience stress when compiling a thesis is that the thesis is stalled for a long time. One of the most common forms of stress experienced by students is when processing data. Because so many students experience stress when processing data, they eventually give up and look for data processing services circulating on social media platforms.

This has triggered a lot of public concern for students who do not understand how to process data. Therefore, it is not uncommon for training to be issued by institutions or the general public on data processing for theses. Usually, in processing thesis data, supporting software is needed, one of which is SPSS (Statistic Product and Service Solution).

According to Panjaitan and Firmansyah (2018:40) SSPS is a statistical computer program that is able to process statistical data quickly and accurately. With SPSS capabilities that include descriptive statistics, multivariate analysis, regression, hypothesis testing, and others, researchers or students apply several analysis methods that are continuous with the research data they do.

By holding training related to the use of SPSS, it is hoped that students can process data accurately. The use of SPSS is very useful for students who choose to compile theses with quantitative research methods. In SPSS

there are popular features because they have a good presentation form (in the form of graphs and tables), are dynamic (easy to change data), and can be connected to other applications.
The purpose of this problem background is to provide understanding and knowledge for students and other readers about the use of SPSS in the process of compiling a thesis or when conducting research that requires processing data.

## Methods

This study uses a quantitative approach. This approach was chosen because it is appropriate for analyzing the relationship between variables that affect the level of data processing software mastery in students. This quantitative approach allows researchers to measure data objectively and conduct statistical analysis to answer research questions.

## Result and Discussion

### Result

This study aims to analyze the level of mastery of data processing software (Microsoft Excel and SPSS) among Office Administration Education students and the factors that influence it.

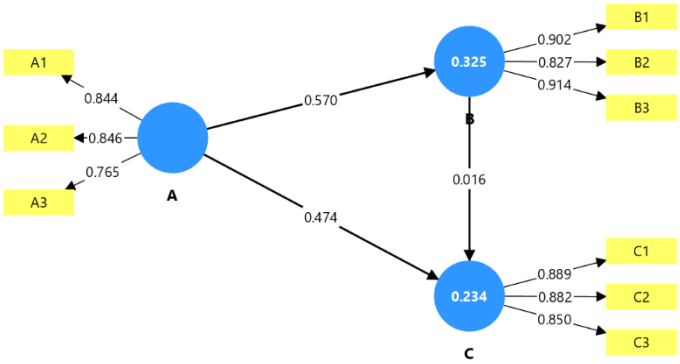


**Figure 1.** Direct influence between variables

The image above is the result of the direct influence between variable 1 and other variables.

Path coefficients - Matrix

| | A | B | C |
|---|---|---|---|
| **A** | | 0.570 | 0.474 |
| **B** | | | 0.016 |
| **C** | | | |

**Figure 2.** Path Coefficient – Matrix

From the picture above shows a positive influence between variables. The coefficient of 0.016 shows a very small influence between A and B, which allows an indication of a weak relationship.

Outer loadings - Matrix

| | A | B | C |
|---|---|---|---|
| A1 | 0.844 | | |
| A2 | 0.846 | | |
| A3 | 0.765 | | |
| B1 | | 0.902 | |
| B2 | | 0.827 | |
| B3 | | 0.914 | |
| C1 | | | 0.889 |
| C2 | | | 0.882 |
| C3 | | | 0.850 |

**Figure 3.** Outer Loadings - Matrix

The values that appear range from 0 to 1. The higher the value, the better the indicator is in presenting the construct.

Outer weights - Matrix

| | A | B | C |
|---|---|---|---|
| A1 | 0.398 | | |
| A2 | 0.413 | | |
| A3 | 0.411 | | |
| B1 | | 0.342 | |
| B2 | | 0.404 | |
| B3 | | 0.391 | |
| C1 | | | 0.382 |
| C2 | | | 0.402 |
| C3 | | | 0.360 |

**Figure 4.** Outer Weight - Matrix

The figure above shows the relative contribution of each variable in the model. The matrix includes 3 main categories labeled A, B, and C with each having 3 sub variables.

Construct reliability and validity - Overview

| | Cronbach's alpha | Composite reliability (r... | Composite reliability (r... | Average variance extrac... |
|---|---|---|---|---|
| A | 0.754 | 0.754 | 0.859 | 0.671 |
| B | 0.856 | 0.859 | 0.913 | 0.778 |
| C | 0.845 | 0.848 | 0.906 | 0.763 |

**Figure 5.** Construct realibility and validity – Overview

The results show that the three constructs studied showed varying Cronbach's alpha values.

**Discussion**

The results presented in the table show the different metrics used to assess the validity and reliability of the three constructs mentioned as A, B, and C.

Construct A has a fairly good reliability, according to Cronbach's Alpha of 0.754, although it still needs to be improved to reach a higher standard (usually above 0.8 is considered good). Construct B has the highest Cronbach's Alpha value of 0.856, indicating that the tool used to evaluate it has strong internal consistency. Construct C, on the other hand, has a Cronbach's Alpha value of 0.845, indicating that this construct also has good reliability, although not as strong as construct B.

In terms of composite consistency, construct B performed the best with a value of 0.913, indicating that the measurement method is not only consistent but also capable of producing reliable data; construct A, with a value of 0.754, is in between the two and shows good measurement consistency.

Finally, Average Variance Extracted (AVE) shows how much of the variance of the construct can be explained by the measured indicators. Construct B excels once again with a value of 0.778, indicating that most of the variance can be explained by this construct; construct A is lower with a value of 0.671 and construct C is lower with a value of 0.763, indicating that although there are aspects that can be measured, there is still room to improve the accuracy of the measurement. Overall, these results provide a clear picture of the validity and reliability of the tested constructs; construct A requires more effort to improve its measurement quality, and construct B performs the best in each metric.

## Conclusion

The conclusion is that this article discusses the factors that influence office administration education students to use data processing applications such as Microsoft Excel and SPSS for the purpose of processing thesis data. Factors such as lecturer guidance, access to campus facilities, and training are important factors for final year students to process data using data processing applications.

**References** (APA style, 7th Ed.)

Aulia Fitri Maharan, Christian Wiradendi Wolor, & Roni Faslah. (2024). Analisis Sistem Informasi Pengolahan Data Gugus Tugas Pemenangan Caleg X. JURNAL MULTIDISIPLIN ILMU AKADEMIK, 1(4), 629–636. https://doi.org/10.61722/jmia.v1i4.2347

Hustia, A., Arifai, A., Afrilliana, N., & Novianty, M. (2021). PELATIHAN PENGOLAHAN DATA STATISTIK MENGGUNAKAN SPSS BAGI MAHASISWA. 5(4). https://doi.org/10.31764/jmm.v5i4.5016

Patmawati, H., & Santika, S. (n.d.). Penggunaan Software Microsoft Excel sebagai Alternatif Pengolahan Data Statistika Penelitian Mahasiswa Tingkat Akhir.

Syazali, M., & Erfan, M. (2021). Kemampuan Mahasiswa PGSD dalam Melakukan Analisis Data Berbantuan Program Statistical Product And Service Solutions (SPSS). Jurnal Ilmiah Profesi Pendidikan, 6(2). https://doi.org/10.29303/jipp.v6i2.192

Zana, F., Agni, H., & Mutijah. (2020). Minat terhadap Penggunaan Paket Software Analisis Statistika Mahasiswa Tadris Matematika Iain Purwokerto. Prisma, Prosiding Seminar Nasional Matematika, 3.