Journal of Artificial Intelligence and Digital Economy
Homepage : https://journal.antispublisher.id/index.php/JAIDE
Email : admin@antispublisher.com

e-ISSN : 3032-1077
JAIDE, Vol. 2, No. 9, September 2025
Page 597-606

Web-Based Furniture Product Sales Information System with Agile Method (Case Study of Talenta UMKM in Tanggulangin Sidoarjo)

Ardi Setiawan[1], Suhendro Busono [2]
[1,2,] Muhammadiyah Univeristy of Sidoarjo, Indonesia

DOI : https://doi.org/10.61796/jaide.v2i9.1549

Sections Info
Article history:
Submitted: June 25, 2025
Final Revised: July 08, 2025
Accepted: August 21, 2025
Published: September 30, 2025
Keywords:
MSMEs
Seller product
Efficiency
Competitive
Decision making

ABSTRACT

Objective: *This study aims to design and implement a* ***web-based sales report information system*** *to improve the operational efficiency of* Talenta MSMEs, *a furniture producer located in Sidoarjo.* ***Background:*** *Currently, Talenta MSMEs rely on manual recording methods for sales and inventory management, which often result in inefficiencies, data inaccuracies, and delays in decision-making.* ***Method:*** *The system is developed using web technologies to enable real-time data processing and accessibility. Key features include* ***daily and monthly sales reports***, ***real-time inventory monitoring***, *and* ***sales data analysis*** *to support better business insights.* ***Results:*** *The implementation of this information system significantly enhances the accuracy of sales records, streamlines reporting processes, and facilitates timely decision-making.* ***Conclusion:*** *The developed system contributes to improving operational performance and competitiveness, demonstrating how digital transformation can strengthen MSMEs' business management in the modern era.*

INTRODUCTION

The presence of MSMEs as a major role in running the country's economy, this can be proven by the contribution of MSMEs reaching 61% of Gross Domestic Product (GDP) in 2023. Sales data in MSMEs can be used as a reference material in determining many things, such as determining stock, as well as determining other decisions that affect the MSME [1]. Manual processes such as recording sales and stock are often prone to human error, this has an impact on the inaccurate decision-making process [2]. Therefore, the development of web-based MSME management is the right solution in the current information technology era [3].

Talenta is an MSME located in Tanggulangin, Sidoarjo, operating in the furniture production and sales sector. They sell high-quality products that reflect traditional craftsmanship and innovation in design [4]. However, like many other MSMEs, Talenta also faces several challenges in managing their furniture sales, especially in the sales area [5]. Efficient sales monitoring is a crucial aspect that requires solutions to identify sales trends, understand customer preferences, and plan more accurately stock [6], [7]. This challenge demands a careful and integrated approach in furniture sales management, and adequate solutions to overcome these obstacles will be key to the sustainable growth of Talenta MSME [8].

In carrying out its operational activities, Talenta MSMEs still do not have detailed and fast data and sales management, recording data reports are still manually written,

monthly reports only use manually written journal books [9]. This is because the owner of Talenta MSMEs feels it is less effective because the number of orders is too large, so that errors often occur in recording and searching data which can hinder the time in making reports. Suboptimal data management can result in less effective reports that have an impact on subsequent decisions [10]. Based on this incident, Talenta MSMEs need a system where report data can create daily and monthly sales reports, stock reports, and sales and purchase reports for incoming goods to help the process of inputting sales data and help with management-related problems that exist in Talenta MSMEs [11], [12].

The importance of a web-based information system in the context of MSMEs such as Talenta lies in its ability to provide transparency, accuracy, and efficiency in monitoring, reporting, and analyzing furniture product sales [13]. With this information system, Talenta can better understand sales trends, manage inventory more efficiently, and make it easier to check available or empty stock data to be seen clearly and accurately with the Agile Development Method, a method for software development that is carried out in stages. The results of software that uses this agile method will be more flexible and efficient [14], [15]. With this method we can access data in real-time, MSMEs can make better decisions, plan more careful marketing strategies, and maximize profits. Moreover, the web-based sales report information system allows Talenta to reduce costs incurred and the time required. Therefore, the importance of a web-based sales report information system cannot be ignored, because this not only supports operational efficiency, but also encourages business growth and competitiveness of MSMEs in this digital era.

In this study, the author will implement and test the effectiveness of a web-based furniture sales reporting information system at Talenta, a small and medium-sized enterprise (SME) in Tanggulangin, Sidoarjo. This case study aims to identify the changes resulting from the implementation of this information system in furniture sales management. It is hoped that this research will provide guidance on utilizing technology to increase sales and the competitiveness of MSME businesses, especially Talenta.

RESEARCH METHOD

The research location is at Talenta MSME, Ngaban Village, Tanggulangin District, Sidoarjo Regency, East Java. The research implementation plan is entitled web-based furniture product sales reporting information system (case study of Talenta MSME in Tanggulangin Sidoarjo). In this research, the author uses the Agile method, which is a method that is more supportive system development principles that focus on rapid development, released gradually, and directly involving users. The following are the stages explained by the author in detail.

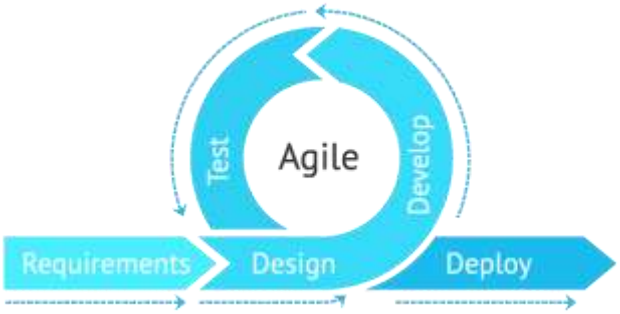

Figure 1 Research flow

Source: https://digitaltemplatemarket.com/agile-important-software-development/

A. Requirements

1. Observation

Observations were conducted to analyze important data and draw conclusions that align with the desired objectives. These observations highlighted the need for an Information System for recording and reporting sales at Talenta MSMEs.

2. Survey

Conducting direct data observations at the research location, coming to the Talenta MSME to find real conclusions and with the desired goals.

3. Interview

This interview involved asking various questions to the Talenta MSME owners and exchanging information and ideas, which could then be summarized into a conclusion. The results showed that Talenta MSMEs currently lack a sales reporting information system that would simplify the recording and retrieval process. Admins can view detailed attendance times, documentation, and activity descriptions on the attendance control panel.

B. System Design

1. System Flowchart

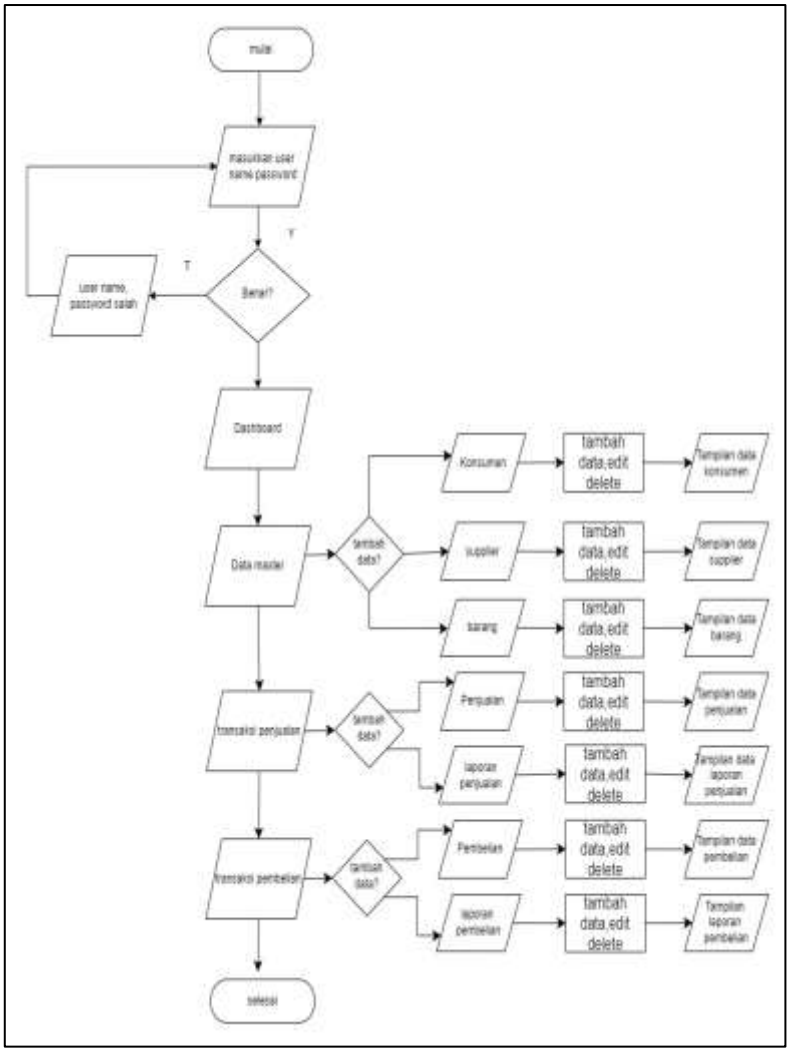

Figure 2 System Flowchart

Explanation : Above is a flowchart of a system where the initial process is Admin towards login page then until to page main then admin can add data to table consumers, suppliers, goods, sales, reports sales, purchases, reports purchases and admin can also delete and edit the data**.**

2. Data Flow Diagram (DFD)

DFD is description data flow in System Information, DFD will illustrate how data flows from process, storage, data and return to entity external.

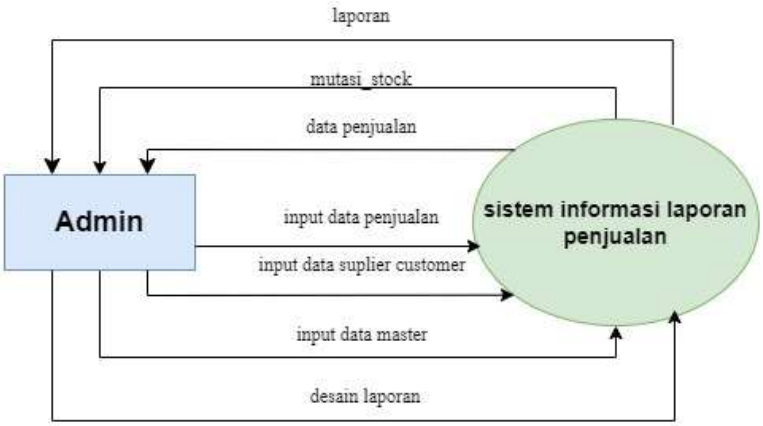

Figure 3 DFD Level 0

Explanation : DFD level 0 is a diagram that consists of from a process and illustrates system in a way comprehensive. Admin has authority full in manage data, such as inputting supplier data and master goods data as well as comprehensive data reporting.

3. Database: Table Design

In database design for system information report sales, there are a number of table design required as following :

Table 1 Database Design

No	Name	Attribute
1	Consumer	- consumer_id - consumer_code - name - address - telephone - email
2	Supplier	- supplier_id - supplier_name - tel - address
3	Goods	- id_barang-kode_barang - nama_barang - unit - purchase_price - stock - selling_price - profit
4	Sale	-sales id - sales_code - sales_date - consumer_code - pay - return
5	Sales details	- id_penjualan_detail - code_penjualan - item_code - quantity - discount - cut - total

No	Name	Attribute
6	purchase	- purchase_id - invoice - date - supplier_name - item_code - stock

4. Data Relationships

Data relationships allow for connect information and create more questions complex from the Database. It plays role important in efficient database design For System Information, following is description Data Relations from System Information report sale.

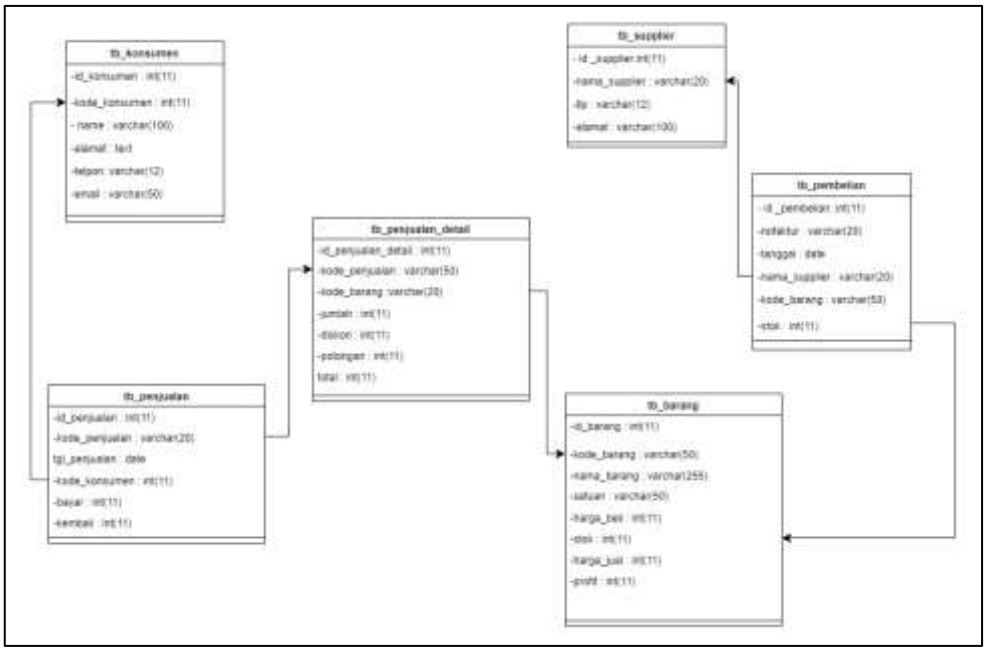

Figure 4. Data Relationships

RESULTS AND DISCUSSION

A. Description Product

System information sale web- based designed special for Talented MSMEs will become very effective solution for overcome various challenges faced in operate business. With comprehensive features and methods proper development, system This will helping Talented MSMEs for grow and develop in a way sustainable. Choice use Agile Development method in development system this is very appropriate. With method this, development can done in a way gradual and flexible, so that features new can added in accordance with evolving needs. In addition, Agile Development also allows For get bait come back from users in a way more fast, so that products produced can more in accordance with need.

B. Product Contents

System information sale product furniture web -based that we designed for Talented MSMEs is solution comprehensive for manage business they in a way efficient. Its features covers interactive dashboard, module recording easy selling used, management integrated stock, as well as various type report for data analysis. With user-friendly interface, system This make it easier MSME owners to track sales, managing inventory goods, and make decision more business good. Integration with various method payment as well as notification stock low make system This the more practical. Use technology latest and methods Agile development ensures system This can Keep going developed and adapted with need business that continues develop.

Test results

1. Program Testing

Program testing is a stage to determine the system's ability to process input to produce output.

2. Purpose of Testing

The purpose of the testing carried out is to test the system to ensure it is as it should be and meets the needs of MSMEs.

3. Testing Method

This test uses the blackbox testing method. Blackbox testing is a device testing method that focuses on functionality, specifically application input. The author used this testing method to determine whether the system functions properly with input.

Table 2 Black Box Testing

No	Functional	Results	Results
		Succeed	**Not successful**
1	Showing page home page	Correct	
2	Showing page consumers and can add data, edit data, and delete data	Correct	
3	Showing supplier page and can add data, edit data, and delete data	right	
4	Showing page goods and can add data, edit data, and delete data	Correct	
5	Showing page report sales and view detailed report data	Correct	

6	Showing page purchase and can add data, edit data	Correct

Figure 5. Home view

Figure 6. Consumer data display

Figure 7. Supplier data display

Figure 8. Display of goods data

Figure 9. Sales display

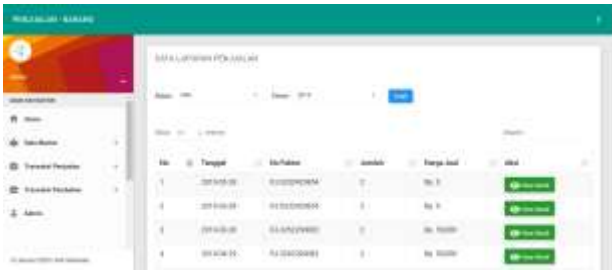

Figure 10. Report data display sale

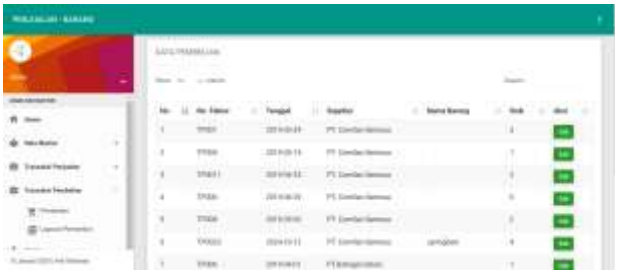

Figure 11. Purchase data display

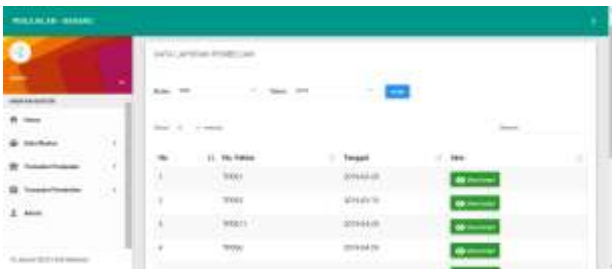

Figure 12. Report data display purchase

Figure 13. Admin data display

CONCLUSION

Fundamental Finding : The results of this study indicate that the **web-based sales information system for Talenta MSMEs** serves as an effective solution to improve operational efficiency, sales management, and data integration. The system's tailored features enable better control over sales, inventory, and customer records, thereby enhancing overall business performance. **Implication :** This finding implies that the **adoption of digital sales systems** can significantly strengthen MSME competitiveness in the digital economy by improving decision-making, productivity, and customer satisfaction. Additionally, it reinforces the importance of digital transformation for small businesses in achieving sustainable growth and market adaptability. **Limitation :** However, the system's **current scope and functionality** remain limited to basic sales and inventory operations, with potential constraints in scalability, user interface flexibility, and integration with external financial or marketing platforms. **Future Research :** Future studies should focus on **expanding system capabilities** through the integration of **data analytics, customer relationship management (CRM), and mobile access features**, as well as testing user adoption across different MSME sectors to ensure broader applicability and long-term sustainability.

REFERENCES

[1] RT Aldisa and MA Abdullah, "Application of Agile Development Methodology in Book Sales System with Category and Search Features," *Building of Informatics, Technology and Science (BITS)* , vol. 3, no. 4, pp. 547–553, Mar. 2022, doi: 10.47065/bits.v3i4.1434.

[2] AM Bayu Aji, "Web-based sales accounting information system at CV. Raval Garmindo," *Journal of Information System, Applied, Management, Accounting and Research* , vol. 5, no. 3, p. 680, Aug. 2021, doi: 10.52362/jisamar.v5i3.493.

[3] M. Farwati and T. Sutabri, "DESIGN OF A WEB-BASED SALES INFORMATION SYSTEM AT THE FUN'S BOUQET BALLOON SHOP," 2023.

[4] D. Novita Sari, A. Husaein, F. Komputer, and P. Studi SistemmInformasi, "Design of a Web-Based Sales Information System at the Sejahtera Abadi Talang Babat Store," *Journal of Technology Management and Information Systems (JMS)* , vol. 3, no. 2, 2023, doi: 10.33998/jms.v3i1.

[5] Y. Anggraini, D. Pasha, and A. Setiawan, "WEB-BASED BICYCLE SALES INFORMATION SYSTEM USING CODEIGNITER FRAMEWORK (CASE STUDY: ORBIT STATION)," *Journal of Technology and Information Systems (JTSI)* , vol. 1, no. 2, pp. 64–70, 2020, [Online]. Available: http://jim.teknokrat.ac.id/index.php/JTSI

[6] Robby Novianto and Maryam, "Web-Based Sales Information System at UMKM R-DUA Lencana Kudus," *Jurnal Teknoif Teknik Informatika Institut Teknologi Padang* , vol. 10, no. 2, pp. 35–42, Nov. 2022, doi: 10.21063/jtif.2022.v10.2.35-42.

[7] D. Novita Sari, A. Husaein, F. Komputer, and P. Studi SistemmInformasi, "Design of a Web-Based Sales Information System at the Sejahtera Abadi Talang Babat Store," *Journal of Technology Management and Information Systems (JMS)* , vol. 3, no. 2, 2023, doi: 10.33998/jms.v3i1.

[8] E. Rahwanto, "DESIGN OF WEB-BASED SALES INFORMATION SYSTEM AT PT. INTER ANEKA PLASINDO," 2020. [Online]. Available: https://ejournal.stitpn.ac.id/index.php/pandawa

[9] CE Widjayanti, "WEBSITE-BASED SALES REPORT INFORMATION SYSTEM AT PT. WIDYA WASKITA WIJAYA CILACAP BRANCH," *METHOMIKA Journal of Informatics Management and Computerized Accounting* , vol. 4, no. 2, pp. 156–167, Oct. 2021, doi: 10.46880/jmika.Vol4No2.pp156-167.

[10] B. Miftah Nur Haqqi and Vivianti, "Development of a Web-Based Sales and Stock Information System for Ceiling Sales Stores," *Journal of Electrical Education* , pp. 116–127, 2022.

[11] S. Mulyati, A. Rahman, R. Hapipah, A. Bagus, A. Wahidar, and A. Saifudin, "Journal of Information Systems Technology and Applications: Designing a Web-Based Sales Information System in a Clothing Store," vol. 6, no. 1, pp. 12–18, 2023, doi: 10.32493/jtsi.v6i1.22638.

[12] E. Rahwanto, "DESIGN OF WEB-BASED SALES INFORMATION SYSTEM AT PT. INTER ANEKA PLASINDO," 2020. [Online]. Available: https://ejournal.stitpn.ac.id/index.php/pandawa

[13] R. Building a Web-Based Food Inventory and Sales Transaction Management Information System Using Bootstrap and, A. Kurnia Sari, and H. Zakaria, "Journal of Information Systems Technology and Codeigniter Framework Applications," vol. 6, no. 1, pp. 34–38, 2023, doi: 10.32493/jtsi.v6i1.28669.

[14] S. Badiwibowo Atim and P. Correspondence, "Modeling of Website-Based Goods Sales Information System Using Agile Method," *Journal of Artificial Intelligence and Technology Information (JAITI)* , vol. 2, no. 1, 2024, doi: 10.58602/jaiti.v2i1.104.

[15] N. Fatjriah, D. Nur Sholihaningtias, J. Raya Tengah No, K. Gedong, P. Rebo, and J. Timur, "Hijab Sales Information System at Hayya Hijab Using the Agile Software Development Method", [Online]. Available: http://jurnal.bsi.ac.id/index.php/profitabilitas/

Ardi Setiawan
Muhammadiyah University of Sidoarjo, Indonesia

* **Suhendro Busono (Corresponding Author)**
Muhammadiyah University of Sidoarjo, Indonesia
Email: suhendrob@umsida.ac.id