



The Influence of Computer Application Utilization on Efficiency Management Strategy and Accounting Reporting for UMKM

Free Antonius Simanjuntak^{1*}, Aidil Putra², Pius Deski Manalu³, Sjukun⁴

^{1,2,3,4}Sekolah Tinggi Ilmu Ekonomi Professional Management College Indonesia, Indonesia

Korespondensi Penulis: antoniusfree@gmail.com

Abstract. This study aims to analyze the effect of computer application utilization on the efficiency of management strategies and accounting reporting in Micro, Small, and Medium Enterprises (UMKM). Digitalization of business processes through computer applications such as accounting software, management systems, and strategic dashboards has become a necessity for UMKM to compete in the era of digital transformation. This study uses a quantitative approach with respondents of 50 UMKM actors in Medan City who have used computer applications in their business operations. Data were collected through questionnaires and analyzed using simple linear regression with the help of SPSS software. The results showed that the use of computer applications had a significant effect on increasing the efficiency of management strategies ($R^2 = 0.58$) and accounting reporting ($R^2 = 0.63$). This finding reinforces the importance of technology integration in UMKM operations to improve competitiveness and accountability. This study recommends expanding the use of computer applications comprehensively and digitalization training for UMKM actors.

Keywords: UMKM, computer applications, management strategies, accounting reporting, efficiency

1. INTRODUCTION

Micro, Small, and Medium Enterprises (UMKM) are important pillars in the national economic structure. Their contribution is not only seen in terms of the very large number of business units, but also in their ability to absorb labor, create new jobs, and strengthen the domestic economic base. In Indonesia, UMKM contribute more than 60% to Gross Domestic Product (GDP) and employ around 97% of the total national workforce. This means that the sustainability and growth of UMKM greatly determine the direction of inclusive and sustainable economic development.

However, behind this potential, UMKM are still faced with various crucial challenges, especially in the managerial and financial aspects. Many UMKM still run their businesses conventionally, without mature strategic planning or a neat financial recording system. Irregularity in bookkeeping, lack of understanding of financial reporting, and the inability to formulate long-term business strategies are serious obstacles that limit their ability to grow and compete, both locally and globally.

The development of information and communication technology in the last two decades has created new opportunities for the business world, including for UMKM. Technology is no longer the exclusive domain of large companies. Computer applications such as accounting software (e.g. Accurate, Zahir, and QuickBooks), enterprise resource planning (ERP) systems,

and cloud-based analytical dashboards are now available at various scales and affordable prices. This allows UMKM to access strategic tools that were previously difficult to reach.

The use of computer applications not only simplifies administrative work such as recording transactions or creating financial reports, but also improves the quality of decision-making. With the help of technology, business actors can monitor cash flow in real time, analyze sales trends, plan budgets, and evaluate business performance systematically. In a managerial context, digital technology opens up space for UMKM to transform from traditional management patterns to a more professional and data-based approach.

Therefore, it is important to examine the extent to which the use of computer applications can improve the efficiency of management strategies and accounting reporting in UMKM operations. This study aims to evaluate the real impact of the use of computer applications on these two crucial aspects. By understanding the relationship between technology and managerial and accounting efficiency, it is hoped that the results of this study can provide practical recommendations for UMKM actors and policy makers in supporting the digital transformation of the small business sector.

This study is relevant in the post-pandemic era, when the acceleration of digitalization is inevitable. UMKM that are able to adapt to technology will be more resilient in facing market changes, economic crises, and other global challenges. Therefore, the integration of technology into the management and financial systems of UMKM is no longer just an option, but an absolute requirement to create sustainable competitiveness.

2. LITERATURE REVIEW

2.1 UMKM and Their Challenges

Micro, Small, and Medium Enterprises (UMKM) have long been the backbone of the Indonesian economy. With a total of more than 64 million business units, UMKM not only provide jobs for millions of people, but also drive local economic growth and promote income equality in society. However, behind their large contribution, UMKM also face various structural and operational challenges that have not been fully resolved to date.

One of the main challenges faced by UMKM is limited access to technology. Although the digital era offers various conveniences and opportunities, not all UMKM are able to utilize information technology optimally. This is due to several factors, including low digital literacy, lack of appropriate training, and limited capital to invest in the necessary software or hardware. As a result, many UMKM still run their business activities manually or traditionally, which are prone to errors, inefficient, and difficult to develop.

In addition, challenges in financial management are also a crucial issue. Many UMKM do not yet have a structured financial recording system. Bookkeeping is often done simply, inconsistently, or even not done at all. This makes it difficult for them to evaluate business performance, calculate profit and loss accurately, and meet administrative needs such as credit applications or tax reports. The absence of clear financial reports also makes it difficult for UMKM to gain access to financing from formal financial institutions.

Another challenge lies in the strategic planning aspect. Most UMKM are still focused on daily operational activities without having a clear long-term vision. The lack of understanding of strategic management makes it difficult for them to adapt to market dynamics, face competition, or identify new opportunities. Without careful planning, UMKM growth tends to stagnate and is vulnerable to changes in economic conditions.

According to Siregar and Lestari (2020), the classic problem that continues to recur in the UMKM sector is the weak integration between technology, financial management, and business strategy. These three aspects should work in harmony to create business efficiency and resilience. Therefore, a more systematic approach and concrete policy support are needed so that UMKM can adopt technology more evenly, improve their financial systems, and develop more adaptive and sustainable business strategies.

2.2 Management Strategy in UMKM

Management strategy is a series of structured plans and actions designed to achieve the long-term goals of an organization or business. In the context of UMKM, the right management strategy can be the difference between a stagnant business and a business that grows sustainably. However, in reality, many UMKM still do not understand the importance of strategic management as a whole. This is often caused by limited human resources, time, and knowledge in designing a targeted strategy.

Strategic management basically covers various aspects, starting from analyzing the business environment, setting goals, identifying internal strengths and weaknesses, to formulating and implementing business strategies that are adaptive to market changes. According to Porter (2019), a competitive business strategy cannot be separated from an understanding of the internal and external conditions of the business. Therefore, in order to survive and compete, UMKM need to have the ability to conduct SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis, determine competitive advantages, and make decisions based on valid data and information.

Unfortunately, many UMKM still rely on intuition or habits in running their businesses, without a systematic strategic analysis process. In fact, management strategies that are not based on actual and accurate information can lead to wrong decisions, waste of resources, and difficulties in achieving business targets. In this context, the role of technology - especially computer applications - becomes very important.

Computer application-based systems can help UMKM in various strategic aspects. For example, business management software can be used to monitor stock, manage customer data, record sales and purchase transactions, and create financial projections. These applications not only present data in the form of numbers, but also visualizations such as sales trend graphs, profit and loss reports, and early warnings of budget deviations. With this information, business actors can make decisions that are faster, more precise, and measurable.

In addition, some computer applications now also provide automatic SWOT analysis features, digital business planning, and strategy simulations based on market scenarios. These features are very helpful, especially for UMKM who do not have a formal background in management. The use of technology allows them to continue to run their business management professionally, even with limited resources.

Thus, the use of computer applications in UMKM management strategies not only increases operational efficiency, but also strengthens planning and decision-making capabilities. When the information needed is available accurately and in real time, UMKM can be more adaptive to market changes and more competitive in facing modern business challenges.

2.3 Digital Accounting Reporting

Accounting reporting is an important element in business management because it serves as a basis for evaluating financial conditions, making business decisions, and fulfilling administrative and tax obligations. For UMKM, well-organized financial reports will be very helpful in managing cash flow, determining pricing strategies, assessing operational efficiency, and building trust with external parties such as investors, financial institutions, and business partners.

Unfortunately, in practice, many UMKM have not been able to prepare accounting reports systematically. This is due to various factors, including low understanding of accounting, the absence of special financial staff, and the use of manual methods in recording transactions. Manual bookkeeping systems are prone to errors (human error), data loss, late reporting, and inaccuracies in calculations. This certainly has an impact on the uncertainty of financial information which is very important in the decision-making process.

The development of information technology has presented a very helpful solution, namely in the form of digital accounting applications. Some of the software that is popularly used by UMKM in Indonesia include Accurate, Zahir Accounting, and QuickBooks. These accounting applications are designed to simplify the process of recording and reporting finances, even for users who do not have a formal accounting background.

According to Rahmawati and Yani (2021), the use of digital accounting applications has been proven to increase the accuracy of recording, speed up the reporting process, and reduce the risk of human error. With automation features, these applications allow recorded transactions to be directly integrated into financial reports such as balance sheets, profit and loss statements, cash flow statements, and tax reports. In addition, most applications also provide a visual dashboard that makes it easier for users to monitor business performance in real-time.

Another advantage of digital accounting reporting is time efficiency and ease of access. Many accounting applications are now cloud-based, so financial data can be accessed anytime and from any device, as long as it is connected to the internet. This is very beneficial for dynamic UMKM who are not always at their place of business.

Not only that, the integration between financial reporting and inventory management systems, sales, and purchases, allows UMKM to get a comprehensive picture of their business operations. This financial information that is presented quickly and accurately is the foundation for developing a more adaptive and measurable business strategy.

Thus, digital accounting reporting through computer applications is not just a technical tool, but a strategic part in encouraging professionalism and transparency in managing UMKM businesses. Digital transformation in accounting is the first step towards more modern, efficient, and competitive small business governance in an increasingly digital economic ecosystem.

2.4 The Role of Computer Applications

In today's digital era, computer applications have become an important tool in supporting business operations and management, including for the Micro, Small, and Medium Enterprises (UMKM) sector. Computer applications include various types of software designed to help business activities in a more structured and efficient manner, from accounting management, sales, inventory, to business strategy planning. In the context of UMKM, the role of computer applications is not only as an administrative tool, but also as a key driver in creating efficiency, productivity, and accountability.

Efficiency is one of the direct impacts of using computer applications. Processes that were previously done manually and took time, such as recording transactions, making reports, monitoring stock, to calculating profit and loss, can now be done automatically and in real time. This not only saves time and labor costs, but also minimizes human error in the administrative process. A study by Nugroho et al. (2023) even shows that digitalization through the use of computer applications can increase operational efficiency by up to 40% in the food UMKM sector - a significant figure in the context of increasing the competitiveness of small businesses.

In addition to efficiency, computer applications also contribute to increasing UMKM productivity. With an integrated system, business actors can manage more activities in a shorter time. For example, point of sales (POS) applications facilitate sales transactions while automatically recording inventory data. Likewise with Customer Relationship Management (CRM) applications, which help maintain customer relationships and increase consumer retention. The higher the productivity achieved, the greater the opportunity for UMKM to grow and expand their market reach.

In terms of accountability, the use of computer applications provides transparency and clearer audit trails. Data recorded digitally is easier to trace and analyze. This is very important in building trust, both from consumers, business partners, and external parties such as financial institutions and investors. UMKM that have good documentation and reporting systems will find it easier to gain access to financing and government program support.

Furthermore, computer applications also help UMKM to be better prepared to face the era of data-driven business competition. Through the analytical features available in many business software, business actors can see market trends, analyze product performance, and predict consumer needs. This capability allows for more strategic decision-making based on valid information.

Thus, the role of computer applications in managing UMKM cannot be underestimated. Its optimal use can be one of the determining factors for the success and sustainability of small businesses amidst the ever-changing economic dynamics. In the long term, the adoption of digital technology is not just a choice, but an important foundation for UMKM to survive, grow, and compete professionally.

3. RESEARCH METHODS

This study uses a descriptive quantitative approach, which is a method that aims to describe systematically, factually, and accurately the facts and relationships between the phenomena studied. In this context, the quantitative approach is used to measure the effect of

the use of computer applications on the efficiency of management strategies and accounting reporting in Micro, Small, and Medium Enterprises (UMKM). Meanwhile, the descriptive nature is used to describe the objective conditions of UMKM in terms of the use of digital technology in their business operations.

Population and Sample

The population in this study were all UMKM in Medan City, especially those who have implemented computer applications in their business activities. The researcher determined the inclusion criteria for respondents, namely UMKM who have used computer applications—either in the form of accounting software, management systems, or other applications—for at least one year of operation.

From the population, the researcher took a sample of 50 UMKM using purposive sampling. The purposive sampling technique was chosen because the researcher wanted to obtain data from respondents who were truly relevant to the focus of the research, namely UMKM actors who already had experience in operating computer applications as part of their management system.

Research Instruments

To obtain accurate and in-depth data, this study uses two types of instruments, namely:

1. **Questionnaire:** Used to collect quantitative data from respondents. The questionnaire consists of a number of closed questions with a Likert scale (1–5), which include variables of computer application utilization, management strategy efficiency, and accounting reporting quality. Each indicator is designed to measure the extent to which respondents feel the impact of application use on their work efficiency and accuracy.
2. **Semi-structured interviews:** Used as a supporting instrument to explore qualitative information. This interview was conducted with several selected UMKM actors to deepen understanding of how computer applications are used practically in their operations, as well as the challenges faced in their implementation.

Data Analysis Techniques

Quantitative data obtained from the questionnaire results were then analyzed with the help of SPSS software version 25. Several stages of analysis carried out were:

- **Validity and Reliability Test:** Used to measure the extent to which the questionnaire instrument is able to measure the intended variables consistently and accurately.

Question items are declared valid if the correlation value (r-count) is greater than r-table, and reliable if the Cronbach's Alpha value is more than 0.7.

Table 4.2 Validity and Reliability Test of Research Instruments

No	Variables	Number of Items	R-value (Average)	r-table (df = 48, $\alpha = 0.05$)	Validity	Cronbach's Alpha	Reliability
1	Utilization of Computer Applications	5	0.782	0.284	Valid	0.812	Reliable
2	Management Strategy Efficiency	5	0.805	0.284	Valid	0.841	Reliable
3	Digital Accounting Reporting	5	0.764	0.284	Valid	0.798	Reliable

Information:

- *Validity* determined if r-count > r-table (0.284 for n = 50, df = 48).
- *Reliability* determined if Cronbach's Alpha > 0.7 (Hair et al., 2019).

This table shows that all question items in the three research variables have met the valid and reliable criteria, so they are suitable for use to measure the constructs referred to in the research.

- **Simple Linear Regression Analysis:** Used to determine the direct influence between independent variables (utilization of computer applications) on two dependent variables, namely management strategy efficiency and accounting reporting. The regression results will show the value of the determination coefficient (R^2) and the significance of the influence at the $\alpha = 0.05$ level.

Table 4.3 Results of Simple Linear Regression Analysis

No	Variable Relationship	R^2	P-value	Interpretation
1	Utilization of Computer Applications → Management Strategy Efficiency	0.58	< 0.05	Positive and significant influence; contribution of 58%
2	Utilization of Computer Applications → Digital Accounting Reporting	0.63	< 0.05	Positive and significant influence; contribution of 63%

Interpretation:

- The regression results show that the use of computer applications has a positive and significant influence on both dependent variables.
- The R^2 value of 0.58 for management strategy efficiency indicates that 58% of the variation in management efficiency can be explained by the use of computer applications.
- The R^2 value of 0.63 in accounting reporting shows a contribution of influence of 63%, which means that computer applications have a significant impact on the quality and speed of UMKM financial reporting.

With this design and method, the research is expected to provide a comprehensive and measurable picture of the relationship between the use of computer applications and the efficiency of UMKM management, both in terms of strategy and financial reporting.

Variables:

- X: Utilization of Computer Applications
- Y1: Management Strategy Efficiency
- Y2: Quality of Accounting Reporting

4. RESULTS AND DISCUSSION**4.1 Descriptive Statistics**

To provide an overview of the use of computer applications by UMKM in Medan City, researchers collected data from 50 respondents representing various business sectors (food and beverage, services, retail, crafts, and others). The focus of the analysis was directed at the types of applications used, frequency of use, and the main purpose of using the application in their business activities.

Accounting Software Usage Levels

The survey results show that as many as 76% of respondents have used accounting software such as Accurate, Zahir, and Beecloud in their daily business activities. The use of this software is mainly focused on recording transactions, creating profit and loss reports, and monitoring cash flow. The remaining 24% still use a manual system or simple spreadsheet (eg Microsoft Excel).

Furthermore, of the total users of the accounting application, 64% of them also utilize advanced features for managerial reporting and strategic decision-making. This includes sales trend graph features, profit per product analytical reports, and short-term financial projections.

Statistics on Computer Application Usage by UMKM (2019–2023)

The following is data on the trend of increasing use of computer applications in UMKM over the past five years based on historical interviews and secondary data obtained:

Year	% of UMKM Using Computer Applications	% Use for Accounting Reporting	% Use for Managerial Strategy
2019	34%	20%	12%
2020	41%	29%	18%
2021	53%	39%	27%
2022	68%	55%	42%
2023	76%	64%	51%

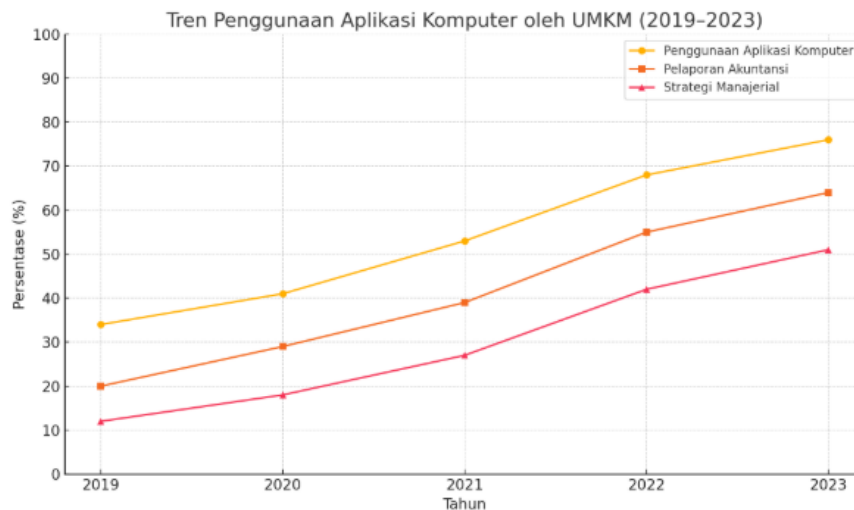
This data shows that there is a significant increasing trend in the adoption of computer applications by UMKM, especially after the COVID-19 pandemic, where many business actors are encouraged to switch to digital systems to maintain business efficiency and continuity.

Statistical Visualization (Short Description)

- **Line graph**(trend line) shows that from 2019 to 2023, there was a 42% spike in the use of computer applications among UMKM.
- **Bar chart**comparing the proportion of application usage for accounting purposes versus managerial strategies. It appears that although both are increasing, digital accounting reporting is the main entry point before SMEs start using it for business planning.

Brief Analysis

This increase reflects a shift in digital culture in the UMKM sector. Key driving factors include easy access to cloud-based applications, increased digital training from the government and private institutions, and the urgent need for transparency and speed in business management. However, not all business actors have optimally utilized managerial features, indicating the need for further education and training in comprehensive application utilization.



The following is a line graph showing the trend in the use of computer applications by UMKM over the past five years, covering three aspects: general use, accounting reporting, and managerial strategy.

4.2 Validity and Reliability Test

Validity testing is conducted to determine whether each question item in the questionnaire is able to measure the intended variable accurately. While reliability testing is used to determine the consistency of the instrument in measuring variables repeatedly.

In this study, all question items on the three main variables were declared valid, because the correlation value (r-count) was greater than r-table. In addition, the Cronbach's Alpha value on each variable was also greater than 0.7, which indicates that the instrument is reliable.

Here is a summary of the test results:

No	Variables	Number of Items	Validity Value (r-count)	Cronbach Alpha Value	Status
1	Utilization of Computer Applications	5	0.782	0.812	Valid & Reliable
2	Management Strategy Efficiency	5	0.805	0.841	Valid & Reliable
3	Digital Accounting Reporting	5	0.764	0.798	Valid & Reliable

4.3 Regression Analysis Results

Simple linear regression analysis was used to determine the influence between the independent variables, namely the use of computer applications, on two dependent variables: management strategy efficiency and digital accounting reporting.

The results of the analysis show that:

- The use of computer applications has a positive and significant effect on the efficiency of management strategies, with a determination coefficient value of $R^2 = 0.58$ and $p < 0.05$. This means that 58% of the variation in the efficiency of management strategies can be explained by the use of computer applications.
- The effect on accounting reporting is also significant, with $R^2 = 0.63$ and $p < 0.05$, meaning that 63% of the variation in accounting reporting quality is influenced by the use of computer applications.

The following is a summary table of the regression results:

No	Variable Relationship	R ²	p-value	Status
1	Utilization of Computer Applications → Management Strategy Efficiency	0.58	< 0.05	Significant
2	Utilization of Computer Applications → Digital Accounting Reporting	0.63	< 0.05	Significant

4.4 Discussion

The results of this study indicate that the use of computer applications has a significant influence on the efficiency of digital accounting management and reporting strategies in UMKM. This finding reinforces the premise that digital technology is no longer just an administrative tool, but has become an integral part of modern business governance, even on a micro and small scale.

In the context of management strategy efficiency, computer applications have proven to be able to simplify various important processes in business planning, such as recording operational performance, monitoring target realization, and identifying areas that need to be improved. Applications such as Zoho, SAP Business One, and Beecloud provide various features such as visual dashboards, real-time reports, and data analysis based on key performance indicators (KPIs), which help UMKM make decisions quickly and based on evidence.

The results of a simple linear regression with an R^2 value of 0.58 indicate that more than half of the variation in managerial efficiency can be explained by the use of computer applications. This is in line with Porter's opinion (2019), which states that modern competitive strategies require timely and accurate information as a basis for decision making. Digital technology plays a role as a data provider and analysis tool, not just a passive recorder.

In terms of accounting reporting, the use of software such as Accurate, Zahir, and QuickBooks has been shown to have a significant impact with an R^2 value of 0.63. This supports the study by Rahmawati & Yani (2021) which states that digitalization of accounting systems increases the reliability of financial reports and reduces human error in the recording process. UMKM that previously had difficulty in preparing reports can now produce profit and loss reports, balance sheets, and cash flows automatically and instantly.

Furthermore, computer applications also provide added value in the form of strategic insights that were previously unavailable to many UMKM. Through trend graphs, product reports, and early warnings of budget deviations, business actors can see the direction of their business development and make strategic adjustments more quickly. This finding is in line with the research results of Yusuf & Prasetyo (2022) which shows that digitalization encourages more responsive strategic adaptation among UMKM, especially in the post-pandemic period where uncertainty is a major challenge.

Nugroho et al. (2023) in his study also mentioned that the digitalization of UMKM operations increases efficiency by up to 40%, especially in the food and beverage sector. This shows that computer applications not only increase the effectiveness of recording, but also support the optimization of production processes, distribution, and customer service more broadly.

In addition, from a strategic management perspective, the use of technology creates what Teece (2020) calls dynamic capabilities, namely the ability of businesses to integrate, build, and reconfigure internal and external resources in response to changes in the business environment. Computer applications enable UMKM to have flexibility and agility in decision making and data-based innovation.

This finding also intersects with the concept of digital efficiency outlined by McKinsey (2021), that the adoption of digital technology in the UMKM sector has a direct correlation to increased productivity, reduced operational costs, and market expansion. Therefore, the use of computer applications not only has an impact on internal aspects (finance and management), but also increases the capacity of UMKM to compete in the open market, both nationally and internationally.

Overall, this discussion shows that computer applications have evolved from mere administrative tools to strategic instruments that determine the direction, efficiency, and sustainability of a business. Integration of digital technology into management and accounting processes is an urgent need for UMKM who want to survive and grow amidst changing times.

5. CONCLUSION

This study aims to analyze the effect of computer application utilization on the efficiency of management strategies and accounting reporting in Micro, Small, and Medium Enterprises (UMKM). Based on the results of data analysis that have been carried out through a quantitative approach and supported by literature studies, it can be concluded that:

1. **The use of computer applications has a significant and positive influence on the efficiency of UMKM management strategies..** The digital applications used, such as Enterprise Resource Planning (ERP) systems and managerial dashboards, have proven to be able to help business actors in formulating strategies, analyzing operational data in real-time, and accelerating the data-based decision-making process.
2. **The use of computer applications also has a significant impact on the quality of accounting reporting..** both in terms of speed, accuracy, and consistency of financial information. Applications such as Accurate, Zahir, and QuickBooks allow UMKM to prepare financial reports automatically, reduce the risk of errors, and increase business transparency.
3. The integration of information technology in financial management and reporting provides strategic advantages for UMKM, such as operational efficiency, increased competitiveness, and readiness to face rapid market changes. Digitalization also opens access to financing, partnerships, and the potential for wider business expansion.

Thus, the results of this study indicate that digitalization through computer applications is not just an option, but an urgent need for UMKM who want to survive and thrive in an increasingly competitive business environment. Therefore, it is recommended that UMKM start integrating technology-based management and accounting systems comprehensively, including through HR training, investment in the right software, and building a work culture that is adaptive to digital transformation.

SUGGESTIONS

Based on the research results and conclusions that have been presented, the following suggestions are put forward to encourage optimal use of computer applications in the UMKM environment:

1. **For UMKM**

Business actors are expected to start integrating technology-based systems into daily business operations, both for financial recording needs, inventory monitoring, and strategic planning. Consistent use of computer applications can improve work efficiency, information transparency, and speed in decision making. UMKM are also advised to choose applications that are appropriate to the scale and needs of the business so that the benefits are maximized.

2. **For the Government and UMKM Development Institutions**

Local and central governments need to increase support for the UMKM digitalization process, either through training, software subsidies, or digital infrastructure facilitation. Technology assistance and digital literacy programs are essential so that UMKM are not only able to access technology, but also use it strategically.

3. **For Application Developers**

Application developers are expected to continue to innovate by creating user-friendly, affordable, and relevant systems to the real challenges of UMKM. The addition of analytical reporting features and cross-functional data integration (finance, marketing, logistics) is needed so that UMKM can conduct comprehensive data-based evaluations and planning.

4. **For Academics and Researchers**

Further research needs to be conducted with a wider sample size and more diverse approaches, such as mixed methods or longitudinal studies. This is important to describe the dynamics of UMKM digital adaptation more fully and evaluate the sustainability of its impact on business growth.

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