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Application of the AppSheet Application to Develop an Inventory System for Goods at MSME Parabot Barokah

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ABSTRAK

Penelitian ini bertujuan untuk membantu UMKM Parabot Barokah dalam mengatasi permasalahan pencatatan persediaan yang masih dilakukan secara manual dan rentan terhadap kesalahan. Dengan memanfaatkan platform *no-code* AppSheet yang terhubung dengan *Google Sheets*, peneliti merancang dan mengimplementasikan sistem inventori digital yang sederhana, efisien, serta mudah dioperasikan oleh pengguna non-teknis. Metode yang digunakan meliputi wawancara, observasi, dan studi literatur untuk memahami kebutuhan sistem dan proses bisnis toko. Hasil implementasi menunjukkan bahwa aplikasi yang dikembangkan mampu mempermudah proses pencatatan stok dan penjualan, mengurangi risiko kehilangan data, serta menyediakan tampilan visual yang memudahkan analisis. Sistem ini bersifat fleksibel, dapat diakses secara daring, dan dapat direplikasi oleh UMKM lain dengan kondisi serupa. Inovasi ini membuktikan bahwa solusi digital yang terjangkau dan praktis dapat secara signifikan meningkatkan efisiensi operasional pada usaha kecil.

Kata Kunci: UMKM; Inventori Digital; AppSheet; Google Sheets; Sistem *No-Code*; Manajemen Stok.

ABSTRACK

This research aims to help MSME Parabot Barokah in overcoming the problem of inventory recording which is still done manually and is prone to errors. Using the AppSheet no-code platform connected to Google Sheets, researchers designed and implemented a digital inventory system that is simple, efficient, and easy to operate by non-technical users. The methods used include interviews, observations, and literature studies to understand the system needs and business processes of the store. The results of the implementation show that the application built is able to simplify the process of recording stock and sales, reduce the risk of data loss, and provide a visual display that facilitates analysis. The system is flexible, accessible online, and can be replicated by other MSMEs with similar conditions. This innovation proves that affordable and practical digital solutions can significantly improve the operational efficiency of small businesses.

Keywords *: MSME, Digital inventory, AppSheet, Google sheet, System no code, Stock Management*

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INTRODUCTION

MSMEs play an important role in the Indonesian economy, with more than 99% of business units falling into this category. However, many MSMEs still experience operational constraints, especially in recording and managing inventory. One example is Parabot Barokah, a household furniture store that still uses manual records. This system is prone to errors, data loss, and difficulty in monitoring stock. To overcome this, a digital solution is needed that is practical, easy to use, and does not require high costs or technical expertise.

This research aims to apply the AppSheet application as a solution in developing an integrated and digital- based inventory system for Parabot Barokah MSMEs. AppSheet is a no-code platform that allows users to create mobile and web applications from data stored in the cloud, such as Google Sheets, without the need for programming skills. This platform is perfect for MSMEs because it is flexible, cost-effective, and easy to use by non-technical users.

A number of previous literatures have shown that the application of information technology can improve efficiency and accuracy in inventory management in small businesses. For example, a study by (Yasmin & Nugraha, 2024) emphasized the importance of a good digitization system to improve operational efficiency. There is also according to (Fachrul Rezy & Ikasari, 2023) from his research concluded that the role of inventory management using the system can increase efficiency, reduce human error, and increase inventory visibility.

The approach in this research is carried out by developing and implementing an inventory application using *AppSheet* which is connected to *Google Sheets*, and tested directly on UMKM Parabot Barokah.

The new value of this research lies in the innovative use of the *AppSheet no-code* platform as an alternative solution for MSMEs that have limited human and financial resources in developing digital systems. In addition, this research makes a real contribution in the development of a simple yet effective information system that can be replicated by other MSMEs with similar characteristics. It is hoped that the results of this research will not only improve the efficiency of inventory management in Parabot Barokah MSME, but also become a reference for other MSME players in adopting digital technology independently and sustainably.

LITERATURE REVIEW

MSME

Based on Law No. 9 of 1999 on Small Businesses as amended to Law No. 20 of 2008 on Micro, Small and Medium Enterprises, the definition of MSMEs in Article 1 is as follows:

1. Micro Businesses are productive businesses owned by individuals and/or individual business entities that meet the criteria of Micro Businesses as stipulated in this Law.
2. Small Business is a stand-alone productive economic business, conducted by an individual or business entity that is not a subsidiary or not a branch of a company owned, controlled, or a part either directly or indirectly of a Medium Business or a Large Business that meets the criteria

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of a Small Business as referred to in this Law.

3. Medium Enterprises are productive economic businesses that stand alone, conducted by individuals or business entities that are not subsidiaries or branches of companies owned, controlled, or part of either directly or indirectly by Small Enterprises or Large Enterprises with a net worth or annual sales as regulated in this Law.
4. Large Enterprises are productive economic businesses conducted by business entities with a net worth or annual sales revenue greater than that of Medium Enterprises, which include state-owned or private national businesses, joint ventures, and foreign businesses conducting economic activities in Indonesia.

Digitalization of MSMEs

MSME digitalization is the process of applying digital technology to simplify and improve operational efficiency, marketing, and customer service in micro, small, and medium enterprises (Laziva & Atieq, 2024).

AppSheet

AppSheet is a codeless development platform that allows people with no programming experience to build mobile and web applications. AppSheet apps can be created from data sources such as Google Sheets, Excel, Cloud SQL, Salesforce, and other similar connectors (Waviandy, 2022).

Google Spreadsheet

Google Sheets is a product from Google that can help us to store data in the form of tables. Spreadsheet is a free service that has features similar to Microsoft Excel only this is web-based. So it is possible to be used as a place to store data from Appsheet later (Waviandy, 2022).

Inventory

According to Wahyudiari (2019), Inventory or inventory in general can be interpreted as assets in the form of goods owned by the company, both those that are ready for sale and those that are still in the production process as part of the company's operational activities. Inventory is a current asset that includes goods owned by the company that are intended for sale in the normal business cycle, including goods that are being processed in production activities as well as raw materials that have not been used and are still waiting for further processing.

METHODS

The method used in this research uses descriptive qualitative methods. Descriptive research is a method that aims to describe conditions or symptoms systematically, factually, and accurately based on the current situation, and analyze them to find solutions (Rengkuan et al., 2023). When conducting research, the author requires several methods for retrieving the necessary data including:

a. Interview
   Interview is a stage of communication conducted by two or more people to obtain information related to the research being conducted. The direct interview stage is carried out by the researcher asking several questions to

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the resource person with topics related to the research.

b. Observation

Observation is a research method where the author comes directly to the field to observe the problems that occur. The observation technique is carried out by taking the primary data needed in the system to be created. Observation is done by directly observing all the process flows that are running at Parabot Barokah to get information that will later be processed through an inventory system using Appsheet. c. Literature Study Literature study is where researchers collect data by reading, studying, and analyzing journals, books, articles from previous researchers that have to do with the object of research as well as other sources that support research such as photographs, images, and electronic documents that can support the writing process.

RESULT AND DISCUSSION

Toko Parabot Barokah's inventory management application created using AppSheet has succeeded in becoming a neat and easy-to-use digital solution. This application has a main navigation, namely: Home (Dashboard) which has 2 navigation menus, namely sales and in it there are 3 navigation buttons, namely sales data, sales charts by price, sales charts by quantity. The second is the inventory menu which includes 2 navigation buttons, namely view item data and view item data charts. Each menu is specifically made to support the operational needs of the store, from monitoring stock items directly to analyzing sales data.

This application is built in a cloud-based manner and is specifically designed to help manage Toko Parabot Barokah, a small business that sells household furniture. The main purpose of this application is to simplify stock recording and sales transactions. With this digital system, Toko Parabot Barokah can reduce the risk of manual recording errors, facilitate access to inventory data and store sales.

1. Main Menu (Dashboard)

The dashboard here is the main display of the AppSheet-based inventory application used by UMKM Parabot Barokah. This dashboard serves as the navigation center of the application, where users can easily access two main menus, namely the sales menu and the inventory menu. In the sales menu, users can view sales transaction data as well as graphs showing sales by price and number of items sold. Meanwhile, the inventory menu provides information about available stock and visual graphs that help understand stock conditions quickly. With this dashboard, business owners can monitor and manage store operations in a more practical, efficient, and organized manner, without the need to record manually anymore. All data is stored in the cloud through Google Sheets, making it easy to access anytime and from anywhere. The following is an image of the appsheet main menu for Barokah Parabot UMKM.

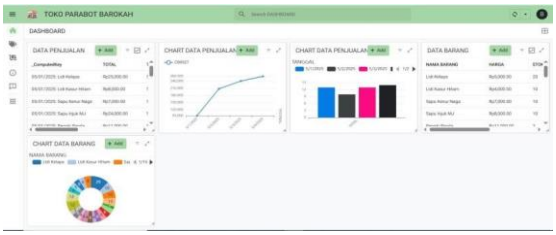


Figure 1 Main Menu (Dashboard)

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2. Sales

The sales section in the AppSheet-based inventory application for UMKM Parabot Barokah is one of the main menus found on the application dashboard. This display presents a visual illustration followed by three main navigation buttons, namely Sales Data, Sales Chart by Price, and Sales Chart by Quantity, as follows:

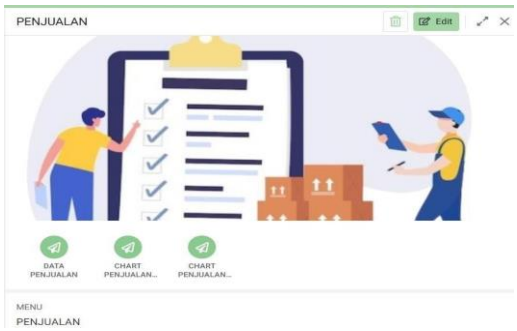


Figure 2 Sales Menu

a. Sales Data

The Sales Data view in the application displays a structured list of transactions, containing information on date, product name, quantity of goods, and total price. This display makes it easy for MSME owners to monitor daily sales quickly and accurately in a digital format.

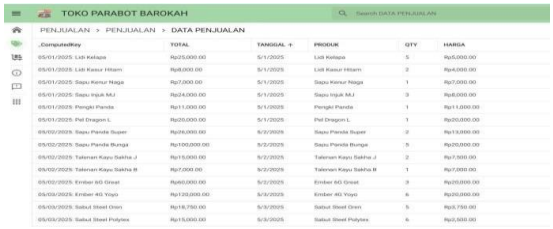


Figure 3 Sales Data Navigation

b. The Sales Data by Price

The Sales Data by Price Chart view shows a graph of daily turnover growth based on total sales price. This chart helps Parabot Barokah MSME owners visually monitor revenue trends and understand sales increases or decreases over time more quickly and easily.

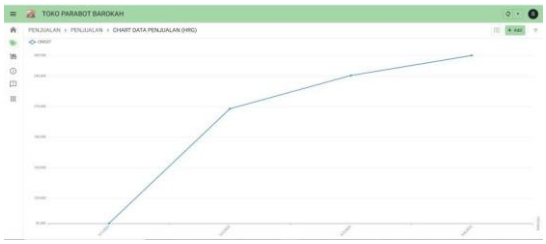


Figure 4 Navigation Chart Sales Data by Price

c. Sales Data Chart by Quantity

The Sales Data Chart by Quantity view presents information on the number of items sold each day in the form of a clear and informative bar graph. With this visualization, MSME owners can easily compare sales volume between days, identify sales trends, and know when there is a spike or decline in the number of items sold. This graph also helps in making business decisions, such as determining the right time to conduct promotions, adjusting stock items, and planning future sales strategies. This interactive visual presentation of data makes analysis faster, more accurate, and easier to understand, even for users with no technical background or experience in data processing.



Figure 5 Sales Data Chart by Quantity

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3. SUPPLIES

The Inventory menu display shows an illustration of item data collection and two main navigation buttons, namely View Item Data and View Item Data Chart, which makes it easy for users to access stock information and view visual charts of the number of items in a practical and structured manner.

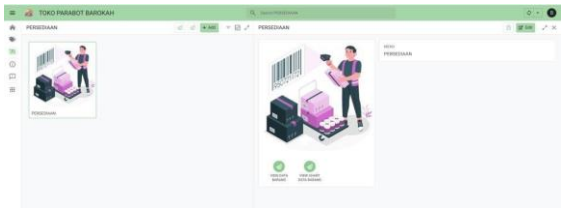


Figure 6 Inventory Menu

a. View Item Data

View Item Data displays detailed stock information such as item name, price, quantity available, and related sales data. This feature helps MSME owners monitor the availability of goods accurately and in real-time, making it easier to make decisions for procurement, avoid stock vacancies, and plan sales strategies more precisely.



Figure 7 Navigation View Item Data

b. The Item Data Chart

The Item Data Chart view shows a circle-shaped graph depicting the amount of stock of each item. With this view, users can easily see which items have the most or least stock, without having to read one by one from the list.

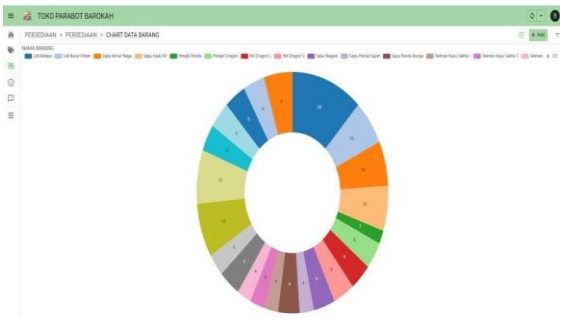


Figure 8 Navigation Chart of Goods Data

CONCLUSIONS

This research aims to help UMKM Parabot Barokah, a household furniture store, in managing inventory data that was previously recorded manually. Manual recording often causes errors and makes it difficult to monitor stock.

As a solution, researchers used AppSheet, a digital system builder application without the need for coding skills, which is connected to Google Sheets. This application is specifically designed to make it easier for shop owners to record sales, view sales progress charts, monitor stock items in real-time.

As a result, the app has streamlined the store's work processes, reduced the risk of errors, and improved operational efficiency. In addition, the app is easy to use and can be used as an example by other MSMEs that want to start transitioning to a digital system without high costs or technical skills.

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