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## Design and Development of an Accounting Information System Using Microsoft Access at Toko Glory

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### Abstract

In the business world, the application of technology plays a crucial role in ensuring that business operations run smoothly and efficiently. This community service activity focused on the design and development of a Microsoft Access-based financial recording system aimed at improving the performance and effectiveness of partner business operations, as well as supporting decision-making and strategic planning processes. The method used was a descriptive-analytical approach, which included the stages of identifying user needs, system design, testing, and evaluating the results of the implementation of the developed system. The results of the activity indicated that the system was able to assist business owners in recording financial transactions in a computerized manner, generating financial reports automatically, and minimizing errors in the recording process. The implementation of this system is expected to facilitate business owners in accurately monitoring financial conditions, increasing efficiency, and strengthening overall business management. In the future, the system can be developed by integrating the database into an online server, such as SQL Server or SharePoint, to centralize data access and improve the security and efficiency of financial information management.

**Keywords:** *Accounting information system, Microsoft Access, MSMEs, Financial Report*

### Introduction

In the current era of globalization, technological advancements are rapidly evolving and providing numerous benefits and significantly influencing business operations and efficiency. Along with these advancements, information technology has become an essential tool for businesses, including MSMEs, to support operations and decision-making. Micro, small, and medium enterprises (MSMEs) are businesses run by individuals, groups, or households that can operate with relatively small capital. MSMEs play a crucial role in driving economic growth, including in Indonesia (Zaelani, 2019). As one of the main pillars of the national economy, MSMEs contribute significantly to job creation and the improvement of public welfare. MSMEs absorb up to 97% of the workforce and contribute 60.4% to total national investment.

Therefore, MSMEs must adapt to current developments (Saragih et al., 2023). In the context of technological advancement, one of the essential forms of adaptation is the implementation of a computerized and integrated accounting information system (AIS).

AIS is designed to help an entity manage, control, and monitor business activities more efficiently and accurately, while supporting systematic financial management, improving business growth and operational effectiveness, and enhancing decision-making and strategic planning (Farhan et al., 2020; Fitriani & Hwihanus, 2023; Lubis & Lufriansyah, 2024; Rohmana & Hwihanus, 2023).

However, many MSMEs in Indonesia still do not fully realize the importance of financial management, including recording, bookkeeping, financial reporting, and implementing accounting systems in their operations. Financial reporting is an essential requirement for business sustainability (Saraswati et al., 2021). The partner of this community service activity, Toko Glory, experiences similar issues, as financial records are still maintained manually. Inventory records are also inaccurate and difficult to monitor, as there is no system to track transactions and stock changes automatically. Supporting documents are limited to purchasing invoices, while wholesale transactions are recorded manually through handwritten receipts. These conditions make it difficult to determine profit or loss, inventory levels, and assets and liability values. As a result, decision-making becomes inefficient and may pose risks to business sustainability.

Based on these problems, this project aims to design and implement a Microsoft Access-based accounting information system for Toko Glory. Microsoft Access is software designed to simplify financial transaction recording and assist in faster and easier data design and management (Dwiyantoro & Junandi, 2021; Purwianti & Chan, 2025). The output of this project includes the development of an integrated system consisting of tables, forms, queries, and financial reports. The objective is to improve financial recording accuracy, operational efficiency, and the availability of reliable financial information. The system is expected to help the business owners monitor financial performance and support better decision-making for business development.

## Methods

The method used in this community service activity included training and mentoring business partners on system usage. The activity was carried out directly at the partner's location, Toko Glory, in Bengkong Sadai, Batam. The community service activity ran from August 31, 2025, to December 31, 2025, with a total budget of IDR 5,000,000, and involved the owner, manager, and cashier.

In the initial phase, this activity employed qualitative data collection methods, including observation, interviews, and documentation. This method allowed the authors to interact directly with primary data sources (Sugiyono, 2013). In addition, the activity applied a descriptive-analytical approach, which involved analyzing the MSME's needs in system design and evaluating the implementation of the developed system. The data collection techniques used were as follows:

1. Observation

Observations were conducted directly at the MSME's location to obtain data and information related to business operations and recording processes, such as purchase invoices and manual receipts used for wholesale transactions. Based on these observations, it was concluded that the recording system was still limited and manual, which reduced the efficiency of business management and operations.

2. Interviews

Interviews were conducted with the store owners and managers to obtain cooperation approval and information regarding product data, cost price, selling

prices, inventory, as well as constraints and system requirements to be implemented.

3. Documentation

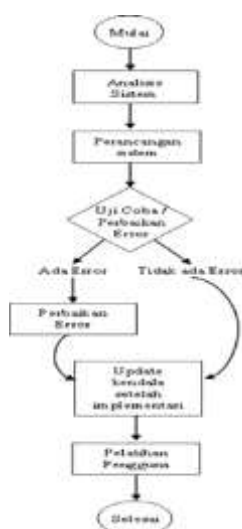
Documentation was carried out by collecting documents related to business operations, such as sales receipts and purchase invoices. The information obtained was used as the basis for designing the system.

This community service activity began with the preparation phase, which included identifying potential MSMEs partners and signing a cooperation agreement that was subsequently submitted to Batam International University for approval. It then continued with the implementation phase, which consisted of conducting follow-up observations and interviews with MSMEs, designing and developing a Microsoft Access-based accounting system, entering initial master data, and testing transactions processes and financial reports to ensure the system functioned properly. This phase also included providing system-usage training for the MSMEs at Toko Glory.

This activity then proceeded to the assessment phase, where the developed system was evaluated using a before-and-after assessment approach. The assessment focused on several indicators related to transaction recording, financial data processing, and the ability to understand the financial reports generated by the system. The assessment results were scored on a scale of 0 to 5 to indicate the level of improvement after training and system implementation. The evaluation involved three participants: the MSME owner, the manager, and the cashier, who were directly involved in daily transaction recording and financial reporting activities. The final phase was the reporting phase, which involved preparation, finalization, and submission of the project reports as accountability for the implementation of community service activities.

The system design process was carried out using the Waterfall System Development Life Cycle (SDLC) method. This method consists of several stages, including planning, analysis, design, implementation, and maintenance (Aswati et al., 2017). These stages are illustrated in the flowchart in Figure 1.

Figure 1. System Design Flowchart



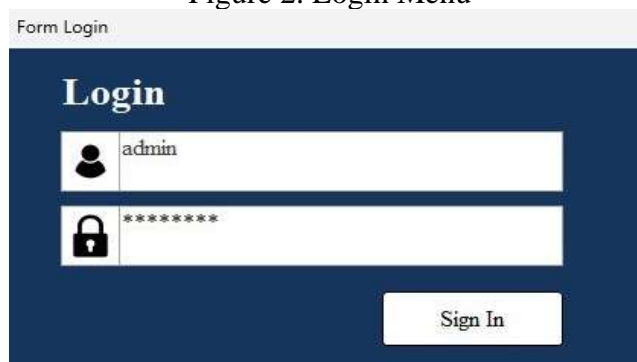
Source: Processed Data (2025)

### Results and Discussion

This community service activity began with a preparatory phase, which included identifying partners, establishing cooperation agreements, and coordinating with the university. The next stage involved observing business operation, collecting master data, and analyzing system requirements and operational constraints. Subsequently, the system development and testing stages were carried out to ensure that the system operated smoothly and efficiently. This was followed by training and mentoring for the owners, managers, and cashiers on how to use the system. After implementation, the system performance was evaluated, followed by the preparation of the final report.

The developed system integrates master data management, transaction processing, and financial reporting into a single platform. The system includes access control through login features, a centralized dashboard, data input forms, transaction modules, and automated financial reporting. These features are designed to simplify daily transaction recording, reduce manual workload, and support more systematic financial management. The selected system interface is shown in Figure 2-14.

Figure 2. Login Menu



Source: Processed Data (2025)

Figure 3. Dashboard



Source: Processed Data (2025)

Figure 4. Item Data Form



**Form Data Barang**

Kode Barang: 8994755030981  
 Nama Barang: Givod Time Rainbow\*12  
 Kategori: Snack  
 Satuan: Box  
 Harga Modal: Rp18.500,00  
 Harga Jual: Rp23.000,00

Simpan

Source. Processed Data (2025)

Figure 5. Item Master Data



Kode Barang	Nama Barang	Kategori	Satuan	Kuantitas	Harga Modal	Harga Jual
899008110100	Agus 500ml	Masakan	Bot	10	Rp2.000,00	Rp4.000,00
899008110100	Agus 1.5L	Masakan	Bot	10	Rp5.000,00	Rp7.000,00
899008110119	Agus 1 liter	Masakan	Bot	24	Rp2.100,00	Rp2.900,00
899001178424	Breg Breg	Snack	Box	18	Rp2.800,00	Rp2.900,00
899001184131	Breg Breg 42g	Snack	Box	20	Rp18.000,00	Rp20.000,00
899001170063	Chiki Chiki 18g	Snack	Box	18	Rp17.000,00	Rp20.000,00
899001175172	Chiki chiki	Snack	Box	24	Rp2.000,00	Rp1.900,00
899001200641	Sanfud 050ml	Masakan	Bot	22	Rp2.000,00	Rp2.000,00
899001200658	Sanfud 1.5L	Masakan	Bot	7	Rp1.000,00	Rp1.000,00
899001200688	Sanfud 1.00ml	Masakan	Bot	48	Rp900,00	Rp1.700,00
899271900004	Vigi Lado 50g 5g	Snack	Box	24	Rp445,00	Rp500,00
899271904201	Vigi Starfield 5g	Snack	Box	24	Rp445,00	Rp500,00
899271904728	Vigi Lu Cream Case 5g	Snack	Box	24	Rp445,00	Rp500,00
899271942061	Vigi Lado 50g 10g	Snack	Box	14	Rp18.000,00	Rp21.000,00

Source: Processed Data (2025)

Figure 6. Purchase Form



**Form Pembelian**

No Pembelian: [RD-2510040001] Tanggal: 04/10/2025  
 No Supplier: [9901] Tanggal Pembelian: 04/10/2025  
 Metode Pembayaran: [CASH]

**Detail Pembelian**

Kode Barang	Nama Barang	Kuantitas	Harga Modal	Harga Jual	Total
8990011354124	Breg Breg	18	Rp1.800,00	Rp2.500,00	Rp45.000,00
899001175172	Chiki chiki	24	Rp1.900,00	Rp2.500,00	Rp60.000,00
<b>Grand Total</b>					<b>105.000,00</b>

Simpan

Source: Processed Data (2025)

Figure 7. Sales Form



**Form Penjualan**

No Penjualan: [INV-2510040001] Tanggal: 04/10/2025  
 No Pelanggan: [Tania]

**Detail Penjualan**

Kode Barang	Nama Barang	Kuantitas	Harga	Total
8990008103053	Agus 050ml	8	Rp4.000,00	Rp32.000,00
8995077606182	Sakro Cream Pindao 55g	4	Rp9.500,00	Rp38.000,00
<b>Grand Total</b>				<b>70.000,00</b>
Bayar				Rp70.000,00
Kembali				Rp0,00

Simpan

Source: Processed Data (2025)

Figure 8. Inventory Report

Laporan Persediaan					
Noach		Maun	Keluar	Adjust	Balance
0092773210479	Chocolate Dark	24	0	0	24
009507600097	Susu BQD 95g	12	3	0	9
0091071801284	Las. Tau. Flavr. Soft 8kg	30	0	0	30
0094077800812	To-Tar. Poda 8kg	12	0	0	12
0095077800186	Susu Chgnd 95g	12	2	0	10
0094755000001	Good Tau. Rabbit 712	04	16	0	-6
0094755000007	Good Tau. Double Choc*12	20	11	0	9
0093108071133	3cNca. Avon	25	0	0	25
0094076802376	Las. Tau. Yndkndk 6kg	10	0	0	10
0092773210981	Chocolate 5kg	24	0	0	24
0094755000072	Good Tau. Rabbit 36.5g	12	0	0	12
00927732100001	Chocolate Dark*24	24	12	0	12
00927732100007	Chocolate*12	24	0	0	24
0092741982779	Yagi. Or. Cream. Coor 144g	24	12	0	12
0092741948050	Yagi. Sourcdd 144g	10	0	0	10
0092741942182	Yagi. Lakt. Sm 144g	40	28	0	16

Source: Processed Data (2025)

Figure 9. Sales Report

Laporan Penjualan			
NoPenjualan	Tanggal	NamaPelanggan	SumOfTotal
DNV-25100400001	04-10-2025	Tuanari	Rp170.000,00
DNV-25100400002	04-10-2025	Tuanari	Rp223.000,00
DNV-25100400003	04-10-2025	Tuanari	Rp305.000,00
DNV-25100400004	04-10-2025	Tuanari	Rp117.000,00
DNV-25100400005	04-10-2025	Tuanari	Rp145.000,00
DNV-25100400006	04-10-2025	Tuanari	Rp100.000,00
DNV-25100400007	04-10-2025	Tuanari	Rp113.000,00
DNV-25100400008	04-10-2025	Tuanari	Rp525.000,00
DNV-25100400009	04-10-2025	Tuanari	Rp105.000,00
DNV-25100400010	04-10-2025	Tuanari	Rp100.000,00
DNV-25100400011	04-10-2025	Tuanari	Rp240.000,00
DNV-25100600001	06-10-2025	Tuanari	Rp40.000,00
DNV-25100600002	06-10-2025	Tuanari	Rp175.000,00
DNV-25100600003	06-10-2025	Tuanari	Rp232.000,00
DNV-25100600004	06-10-2025	Tuanari	Rp200.000,00
DNV-25100600005	06-10-2025	Tuanari	Rp1.478.000,00
			<b>4.336.300,00</b>

Source: Processed Data (2025)

Figure 10. Purchase Report

Laporan Pembelian						
NoPembelian	Tanggal	Tanggal Dik. Terima	No. Suplai	Nama Suplai	Metode Pembayaran	Total
PB-251000008	02-10-2025	03-10-2025	001	Yahelo. Mita. Peranan	CASH	Rp180.000,00
PB-251000009	04-10-2025	04-10-2025	001	Yahelo. Mita. Peranan	CASH	Rp84.000,00
PB-251000010	04-10-2025	10-10-2025	001	Yahelo. Mita. Peranan	KREDIT	Rp127.000,00
PB-251000011	04-10-2025	10-10-2025	001	Yahelo. Mita. Peranan	KREDIT	Rp220.000,00
PB-251000012	04-10-2025	04-10-2025	006	Cita. Utami. Dendrokrado	CASH	Rp114.000,00
PB-251000013	04-10-2025	04-10-2025	002	Stani. Sciterra. Mahana	CASH	Rp170.000,00
PB-251000014	04-10-2025	04-10-2025	002	Stani. Sciterra. Mahana	CASH	Rp100.000,00
PB-251000015	04-10-2025	04-10-2025	002	Stani. Sciterra. Mahana	CASH	Rp87.000,00
PB-251000016	04-10-2025	10-10-2025	001	Yahelo. Mita. Peranan	KREDIT	Rp150.000,00
						<b>Rp1.270.000,00</b>

Source: Processed Data (2025)

Figure 11. Simple Cash Flow Statement

Laporan Kas Sederhana	
<b>Arus Kas Masuk</b>	<b>Rp4.336.300,00</b>
<b>Arus Kas Keluar</b>	<b>Rp1.270.336,00</b>
<b>Arus Kas Bersih</b>	<b>Rp3.065.964,00</b>

Source: Processed Data (2025)

Figure 12. Profit and Loss Statement

Laporan Laba Rugi			
<b>Pendapatan</b>			
401	Pendapatan Penjualan		Rp4.336.300,00
	<b>Total</b>		Rp4.336.300,00
<b>Harga Pokok Penjualan</b>			
501	Harga Pokok Penjualan		-Rp3.710.582,00
	<b>Total</b>		-Rp3.710.582,00
<b>Beban</b>			
611	Beban Gaji		Rp0,00
612	Beban Listrik dan Air		-Rp180.000,00
613	Beban Internet		Rp0,00
614	Beban Keamanan dan Kebersihan		-Rp100.000,00
615	Beban Perlengkapan		Rp0,00
616	Beban Operasional		Rp0,00
617	Beban Lain-lain		Rp0,00
	<b>Total</b>		-Rp280.000,00
<b>Pendapatan Lain</b>			
701	Pendapatan Lainnya		Rp0,00
	<b>Total</b>		Rp0,00
	<b>Laba Bersih</b>		Rp345.718,00

Source: Processed Data (2025)

Figure 13. Statement of Changes in Equity

Laporan Perubahan Ekuitas			
Modal Awal			Rp10.000.000,00
Laba Bersih	Rp345.718,00		
Prive	Rp50.000,00	-	
	<b>Total</b>		Rp295.718,00 +
Modal Akhir			Rp10.295.718,00

Source: Processed Data (2025)

Figure 14. Financial Position Report

Laporan Posisi Keuangan			
<b>Aktiva</b>			
<b>Aktiva Lancar</b>			
111	Kas		Rp6.939.028,00
112	Piutang Usaha		Rp0,00
113	Persediaan Barang		-Rp2.440.246,00
114	Perlengkapan		Rp0,00
120	Bank Negara Indonesia (BNI)		Rp5.000.000,00
	<b>Total</b>		Rp9.498.782,00
<b>Aktiva Tetap</b>			
121	Peralatan		Rp0,00
122	Tanah dan Bangunan		Rp0,00
123	Akumulasi Penyusutan		Rp0,00
	<b>Total</b>		Rp0,00
	<b>Total Aktiva</b>		Rp9.498.782,00
<b>Pasiva</b>			
<b>Ekuitas</b>			
301	Modal Usaha		Rp10.345.718,00
302	Prive		-Rp50.000,00
	<b>Total</b>		Rp10.295.718,00
<b>Liabilitas Jangka Pendek</b>			
201	Utang Usaha		-Rp796.936,00
202	Hutang Gaji		Rp0,00
	<b>Total</b>		-Rp796.936,00
	<b>Total Pasiva</b>		Rp9.498.782,00

Source: Processed Data (2025)

The implementation of the system in MSME operations resulted in a significant reduction in transaction processing time. Previously, transaction recording was done manually, which was time-consuming and prone to errors. After the system's implementation, transactions can be recorded immediately, and financial reports can be generated automatically in a shorter timeframe. Furthermore, data accuracy has improved due to the use of automated calculations, auto-numbering, and integrated master data. These features minimize errors related to pricing, quantity, and transaction totals that were common in the previous manual system. As a result, financial information is more consistent and reliable.

Before-and-after assessments indicate excellent user satisfaction resulting from improved ease of use and better understanding of financial information. Users report that the implemented system helps them more effectively monitor sales, inventory, expenses, and overall business performance, thereby supporting better decision-making.

Table 1. System Effectiveness Evaluation: Before-and-After Score

No	Aspect	Before (Score)	After (Score)
1	Partners have appropriate accounting systems.	0	4
2	Partners have efficiency in processing financial data	1	5
3	Partners have accuracy in financial data recording	1	5
4	Partners have the ability to prepare financial reports	1	4
5	Partners have a good understanding of accounting processes	2	4

Source: Authors, 2025

Table 2. System Effectiveness Evaluation: Before-and-After Condition

No	Aspect	Before	After
1	Partners have appropriate accounting systems.	Manual and handwritten	Computerized and automated
2	Partners have efficiency in processing financial data	Time-consuming	Faster and more efficient
3	Partners have accuracy in financial data recording	Prone to recording errors	Improved accuracy
4	Partners have the ability to prepare financial reports	Irregular and manual	Automatic and periodic
5	Partners have a good understanding of accounting processes	Limited	Improved

Source: Authors, 2025

## Conclusions

The design and implementation of a Microsoft Access-based accounting system for the Toko Glory MSME successfully assisted business owners in recording financial transactions in a more effective, structured, and user-friendly manner. Based on the before-and-after implementation assessment, transaction processing time was reduced, financial recording accuracy improved, and financial reports could be generated automatically and periodically. These results indicate that the developed system contributed to improving operational efficiency and financial data reliability.

Factors supporting successful implementation include the partners' commitment and openness to innovation. However, several challenges were identified during the system implementation phase, particularly the partners' limited initial knowledge of accounting concepts and journaling processes. To address these limitations, the system was designed with an automatic journaling feature generated from transaction input, and training and guidance were provided to ensure optimal utilization.

### Recommendations

The developed system still has limitations, considering it was implemented in a small- to medium-sized MSME that had not previously used a computerized recording system. To ensure system sustainability, regular system maintenance, routine data backup procedures, and continued user capacity building are recommended. Future development could involve integrating the database into an online server, such as SQL Server or SharePoint, to allow centralized data access and enhance the security and efficiency of financial information management.

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