


Introduction to Office (Excel) in the Data Processing Process towards Digital Business

Tri Budiarti Damanik¹, Frinto Tambunan², Nahar Maganda Saragih³

^{1,2} Department Bisnis Digital, Satya Terra Bhinneka University

³ Department Ekonomi and Bisnis, Satya Terra Bhinneka University

ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received: April 5, 2025 Revised: April 14, 2025 Accepted: April 28, 2025</p> <hr/> <p>Keywords:</p> <p>Microsoft Excel; SMK Taruna Tekno Nusantara; Training;</p>	<p>SMK Taruna Tekno Nusantara is one of the national standard schools that is required to always develop and improve the quality of education and professionalism of services to students. Information and Communication Technology (ICT) today is needed by students at SMK Taruna Tekno Nusantara. It really requires training in the use of information and communication technology devices so that later students can make good use of them. The students have not been able to fully use Microsoft Excel due to the high cost of computer courses among students in the Medan area. One way is to train the ability to utilize word processing applications, namely Microsoft Excel. Community service activities are focused in the form of training on how to apply Microsoft Excel for 20 students of SMK Taruna Tekno Nusantara. It is hoped that with this training, students and students can find out more about the techniques for using Microsoft Office by utilizing Microsoft Excel from the community service activities carried out to provide experience and skills for students and students in using Microsoft Excel. Thus the implementation of community service activities at SMK Taruna Tekno Nusantara Using Microsoft Excel provides significant benefits for improving the skills of students in utilizing information technology and computers, they are very enthusiastic about participating in further activities. They already understand and can implement Microsoft Excel.</p> <p><i>This is an open access article under the CC BY-NC license.</i></p> 

Corresponding Author:

Tri Budiarti Damanik,
Department of Digital Business,
Universitas Satya Terra Bhinneka,
Jl. Sunggal Gg Bakul, Sumatera Utara 20128, Indonesia.
Email: tribudiartidamanik46@gmail.com

1. INTRODUCTION

Information technology currently plays an important role in the business of an institution or company (Lesmana & Parlina, 2021a). Information technology information technology in an educational institution can gain a strategic advantage in the competition between business players in the current business people in today's tight competition (Hany Bengu et al, 2024).. In achieving this, a strategic strategic planning in the field of information technology through strategic planning that is dynamic and flexible(Andri Widiyanto et al, 2024).

One of the most important parts of the application of information technology that is now felt is the growing exchange of information with the utilization of information technology (Amrul et al, 2023). the development of information exchange with the utilization of computer information technology to create convenience and efficiency in completing human tasks properly and accurately in data processing and its application in various fields. data processing and its application in various fields using microsoft office applications, namely microsoft excel (Amrul et al., 2023).

An educational institution can objectively see internal and external conditions so that it can anticipate existing changes and be able to provide information services in a more flexible and accountable manner (Wijaya et al, 2022).

SMK Taruna Tekno Nusantara is one of the high schools that currently has an academic information system. The existence of an academic information system at SMK Taruna Tekno Nusantara aims to provide optimal information services to students, management and stakeholders (Indra Kurniawan et al, 2020).

Microsoft Office Excel is a spreadsheet application program created and distributed by Microsoft Corporation that runs on Microsoft Windows and Mac OS (Senna Hendrian et al, 2023).

This application has calculation and graphing features which, using Microsoft's aggressive marketing strategy, have made Microsoft Excel one of the most popular computer programs used in microcomputers to date (Kurniawan et al, 2021). Microsoft Excel has many functions and uses including : To create accounting financial statements, For the administrative purposes of an agency, To sort various data in both number and word processing, To perform automatic calculations using formulas and logic.

Microsoft Excel as a popular program has advantages including: Userfriendly user interface., Availability of features to create data graphics, VBA programming feature, Ability to store large amounts of data.

The objectives of this community service activity, which is carried out through training activities introduction and application of Microsoft Excel at SMK Taruna Tekno Nusantara are: Improve students' ability to use computers, Optimizing students' ability to use the Microsoft Excel application package, Fulfilling the obligations of the Tridharma of Higher Education, namely to carry out service to the community.

2. RESEARCH METHOD

The implementation of this Community Service activity was carried out on February 04, 2025 in the form of education and understanding material related to how to process data using Ms. Excel. As the solution offered, this service activity will be carried out in several stages as follows:



Figure 1. Activity Implementation Stage

The training took place in one of the classrooms at SMK Taruna Tekno Nusantara with students as training participants totaling 20 people. This training aims to improve participants' ability to use Microsoft Office applications (Lesmana & Parlina, 2021).

The training began with introducing Microsoft Office applications to participants. In the form of a brief history of development as well as the convenience and benefits offered by the application. This caused participants' enthusiasm because they understood the functions of the applications to be discussed and the benefits of using them in everyday life. in everyday life (Ulviatiya et al., 2021).

Then, participants were introduced to one of the most widely used parts of Microsoft Office, namely Microsoft Office. used in processing data in the form of numbers, namely Microsoft Office. Participants were first introduced to worksheets in Excel (Stikes, Rs, & Surabaya, 2020). After understanding worksheets and some basic functions, then the participants were given an understanding of several formulas in Excel that facilitate the data processing process.

The development of technology and information has now entered into all aspects of people's lives and in various fields. and in various fields (Yayu Sri Rahayuningsih & Tatang Muhtar, 2022). This should also be followed by the community's ability to manage and operate information technology in the form of computer applications with the aim of facilitating and operate information technology in the form of computer applications with the aim of facilitating human work, especially students and human work, especially students at SMK Taruna Tekno Nusantara. Therefore, it is hoped that students and female students can follow the work system which mostly already uses information technology in data processing on the application. use information technology in data processing on computer applications and have insight into the utilization of information technology on micro computer applications. of the utilization of information technology in microsoft of fice computer applications, especially in microsoft excel to determine the formulas used and the functions of the formulas needed in solving calculation problems using a computer. solving calculation

problems using a computer after that the participants were also invited to listen to a presentation about the microsoft excel application which is a popluer application and a spreadsheet program used by many parties. spreadsheet program that is used by many parties (Arif Rahman Muttaqin et al., 2021).

The training was closed by providing a series of evaluations in the form of questions and answers regarding the students' understanding of what had been presented in the training. students' understanding of what has been presented in the training (Widayani & Nurida, 2023). Students were also asked to work on some problems that require the use of formulas, such as finding the maximum value, the center, and addition.

As a result of the evaluation, it was concluded that the participants had understood the benefits of the application and were able to use it to facilitate various tasks. the results of the application and were able to use it to facilitate various jobs (Sri Roekminiati et al, 2019).

Before getting into the discaussion of Microsoft Excel, it is better to know first how Microsoft Excel looks like, along with some terms. Microsoft Excel looks like, along with some common terms that will be used (Kurniawan et al., 2021).



Figure 2. Microsoft Excel Window View

In Microsoft Excel there are 4 main components, namely :

1. Row Heading
Row Heading, is a pointer to the location of a row in the active worksheet. Row Head also functions as one part of the cell pointer (discussed later). The number of rows provided by Microsoft Excel is 65,536.
2. Column Heading
Column Heading, is a column location pointer on the active worksheet. Similar to Row Heading, Column Heading also functions as one part of the pointer (discussed later). Columns are symbolized with the alphabet A - Z and its combination. After columnZ, we will see columns AA, AB to AZ then columns BA, BB to BZ and so on until the last column which is IV (totaling 256 columns). What a huge worksheet, isn't it. (65.53 rows with 256 columns).
3. Cell Pointer
Cell Pointer, is the active cell pointer. A cell is the intersection between a column and row. Cells are named according to their column and row positions. Example. Cell A1 means the intersection between column A and row 1.
4. Formula Bar
The Formula Bar is where we type in the formulas that we will use later. In Microsoft Excel, formula typing must begin with the '=' sign. For example, we want to add the values in cells A1 and B1, then we can type in the formula bar =A1+B1.

After the exposure to Microsoft Excel computer applications, participants were guided to practice using the application with examples of formula functions in Microsoft Excel. In this training, participants have been able and can operate the Microsoft Excel computer application properly and precisely according to the formula applied (Wijaya et al., 2022). well and precisely according to the formula applied.

The training was closed by conducting several evaluations in the form of questions and answers with the trainees about the material presented, both in theory and in practice. about the material presented, both in theory and practice. From the results of the evaluation conducted, It can be concluded that there has been an increase in participants' insight and experience (Indra Kurniawan et al., 2020).

Implementation Method

To achieve the previously formulated objectives, the implementation of this community service is carried out in several steps involving field research methods in the form of: Problem identification which is carried out as a preliminary step to formulate what will be used as material to analyze data processing and training materials in this community service activity. Conducting data processing activities on Microsoft Excel at SMK Taruna Tekno Nusantara as a place to carry out activities. Then conduct an interview and discussion process with the school, especially class teachers to identify problems in using computers, especially in the Microsoft Excel application. Literature research for reference materials used during this service activity. Direct training given to students and students of SMK Taruna Tekno Nusantara.

3. RESULTS AND DISCUSSIONS

The implementation of Community Service activities with the title "Introduction to Office (Excel) in the Data Processing Process towards Digital Business at SMK Taruna Tekno Nusantara", has been completed. The following are the results that have been achieved in this community service activity.

Table 1. Activity Results

Step	Goals	Results
Activity Administration	Prepare complete documentation of activities	Schedule of activities, attendance list
Module creation	Making modules as training presentation materials	Module
Making evaluation materials	Making evaluation materials related to the material to measure students' understanding.	Evaluation questions

The first step in the implementation of this training was to make a proposal for the activity. training activities. This proposal was made based on the problems and needs encountered in the community, in this case the students of SMK Taruna Tekno Nusantara. in this case, the students of SMK Taruna Tekno Nusantara. This proposal was then submitted to the LPPM campus for review and approval. The campus LPPM will then provide a letter of assignment and a list of attendance for the participants. attendance list of activity participants, as complete documentation.

The next step is the process of making materials that will be used in the presentation of activities. From this material, appropriate evaluation materials are designed. Which can be used as a benchmark in determining the participants' understanding.

Table 2. Implementation of Activities

Step	Goals	Results
Pre-Test	Knowing the stages of the participants' level of understanding related to Microsoft Excel Office applications	Answers Pre-Test
Module exposure Evaluation	Activity implementation Measuring the ability of participants regarding the use of computer applications in Microsoft Excel after the presentation of the material	Activity implementation Answers Pre-Test

In the implementation of this activity, the speaker first provides a series of questions that are asked to the training participants. This question aims to measure the participants' level of understanding of Microsoft Office applications, especially Microsoft Excel. Next, the speaker presented the material that had been prepared previously. Related to the tools tools and formulas used in Excel to facilitate data processing. The presentation was done by giving examples of direct use in front of the activity participants. Using a series of examples of input data to produce the expected output. In the implementation of the activity, activity participants actively participated in the training by asking to solve several examples of problems using Excel.

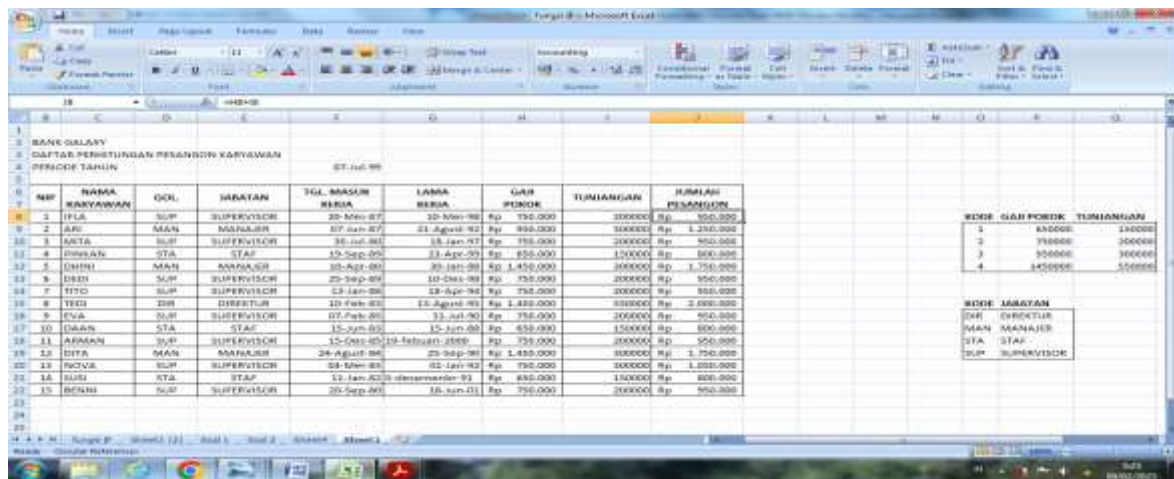


Figure 3. Excel Formula Exercise Table Creation

The activity was closed by asking several questions that were intended to measure participants' ability to use Microsoft Excel.

Table 3. Closing

Step	Goals	Results
Activity Evaluation	Determining the success or failure of the implementation of activities as material for improvement in the future	Suggestions for the implementation of further activities
Preparation of Final Report	Reporting the series of activities that have been carried out	Final report on PKM activities

The activity was closed with an evaluation of the smooth implementation of each activity in the training. The result of this step are suggestions for improvement for the implementation of further activities. After all activities have been carried out, the Community Service implementation team compiles a final report in the form of documentation of all activities that have been carried out. in the form of documentation of all activities that have been carried out.



Figure 4. Training on the use of Microsoft Excel computer applications

Based on the evaluation carried out, in the form of questions and answers, interviews, and observations of the implementation team Community Service activities obtained the following results: Increased student understanding of the benefits of using technology in almost all aspects of life. Increased students' ability and mastery of the Microsoft Excel application in managing data. Increased participants' interest in the application of technology in facilitating work.

4. CONCLUSION

From this community service activity it can be concluded that: Computers are very important in everyday life because computers are tools in doing all tasks at home or in offices and industries. The trainees were able to recognize and utilize the functions and features of Microsoft Office, especially Excel. The trainees can implement these skills in facilitating the learning process at school. Suggestions: In this system, it is realized that there are still many shortcomings and weaknesses, therefore for further development it is recommended: Need more concrete implementation to be able to develop broader knowledge about computers. Further training is needed to increase the knowledge and insight of the trainees in community development at SMK Taruna Tekno Nusantara.

REFERENCES

- Andri Widiyanto et al. (2024). Optimalisasi Penggunaan Macro VBA pada Microsoft Excell Sebagai Upaya Meningkatkan Keterampilan Pengolah Data Siswa SMK An-Nur Losari.
- Amrul, R et al. (2023). *PEMANFAATAN MICROSOFT EXCEL DALAM MEMBUAT LAPORAN KEUANGAN SEKOLAH PADA TK ISLAM TERPADU AMIRUL UMMAH*. *Valid Jurnal Pengabdian Sekolah Tinggi Ilmu Ekonomi AMM Mataram* (Vol. 1).
- Indra Kurniawan et al. (2020). PENERAPAN MICROSOFT EXCEL UNTUK PENINGKATAN PENGETAHUAN DAN KETERAMPILAN GURU-GURU DAN TENAGA ADMINISTRASI.
- Kurniawan, I., et al. (2021). MENGEMBANGKAN KEMAMPUAN GURU DAN TENAGA ADMINISTRASI DALAM MENINGKATKAN KINERJA MELALUI MICROSOFT EXCEL.
- Lesmana, B., & Parlina, L. (2021a). Pelatihan sistem keuangan akuntansi berbasis komputer dalam mendorong kinerja keuangan di BUMDes Mangkubumi Kabupaten Ciamis. *Aksiologi: Jurnal Pengabdian Kepada Masyarakat*, 5(3), 297. Retrieved from <https://doi.org/10.30651/aks.v5i3.6196>
- Lesmana, B., & Parlina, L. (2021b). Pelatihan sistem keuangan akuntansi berbasis komputer dalam mendorong kinerja keuangan di BUMDes Mangkubumi Kabupaten Ciamis. *Aksiologi: Jurnal Pengabdian Kepada Masyarakat*, 5(3), 297. Retrieved from <https://doi.org/10.30651/aks.v5i3.6196>
- Sri Roekminiati, et al. (2019). *PELATIHAN APLIKASI MICROSOFT EXCELL DENGAN MENGGUNAKAN FUNGSI IF, DATE DAN TIME SEBAGAI UPAYA MENINGKATKAN KINERJA ADMINISTRASI PERANGKAT DESA PANGGREH KECAMATAN JABON KABUPATEN SIDOARJO*.

- Stikes, N., Rs, Y., & Surabaya, S. (2020). *Analisis Kebutuhan Pelatihan dan Pengembangan Sumber Daya Manusia Analysis of Training Needs and Human Resource Development*.
- Ulvatiya, D., et al. (2021). *Pengaruh Penggunaan Metode Eksperimen terhadap Hasil Belajar Ilmu Pengetahuan Alam (IPA). Jurnal Pembelajaran IPA dan Aplikasinya (QUANTUM) (Vol. 1)*.
- Widayani, K., & Nurida, N. (2023). *Integrasi Entry Point Data Puskesmas dengan Membangun Software Pengolahan Data*.
- Wijaya, R., et al. (2022). *Pelatihan Pemanfaatan Microsoft Excel Dalam Membuat Laporan Keuangan Sekolah Pada Guru Paud Dan Tk Aisyiyah. Jurnal Pengabdian Masyarakat Akademisi*, 1(4), 67–71. Retrieved from <https://doi.org/10.54099/jpma.v1i4.384>.
- Bengu, H., Kelin, S. P., & Hadjon, R. P. (2024). *Penerapan Etika Bisnis Dalam Kegiatan Umkm Di Era Digital. TIMOR CERDAS – Jurnal Teknologi Informasi, Manajemen Komputer Dan Rekayasa Sistem Cerdas*, 2(1), 1–7.
- Hendrian, S., Julaeha, S., & Ardiansyah, M. (2023). *Pengaruh Penerapan Teknologi Informasi Pembuatan Ap-likasi Raport Berbasis Microsoft Excel Terhadap Kemampuan Tenaga Pengajar SMP Bina Bangsa Mandiri Di Gunung Putri Bogor. JPT: Jurnal Pendidikan Tematik*, 4(1), 171–176.
- Muttaqin, A. R., Wibawa, A., & Nabila, K. (2021). *Inovasi Digital untuk Masyarakat yang Lebih Cerdas 5.0: Analisis Tren Teknologi Informasi dan Prospek Masa Depan. Jurnal Inovasi Teknologi Dan Edukasi Teknik*, 1(12), 880–886. <https://doi.org/10.17977/um068v1i122021p880-886>
- Nurhayati, H., & , Langlang Handayani, N. W. (2020). *Jurnal basicedu. Jurnal Basicedu,. Jurnal Basicedu*, 5(5), 3(2), 524-532. <https://journal.uii.ac.id/ajie/article/view/971>