Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Improving SMEs Business Productivity with Microsoft Excel Training in the Big Data Era

Yuningsih[1], Lis Andriani, HR.[2], Luthfi Firdaus[3], Dwi Nugroho[4*], Rafi Putra Pradipta[5]

[123]Management Study Program, Faculty of Economic and Business, University of Lampung
[4*]D3 Finance and Banking Study Porgram, Faculty of Economic and Business, University of Lampung
[5]International Class of Management Study Program, Faculty of Economic and Business, University of Lampung
Email: [1]yuningsih.1961@feb.unila.ac.id, [2] lispattimura@yahoo.com, [3] luthfi.firdaus@feb.unila.ac.id, [4]*dwi5398@gmail.com, [5]rafiputrapradipta01@gmail.com
(Dwi Nugroho * : coressponding author)

Received	Accepted	Publish
17-September-2024	24-September-2024	24-September-2024

Abstract– The business complexity requires business actors to have special skills in managing and analyzing data in Big Data. This community service aims to provide in-depth training on the use of Microsoft Excel as a platform for managing and analyzing data. The ability to manage and analyze data will greatly affect business productivity in facing the challenges and opportunities that exist in the Big Data era. Participants will be equipped with knowledge and practical skills in utilizing various relevant Excel features, including pivot tables, vlookup, if, and sophisticated data analysis techniques. This training uses a mentoring approach through several processes: preparation, implementation, mentoring and evaluation, and post training mentoring. The results reveal significant effects: awareness of technology to increase SMEs productivity is built; the competence of SMEs actors in using Microsoft Excel increases; and SMEs actors are able to increase efficiency and effectiveness in managing, processing, and analyzing data so that they can optimize the decision-making process more effectively and accurately. However, in-depth material is still needed, so further training is needed to deepen the knowledge and skills of SMEs actors. This is important for SMEs to respond to the challenges in the increasingly complex global market.

Keywords: Microsoft Excel; Big Data; Produktivity Business; SMEs.

1. INTRODUCTION

Micro, small, and medium-sized businesses (SMEs), are crucial to a nation's economic growth (Gherghina et al. 2020; Manzoor, Wei, and Siraj 2021; Van Scheers 2016), This is especially true for developing nations like Indonesia (Abd. Majid et al. 2018; Nursini 2020). The expansion of SMEs in Indonesia has significantly and quantitatively boosted the nation's economy, reduced poverty, and produced new jobs. In this instance, micro, small, and medium-sized businesses must be able to adjust to the new industrial trends and the technology revolution. Increasing organizational capacities will benefit from the usage of technology (Zhang, Xu, and Ma 2022). Furthermore, in the digital and Big Data era, SMEs must adopt a new paradigm for decision-making that is quick, flexible, and responsive.

The development of the digital world in addition to being a facility that provides convenience in business activities also brings its own challenges for business people. Micro, Small and Medium Enterprises in their development struggle to compete in an increasingly dynamic business environment (Chan et al. 2019). The use of digital platforms is a strategic choice in business development The use of technological facilities in business has the potential to increase business productivity and contribute positively to the economic welfare of society (Surya et al. 2021). Micro businesses in the big data era have a great opportunity to increase business productivity and efficiency. In the development of SMEs, with technological facilities, business people can manage information in decision making based on the right data (Cenamor, Rönnberg Sjödin, and Parida 2017).

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Big data can offer valuable information that can serve as a foundation for innovation, decision-making, and enhancing corporate performance. It will be simpler for SMEs participants to find the pertinent information required to enhance business performance with proper big data analysis. SMEs can maximize customer satisfaction, increase operational efficiency, and use big data in decision-making, but they lack the human resources to do so (Nguyen, Liaw, and Duong 2022). The ability to analyze data will impact innovation in distribution, processes, and products; these three areas will impact company performance (Herlinawati and Machmud 2020).

However, the variety of data in the Big Data era, both structured and unstructured, requires appropriate management, storage and analysis methods. On the other hand, the low skills and knowledge of technology and the level of adoption of digital technology in business management, especially in finding and using data as a source of strategic information, is a serious problem faced by SMEs players (Giotopoulos et al. 2017). There are still many small micro and medium enterprises today that have not been able to keep up with the rapid development of information technology. This has an impact on the lack of competitiveness of SMEs actors in the digital era and information technology. The development of digital platforms represents a new field that must be mastered and the basic challenges of improving company performance (Kazan et al. 2018).

This phenomena highlights the necessity for small business actors to enhance their digital competencies in order to be more effective in enhancing business performance in the big data era, in addition to the policy assistance that SMEs require (Dahliah, Kurniawan, and Putra 2020). The intricacy of the digital world suggests that enhancing one's proficiency with digital platforms might enhance company performance indirectly through the dynamism of human resource capacities (Kroh et al. 2018). One of the abilities required to assist with data analysis in the big data era is the ability to use Microsoft Excel. Features in Microsoft Excel such as pivot tables, data visualisation, Vlookup, and IF statements can be used to analyze data in big data.

Microsoft Excel is a popular and easily accessible software to help SMEs business performance in compiling, maintaining, and evaluating their business data. However, there are still many SMEs players who have not made the most of Excel as a medium for evaluation, analysis, and the basis for making business decisions. Therefore, Microsoft Excel training in the Big Data era in a comprehensive and organised manner can be a way to help SMEs players increase business productivity. Thus, SMEs players can explore information related to innovation opportunities and actualise it into a basis for decision making.

This service aims to provide training to participants (SMEs players in Lampung) in using Microsoft Excel to increase their business productivity. Through the optimisation of information in Big Data, SMEs can not only make the right decisions but also encourage them to compete in an increasingly competitive market. This assistance will encourage SMEs to maximise their potential and become more adaptive to global trends and technological advances as a result of the training presented.

2. IMPLEMENTATION METHOD

Training on the use of Microsoft Excel in increasing the productivity of SMEs businesses was conducted at Daja Café, Bandar Lampung City. In its implementation, this service learning collaborated with 13 SMEs players from various sectors, including culinary business, fashion, creative economy and others. This service is carried out with a series of activities that are systematised, structured, and involve SMEs players directly. This series of activities is aimed at improving technological skills, especially in operating Microsoft Excel, which will support the productivity of SMEs business performance in the big data era. This series of training methods is carried out by:

2.1. Preparation of Training Activities

This preparation stage covers the important aspects of training:

- Identification of needs: conduct an initial survey of SMEs on their understanding of technology and the use of Excel for business. This survey will also look at the knowledge of prospective participants regarding Big Data and its application in business activities.

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

- Training module development: The development of the training module is based on the survey results on optimising Microsoft Excel for business needs in the Big Data era, such as for sales data management, stock and inventory management, basic financial calculations, simple data analysis for decision making, and customer data analysis.
- Facilitator selection: the selection of facilitators was based on their competence in technology, SMEs, and Microsoft Excel.

2.2. Implementation of Training Activities

The training was divided into sessions with the following approach:

- Delivery of theoretical material: in this session participants will be facilitated and introduced to the basic concepts of Excel and the important role of Big Data in business development in the digital era.
- Practical delivery: in this session, participants were facilitated with practical materials, such as the use of basic Microsoft Excel formulas such as SUM, AVERAGE, IF, creating graphs and pivot tables for sales trend analysis, and creating cash reports.
- Simulation into a business case: participants are given a case study so that they can understand and solve the case.

2.3. Monitoring and Evaluation

Monitoring and evaluation in this service includes several things, namely:

- Pre-Test and Post-Test: at this stage before the training is conducted, participants are given several pre-test questions to be able to measure their understanding and initial knowledge of technology, SMEs, Microsoft Excel and its use, and social media in business activities. After the training was completed, participants were given a post-test to measure the improvement of participants' understanding and skills.
- Technical Assistance: the facilitator provides intensive assistance to participants, especially when doing practice so that participants understand thoroughly.
- Qualitative evaluation: this stage was conducted using participants' feedback on the relevance of the mentoring, the ease, and the obstacles encountered during the training process.

2.4. Post-Training Mentoring

This session was conducted to provide further assistance with the aim of providing service impact. This further assistance is aimed at helping participants who are still experiencing difficulties, providing consultation on optimising the use of data in decision making, and monitoring the application of technology to increase business productivity. This assistance is carried out in a hybrid manner (online and offline) so that the service objectives can be achieved.

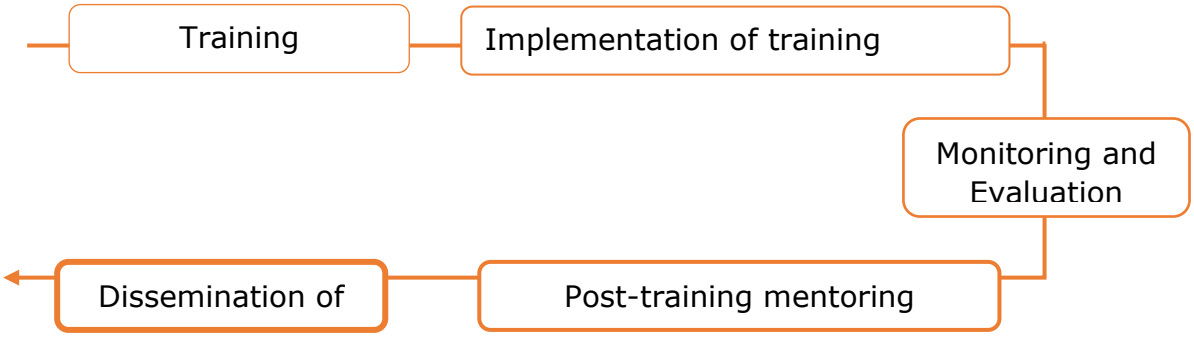


Figure 1: Activity Implementation Stages

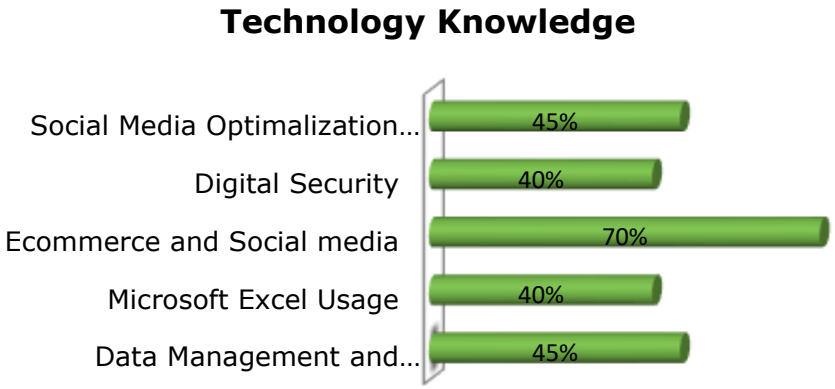
3. RESULTS AND DISCUSSION

3.1. Improved Understanding of Digital Transformation of SMEs

The development of the digital world of technology and the internet is changing the way people do business. Micro, Small, and Medium Enterprises that play an important role in the economy are encouraged to be able to compete in an increasingly competitive digital market.

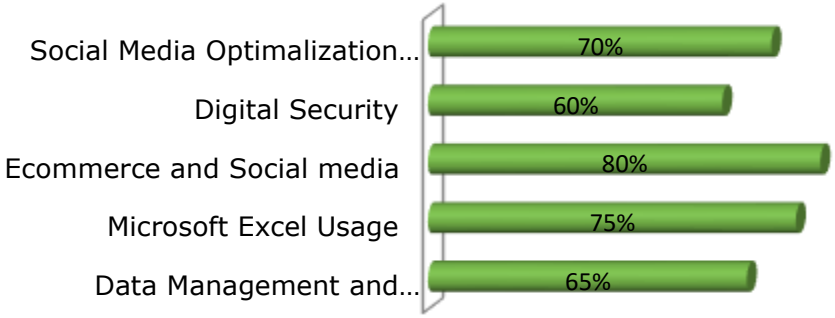
Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

The awareness of digital transformation in business activities is very important. Digital transformation of SMEs is an effort to utilise technology in business activities, ranging from marketing, sales, to data management processes as an evaluation and basis for decision making. Digital transformation of SMEs correlates with business performance and mediates the impact of digital transformation on performance (Teng, Wu, and Yang 2022).



Pre-Test Result: Technology Knowledge for SMEs Business Development

The training has increased understanding of the potential of SMEs digitalisation for the economy and business sustainability. SMEs players began to understand the impact of using digital facilities in business activities. Among them are understanding the benefits of using digital platforms to save promotion costs, expand markets, and improve operational management. The digital potential is an opportunity to develop and increase business productivity.



Post Test Result: Technology Knowledge for SMEs Business Development

Business productivity that initially only focused on conventional activities, such as making and distributing paper fliers and providing discounts to customers through word-of-mouth channels, now has the awareness to use social media. The post-test results above show that after the training activities, SMEs players have an increased awareness of digitalisation.

This assistance shows a positive influence on the digital awareness of SMEs players, which initially they were still gradual with conventional marketing concepts. Digital transformation in SMEs activities can increase global competition and can increase business productivity. Starting from the use of e-commerce, social media for business, and other digital platforms, SMEs players can reach wider markets more effectively and efficiently. This shows that traditional marketing is no longer relevant in today's highly competitive business world that requires digital skills to ensure business sustainability (Kaur 2017).

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Figure 2. The process of assisting the digitisation of SMEs

Increasing awareness to go digital is emphasised in the mentoring process. This SMEs mentoring significantly increases the digital awareness of SMEs players who previously only focused on conventional marketing processes. Businesses that are unable to keep up with the development of the digital world and the global market will be left behind and miss out on great opportunities for business development in the wider market.

Figure 3. Exposure to digitalisation of SMEs

The presentation covered several important points, such as the role of SMEs as drivers of economic stability, the significant contribution of SMEs to GDP and labour absorption, and the increasing number of SMEs entering the digital ecosystem. This increase in capacity and competence of SMEs players not only impacts producers but also distributors and consumers who are increasingly facilitated. However, to be able to facilitate and provide decisions that are in accordance with field conditions, SMEs players need to improve their ability to process data, both survey data and data recorded on digital media platforms.

3.2. Microsoft Excel Competency Improvement for Businesses

Increasing the productivity of SMEs in the digital world is inseparable from the accuracy of decision-making. This training provides enrichment of knowledge and data processing skills in the Big Data era by optimising Microsoft Excel. This training focuses on assisting the use of VLOOKUP, making graphs, Conditional Formatting, and PivotTables as a medium to see data trends as a basis for decision making.

PivotTable creation assistance is aimed at analysing sales data and inventory data. VLOOKUP is intended to search for certain data in a very large table, so if done manually it will be very time-consuming and accurate. Meanwhile, assistance in conditional formatting is intended to be able to visualise data better and graph making aims to be able to present data trends and business data patterns.

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Figure 4. Data processing training with Microsoft Excel

SMEs participants are encouraged to increase the efficiency of data processing through this training. While most SMEs players are aware of Microsoft Excel's availability, their ability to use it to increase business productivity is restricted. Only a few of them are proficient in fundamental tasks like addition and basic table construction. A portion of them are even unaware of the role Microsoft Excel plays in corporate operations—namely, as a tool for handling data and making critical choices that boost sales.

This training teaches participants about various basic functions and formulas that can be used for data analysis. These include the use of SUM, IF, VLOOKUP, and pivottables. This training uses a practical approach, where participants are given data from a particular business venture to analyse.

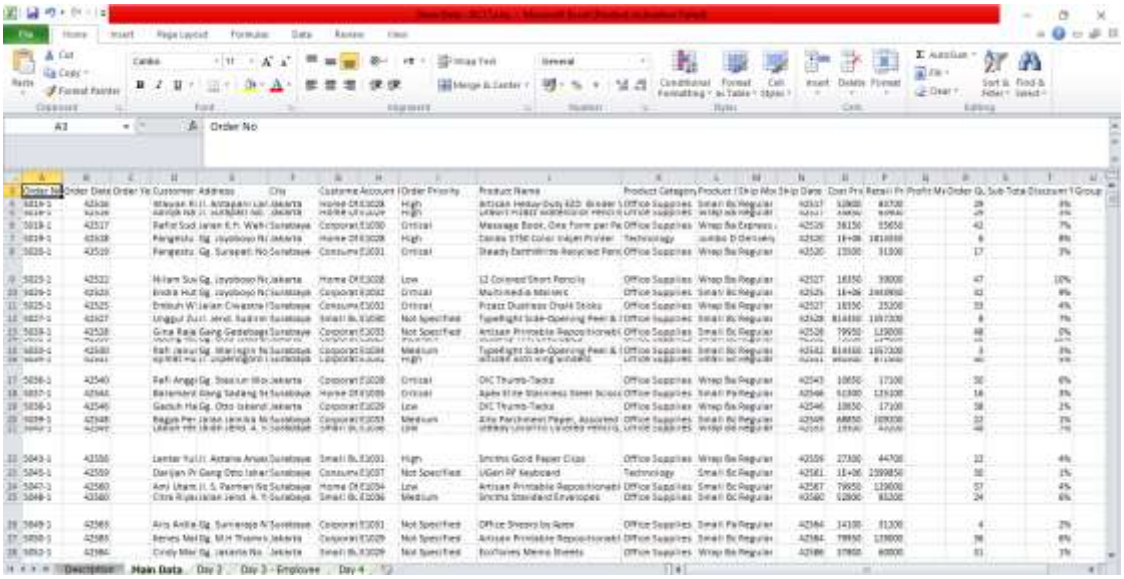


Figure 5. Study Case of Excel data

Participants were instructed to use Microsoft Excel formulas and functions to process, group, and analyze the data. These include MIN and MAX to view the minimum and maximum data in a set of data, AVERAGE to compute the average, and SUM to sum the data. Businesspeople frequently require fundamental math activities, which will be made easier with the introduction of functions. Additionally, the participants received instruction on the data processing IF function. Participants are able to carry out a conditional and logical computation by using IF. Businesspeople can find this function helpful, particularly when making decisions or analyzing results under certain conditions and possibilities—like offering sales discounts or rebates.

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Participants in the case mentoring were also taught about VLOOKUP and HLOOKUP to search for data and retrieve it from other tables. The use of these functions is very useful in managing customer, inventory, or sales databases. The use of this function allows SMEs players to search for data quickly and accurately so that it can make a job run effectively and efficiently. This mentoring also provides an understanding of the use of functions in one formula with Nesting formula. Nesting allows business people to use functions in one formula to produce complex and comprehensive data analysis. For example, combining IF with VLOOKUP to make a decision based on data lookup in certain conditions. This usage allows business people to make the right decision efficiently.

In today's digital era, the use of Microsoft Excel application has become a must-do in managing and analysing data. The use of functions in Excel makes it easy for SMEs players to automate routine tasks, such as updating weekly or monthly reports (Hermawati and Armin 2021). This not only saves time, but also minimises human errors. Improved skills in using Excel and its features make it easier for SMEs to analyse data more accurately and quickly. This accuracy makes it easier for SMEs players to make decisions and increase business productivity.

The use of IF and SUMIF functions in data processing allows businesses to identify the most profitable products or services and respond more quickly to market changes. The use of more complex formulas also allows for more precise decision-making.

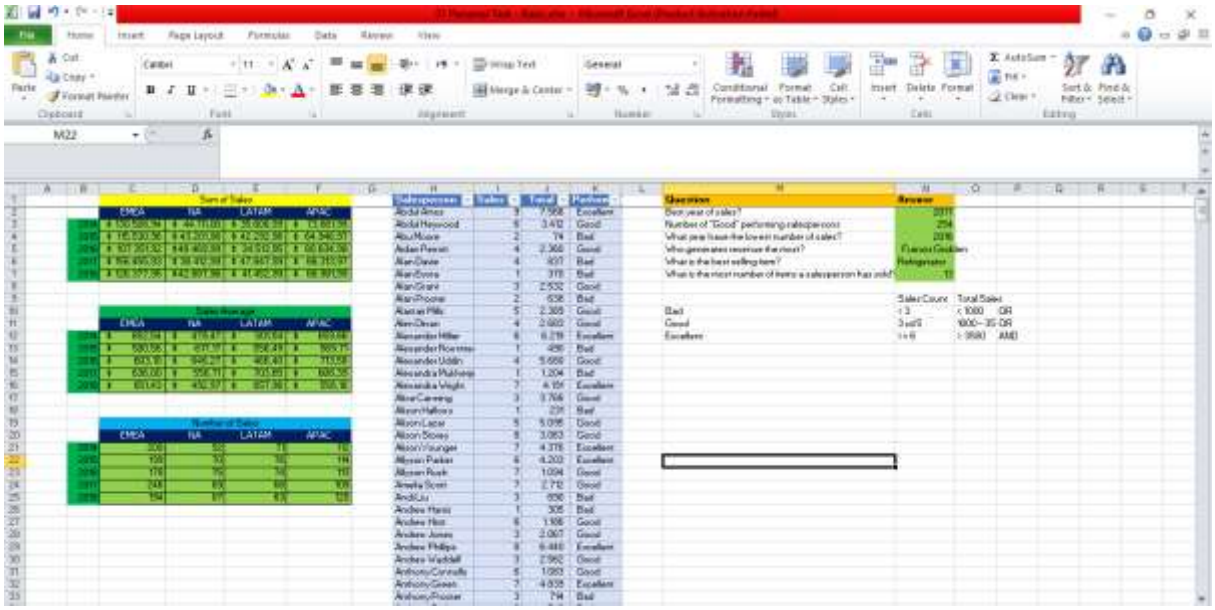


Figure 6. Increased competence of participants after training

The training had a significant impact on improving skills in using Microsoft Excel for data processing. Participants' skills improved, especially in sales analysis, data visualisation, and skills in using functions as a way to solve decision-making problems in business. After the evaluation, the participants, who were mostly students and alumni from several universities, were able to complete the assigned tasks. This mentoring helps businesses have the ability to increase productivity based on valid data.

This training was not 100% able to improve participants' skills in optimising the existence of Microsoft Excel as a tool for managing data. Therefore, this training provides further assistance with post-training monitoring and consultation with the aim of improving participants' competence holistically. The ability of business people in managing data, using Microsoft Excel features, formulas, and PivotTables will greatly help business people in improving business analysis capabilities and increasing competitiveness. Although in the era of Big Data there are many sophisticated analytical tools, Microsoft Excel is one of the relevant tools in decision making, especially for micro, small and medium enterprises. The optimisation of Excel in

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

business is based on the familiarity of its features and the number of functions and formulas that can be used, which is one of the reasons why this training takes the discourse of using Excel as a medium to increase business productivity.

Microsoft Excel provides facilities that offer its own conveniences. The possibility of a combination of features allows users to utilise it more flexibly and powerfully. Despite its simplicity, Microsoft Excel has an essential role in business. Excel is not only a tool for calculating finances, but has other benefits, such as being able to analyse data, collect data, and process it into important business data. It can be used to increase business productivity and improve competitiveness in the global market.

3.3. Business Decision Making Effectiveness

Increased efficiency in data management is one of the impacts of Microsoft Excel training. This training changed the previous habits of business people, where a lot of sales, inventory, and financial data management was done manually, which sometimes made mistakes. These activities have led to inefficiencies and the potential for unpredictable errors. In this training, which is conducted in a case study-based approach, participants are able to optimise the existence of Excel and its features to manage data, such as calculating stock items, tracking sales items, and making simple financial reports.

Salesperson	Sales	Total	Perform
Abdul Amos	9	7.566	Excellent
Abdul Heywood	6	3.412	Good
Abu Moore	2	74	Bad
Aidan Perrott	4	2.360	Good
Alan Davie	4	837	Bad
Alan Evora	1	370	Bad
Alan Grant	3	2.532	Good
Alan Procter	2	638	Bad
Alastair Mills	5	2.389	Good
Alen Dinan	4	2.683	Good
Alexander Hillier	6	6.219	Excellent
Alexander Rowntre	1	490	Bad
Alexander Uddin	4	5.680	Good
Alexandra Mukherje	1	1.204	Bad
Alexandra Wright	7	4.191	Excellent
Alice Canning	3	3.766	Good
Alison Hallows	1	231	Bad
Alison Lazar	5	5.095	Good
Alison Storey	8	3.063	Good
Alison Younger	7	4.376	Excellent
Allyson Parker	6	4.203	Excellent
Allyson Rush	7	1.094	Good
Amelia Scott	7	2.712	Good
Andi Liu	3	690	Bad

Figure 7. Sales person performance data processing

The workshop emphasised how to use data collection and usage to support business activities, such as efficient business decision-making. Many participants reported that previously, in their business activities, they used intuition or estimation to make business decisions. These methods will be very dangerous for business continuity in the digital and Big Data world. Business actors are not recommended to use intuition or estimates without clear and valid data. These decisions will greatly affect the ability of gradual business actors in the midst of uncertain business turmoil.

The workshop encouraged participants to learn how to use big data to support decision-making in business activities. After the training, participants reported that they use historical sales and inventory data to make crucial business decisions, such as determining which products to increase or decrease, which products to discount, whether to increase product variants, and when is the best time to promote and who to target.

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Following the training, 70% of participants said they are now utilizing a lot of field data to increase productivity in their businesses. They can determine seasonal trends in the sales of particular products by utilizing Excel sales data. They can develop a strategy plan using the data to adjust product stock levels and implement more successful marketing. This occurrence demonstrates how their growing awareness of using business data and Excel as a foundation for decision-making has expanded and has had an influence on SMEs' bottom lines.

Figure 8. Microsoft Excel Training for Increased Business Productivity

Based on post-training monitoring data, most training participants reported that they had significant improvements and managed to reduce the time and cost of managing business data by up to 50%. The use of Excel in their business also reduced the number of errors and mistakes in calculating cash flow and profit and loss, which previously often occurred. They also have accurate business data that can be used to develop their business.

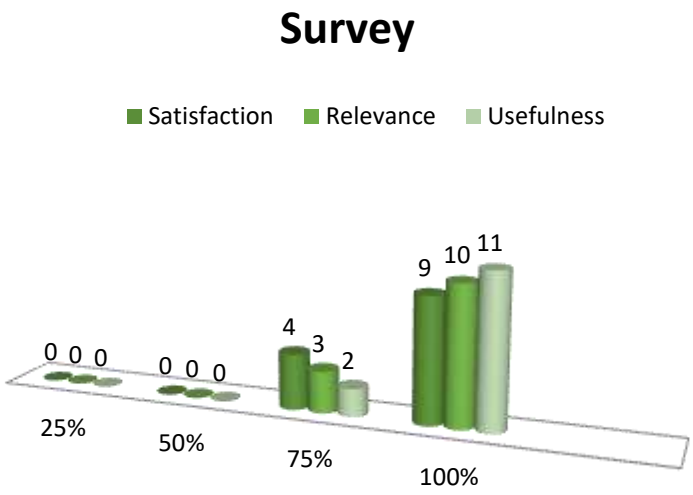


Figure 9. Satisfaction survey, topic relevance, and training usefulness

The participants' increased proficiency with Microsoft Excel has a favorable impact on their productivity levels at work. Participants in the training were able to cut down on the amount of time spent handling big data sets. As previously mentioned, training attendees were able to cut down on the amount of time spent handling financial and sales data. Participants in the training were also able to increase the validity, accuracy, and quality of the data analysis. The training attendees demonstrated effective time management skills by doing thorough and methodical data analysis. This makes it possible for SMEs to recognize consumer trends, market prospects, and obstacles, as well as the correctness of promotional policies. By visualizing data into clear picture graphs, training participants were also able to present analysis data.

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

The survey results above show that almost all training participants were satisfied with the training provided. Training participants also saw that the material presented was relevant to their business activities that were starting to transform into the digital world that required appropriate and usable analysis media. The SMEs actors who were trained considered that the material or training provided was very useful for increasing business activities. They stated that this Microsoft Excel training built participants' practical skills that could be directly applied to increasing effectiveness and efficiency in running a business amidst the challenges of the business world. According to Liu et al. (2020), SMEs can innovate their business models by utilizing digital platforms. Furthermore, corporate actors have the opportunity to enhance their technological, digital, and misalignment capacities thanks to the presence of digital platforms (Moeen and Mitchell 2020).

The capacity of participants to handle and evaluate data was much enhanced by this training. Since the majority of participants were still unaware of the data's potential, a lot of their business decisions were made solely on the basis of gut feeling. Following this training, the supported SMEs were able to identify patterns and trends in their company data, which enabled them to make better decisions. The training shown noteworthy shifts, as company actors were able to recognize crucial information, like sales data that may be utilized to determine the most well-liked products inside a given time frame. This capability is useful for business decision making. Among them, the ability to use the PivotTable feature helps SMEs to simplify very complex data analyses, allowing them to make decisions accurately and quickly.

Business decisions that are based on data are more likely to produce accurate analysis and have positive benefits for achieving business goals. In contrast to decisions that are based on intuition or estimates, it is more likely that wrong decisions will occur and have a negative impact on SMEs business operations. Important information is needed to carry out business innovation. However, the inability to manage and analyze data will have a crucial impact on business innovation. Therefore, it is important to pay attention to accurate and precise information to support business innovation. Business innovation is an important component in a company to increase competitiveness in the global market integrated with information technology (Lazzarotti et al. 2017).

The productivity of SMEs business operations is positively impacted by Microsoft Excel training. Training for Microsoft Excel software goes beyond just teaching users how to use the program easily; it also focuses on how using the program helps business actors process and analyze data more effectively. SMEs actors find it easier to prepare financial reports, examine sales data, and keep an eye on product inventory when they utilize capabilities like PivotTable, VLOOKUP, Conditional Formatting, and several more. This has a lot to do with how quickly and accurately decisions are made, which is crucial for raising corporate productivity.

A businessperson must be able to gather, process, and evaluate data in the Big Data era in order to use it as the foundation for decisions. Businesses in Bandar Lampung can enhance their proficiency in conducting business by attending this program. As a basic type of Big Data, Microsoft Excel makes it easier to manage internal data, including sales, inventory, and customer information. This demonstrates how Microsoft Excel can now optimize data management and processing that is now done manually or with basic recording.

Transformation to the digital world and software is a form of operational efficiency of business because business actors can do it automatically. This automation helps SMEs actors to save time and costs in processing financial recording and reporting. Most of the SMEs actors who were assisted in the training explained that they could create a monthly financial report faster and more accurately. This shows that the technical training provided has a positive contribution to the digital transformation of SMEs and efficiency in making the right decisions in the Big Data era. This will have a significant impact on improving the performance of SMEs businesses. SMEs in the current digital era are required to be able to transform into the digital world (Dam, Le Dinh, and Menvielle 2019; Pelletier and Cloutier 2019) to be able to compete and capture new opportunities and challenges in domestic and international markets (Hervé, Schmitt, and Baldegger 2020; Sadeghi et al. 2019).

Journal of Social Sciences and Technology for Community Service (JSSTCS)
https://ejurnal.teknokrat.ac.id/index.php/JSSTCS
Vol 5, No 2, September 2024, Hal 448-459
E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

4. CONCLUSION

Beyond improving the productivity of SMEs enterprises, training in Microsoft Excel software can also make SMEs actors more competitive. Growing SMEs enterprises are made possible by the greater proficiency of business actors with software like Excel. SMEs may adjust to expanding obstacles, shifting consumer needs, and extremely quick changes in the market with enhanced sales data analysis skills and awareness of industry trends. Their business operations are more competitive than those of other SMEs who have not utilized technical capabilities due to their greater capacity to use software.

This mentoring shows quite significant results from their understanding of SMEs digitalization, the use of Microsoft Excel software, and its optimization in data processing and analysis in the Big Data era. This skill improvement brings significant changes in their business activities. Business activities that initially used many conventional and manual methods, through this training their awareness of technology and their skills in using technological facilities have increased. As a result, this training encourages increased productivity of SMEs businesses amidst increasingly strong competition.

While productivity increases as a result of this training, a more thorough understanding can only be obtained through related training. SMEs nevertheless require continuous training, particularly when analyzing increasingly complex data. Furthermore, one of the challenges in effectively utilizing Big Data is the low digital literacy of SMEs. Even though Excel is a straightforward and easy-to-use program, complex data analysis still demands a deeper understanding of it. Therefore, in an effort to take advantage of opportunities and boost productivity in the middle of the global market, more training and mentoring are required.

REFERENCES

Abd. Majid, M. Shabri, Hamdani, Muhammad Nasir, and Faisal. 2018. "SMEs' Credit Demand and Economic Growth in Indonesia." *Regional Science Inquiry*.

Cenamor, J., D. Rönnberg Sjödin, and V. Parida. 2017. "Adopting a Platform Approach in Servitization: Leveraging the Value of Digitalization." *International Journal of Production Economics*. doi: 10.1016/j.ijpe.2016.12.033.

Chan, Calvin M. L., Say Yen Teoh, Adrian Yeow, and Gary Pan. 2019. "Agility in Responding to Disruptive Digital Innovation: Case Study of an SME." *Information Systems Journal*. doi: 10.1111/isj.12215.

Dahliah, Dahliah, Agus Kurniawan, and Aditya Halim Perdana Kusuma Putra. 2020. "Analysis and Strategy of Economic Development Policy for SMEs in Indonesia." *Journal of Asian Finance, Economics and Business*. doi: 10.13106/JAFEB.2020.VOL7.NO5.103.

Dam, Nguyen Anh Khoa, Thang Le Dinh, and William Menvielle. 2019. "A Systematic Literature Review of Big Data Adoption in Internationalization." *Journal of Marketing Analytics*. doi: 10.1057/s41270-019-00054-7.

Gherghina, Stefan Cristian, Mihai Alexandru Botezatu, Alexandra Hosszu, and Liliana Nicoleta Simionescu. 2020. "Small and Medium-Sized Enterprises (SMEs): The Engine of Economic Growth through Investments and Innovation." *Sustainability (Switzerland)*. doi: 10.3390/SU12010347.

Giotopoulos, Ioannis, Alexandra Kontolaimou, Efthymia Korra, and Aggelos Tsakanikas. 2017. "What Drives ICT Adoption by SMEs? Evidence from a Large-Scale Survey in Greece." *Journal of Business Research*. doi: 10.1016/j.jbusres.2017.08.007.

Herlinawati, Erna, and Amir Machmud. 2020. "The Effect of Innovation on Increasing Business Performance of SMEs in Indonesia." *WSEAS Transactions on Business and Economics*. doi: 10.37394/23207.2020.17.7.

Hermawati, Fajar Astuti, and Aidil Primasetya Armin. 2021. "Pemanfaatan Microsoft Excel Untuk Aplikasi Data Pelanggan Pada Pada Usaha Jasa Pembersihan Dan Perawatan Sepatu, Tas, Dan Topi." *Dinamisia : Jurnal Pengabdian Kepada Masyarakat*. doi: 10.31849/dinamisia.v5i4.6642.

Hervé, Annaële, Christophe Schmitt, and Rico Baldegger. 2020. "Internationalization and Digitalization: Applying Digital Technologies to the Internationalization Process of Small Andmedium-Sized Enterprises." *Technology Innovation Management Review*. doi: 10.22215/timreview/1373.

Kaur, Gurneet. 2017. "THE IMPORTANCE OF DIGITAL MARKETING IN THE TOURISM INDUSTRY." *International Journal of Research -GRANTHAALAYAH*. doi: 10.29121/granthaalayah.v5.i6.2017.1998.

Kazan, Erol, Chee Wee Tan, Eric T. K. Lim, Carsten Sørensen, and Jan Damsgaard. 2018. "Disentangling

E-ISSN 2723-2026 (Media Online)
P-ISSN 2723-455X (Media Cetak)
DOI : **https://doi.org/10.33365/jsstcs.v5i2.4720**

Digital Platform Competition: The Case of UK Mobile Payment Platforms." *Journal of Management Information Systems*. doi: 10.1080/07421222.2018.1440772.

Kroh, Julia, Heiner Luetjen, Dietfried Globocnik, and Carsten Schultz. 2018. "Use and Efficacy of Information Technology in Innovation Processes: The Specific Role of Servitization." *Journal of Product Innovation Management*. doi: 10.1111/jpim.12445.

Lazzarotti, Valentina, Raffaella Manzini, Anna Nosella, and Luisa Pellegrini. 2017. "Innovation Ambidexterity of Open Firms. The Role of Internal Relational Social Capital." *Technology Analysis and Strategic Management*. doi: 10.1080/09537325.2016.1210119.

Liu, Ying, Anthony Soroka, Liangxiu Han, Jin Jian, and Min Tang. 2020. "Cloud-Based Big Data Analytics for Customer Insight-Driven Design Innovation in SMEs." *International Journal of Information Management*. doi: 10.1016/j.ijinfomgt.2019.11.002.

Manzoor, Faiza, Longbao Wei, and Mahwish Siraj. 2021. "Small and Medium-Sized Enterprises and Economic Growth in Pakistan: An ARDL Bounds Cointegration Approach." *Heliyon*. doi: 10.1016/j.heliyon.2021.e06340.

Moeen, Mahka, and Will Mitchell. 2020. "How Do Pre-Entrants to the Industry Incubation Stage Choose between Alliances and Acquisitions for Technical Capabilities and Specialized Complementary Assets?" *Strategic Management Journal*. doi: 10.1002/smj.3160.

Nguyen, Giang Thi, Shu Yi Liaw, and Xuan Lam Duong. 2022. "Readiness of SMEs for Adopt Big Data: An Empirical Study in Vietnam." *International Journal of Computing and Digital Systems*. doi: 10.12785/ijcds/120141.

Nursini, Nursini. 2020. "Micro, Small, and Medium Enterprises (SMESs) and Poverty Reduction: Empirical Evidence from Indonesia." *Development Studies Research*. doi: 10.1080/21665095.2020.1823238.

Pelletier, Claudia, and L. Martin Cloutier. 2019. "Conceptualising Digital Transformation in SMEs: An Ecosystemic Perspective." *Journal of Small Business and Enterprise Development*. doi: 10.1108/JSBED-05-2019-0144.

Sadeghi, Vahid Jafari, Julie Mallet, Antony Itayi Jongwe, Robert Brent Anderson, and Jean Marie Nkongolo-Bakenda. 2019. "SME Internationalization in Challenging Contexts." in *Proceedings of the European Conference on Innovation and Entrepreneurship, ECIE*.

Van Scheers, Louise. 2016. "Is There a Link between Economic Growth and SMEs Success in South Africa." *Investment Management and Financial Innovations*. doi: 10.21511/imfi.13(2-2).2016.09.

Surya, Batara, Firman Menne, Hernita Sabhan, Seri Suriani, Herminawaty Abubakar, and Muhammad Idris. 2021. "Economic Growth, Increasing Productivity of SMEs, and Open Innovation." *Journal of Open Innovation: Technology, Market, and Complexity*. doi: 10.3390/joitmc7010020.

Teng, Xiaoyan, Zhong Wu, and Feng Yang. 2022. "Research on the Relationship between Digital Transformation and Performance of SMEs." *Sustainability (Switzerland)*. doi: 10.3390/su14106012.

Zhang, Xin, Yaoyu Xu, and Liang Ma. 2022. "Research on Successful Factors and Influencing Mechanism of the Digital Transformation in SMEs." *Sustainability (Switzerland)*. doi: 10.3390/su14052549.