

Implementation of a Digitalized Work System in the Administration Process for ADF and Stock Minus Submission Using the AppSheet Application

(Case Study at PT. Aspirasi Hidup Indonesia Tbk, Pluit Branch)

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ABSTRACT

Administration in a company is essential. Every day, the administration department is bustling, submitting damaged goods and negative stock. However, there are shortcomings in the administrative process, which still uses a manual method, namely using a logbook, so that the queue to submit damaged goods and the completion of stock minus becomes long and inefficient. The purpose of this study is to provide solutions to the administrative process problems. One way to increase the speed of the administrative process is to implement a digitalization system that employees can use. The data collection method used in this study is by conducting observations and interviews with employees. The implementation of this study is to make two app-sheet-based prototypes that cover the needs in submitting ADF for damaged goods and minus stock so that, from the results of this implementation, the administrative process runs quickly and efficiently.

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Introduction

It cannot be denied that one of the leading causes of the globalization era that came faster than anyone expected is the rapid development of information technology. The implementation of the Internet, electronic commerce, electronic data exchange, virtual office, telemedicine, intranet, and so on has broken through the physical boundaries between countries (Georgiou et al., 2021; Matyushok et al., 2021). The merger of computer technology and telecommunications has produced a revolution in the field of information systems. Data or information that in the past had to take days to process before being sent to the other side of the world can now be done in a matter of seconds (Bak-Coleman et al., 2021; Indrajit, 2012; Taherdoost, 2023).

PT. Aspirasi Hidup Indonesia Tbk, Pluit Branch. A large company engaged as the most complete appliance retailer in Indonesia. Today, almost all activities in the work environment are internet-based and technology-based. The services provided are directly meeting with staff, and there is already an online shop, which makes it easier and faster for customers to shop (Ro'if et al., 2024). All products, images, prices, and promos are available on the Rupa-Rupa app, and it's all about keeping up with the times.

In administrative matters, speed and accuracy must be measured. At PT Aspirasi Hidup Indonesia Tbk, Pluit Branch itself, there are often product sales transactions and incoming goods from the Jababeka Distribution Center, sending goods between stores and goods coming from suppliers. So, there is often a difference in stock between the system and physical goods because there can be a mix-sale or incoming goods that have not been received. What often happens again is the handling of damaged goods caused by the process of incoming goods, Handling on site, expired, and rusted. Therefore, adequate digitization technology is needed so that everything can be done quickly. Employees who input damaged goods still use the manual method using the damaged goods logbook, which will take a long time when many employees want to input damaged goods.

Not to mention, the use of paper is not environmentally friendly and adds to the company's expenses. Manual inputting still causes many mistakes, such as the wrong item code, wrong item name, and wrong quantity of goods. Each photo of damaged goods will be sent to the Administration section one by one and adjusted to the item code.

Solving the stock minus the physical goods is still done manually. Each stock comparison must be checked on the computer one by one, not to mention if you want to see the product images. The sales team will go back and forth to the computer. This can take a long time, and time management should go well when selling.

This Appsheet-based application is a solution to work on submitting damaged goods and completing negative stock. Appsheet is a free application developed by Google and has a database in spreadsheets.

With this digital application, all administrative processes only require a mobile phone and can be done anytime, anywhere (Alzoubi et al., 2021; Christover, 2023; Jurayev, 2023), and can be done simultaneously. The time used is saved, and operational costs are also saved. For things that are still wrong when using the manual method, it is hoped that it will not happen again when using this application.

There are several previous studies related to this research, "Unified Modeling Language (UML) for the Development of Web-Based Academic Information Systems." in the study, The problems that occurred were related to the procedure for processing academic grades where the delivery process still uses a manual method so that a system is created so that services to students are more optimal and effective (Alam & Mohanty, 2023; Bhute et al., 2021; Prihandoyo, 2018). In the "Implementation of Mobile-Based Applications for Health Services" study, the problem that occurred was that the queue system at the health center had not used computerization, so it was considered less effective. A prototype of the system architecture was made that produced effective services (Javed et al., 2024; Primin & Wibowo, 2023). "Project Management Application Based on Codelgniter and Bootstrap Framework at PT. Pura Barutama," In the study, making memos for the project work process is inaccurate and inefficient. It can take 1-2 days, the collected memo files are sometimes lost, and the monitoring results are not optimal.

To overcome this problem, a project management application is designed to make it easier to request memos and ensure that the monitoring results are optimal and accurate (Somya, 2018).

Several previous studies related to this research have shown a unique way in which employee performance becomes positive when a digitalization work system is implemented with an AppSheet prototype. Employees can interact with the administration department to facilitate the process of submitting damaged goods and negative stock.

Current manual processes, including the use of physical logbooks to track damaged goods and stock issues, are time-consuming and error-prone. Excessive paper use is not environmentally friendly and adds to the company's expenses. Common errors include incorrect item codes, mismatched names, and inaccurate quantities. These inefficiencies underscore the necessity of implementing advanced digitalization technologies.

AppSheet technology stands out among various digitalization methods for its simplicity, accessibility, and integration with Google-based tools. Unlike more complex enterprise systems, AppSheet allows for rapid prototyping and deployment of applications tailored to specific business needs. Compared to traditional database management systems, AppSheet's mobile-first approach ensures that employees can access and interact with the system in real-time, reducing downtime and manual effort. Additionally, the cost-effectiveness and ease of learning associated with AppSheet technology make it an attractive choice for companies seeking swift digital transformation without significant financial or technical barriers.

This research contributes to the field by proposing and demonstrating the development of two AppSheet-based prototypes that address critical administrative challenges—submitting damaged goods and resolving stock discrepancies. By highlighting the capabilities and benefits of AppSheet technology, this study not only provides a practical solution for PT. Aspirasi Hidup Indonesia also offers insights into its potential applications in broader business contexts. Explicitly, this research showcases how digitalization can enhance operational efficiency, reduce errors, and foster employee adaptability in a rapidly evolving technological landscape.

Research Methods

PT. Aspirasi Hidup Indonesia Tbk, Pluit Branch is known as a one-stop shop for quality Home Improvement and lifestyle products. There are several problems in the administration, where the handling of damaged goods and the settlement of stock minus is still using the manual method, namely by using a logbook. What often happens is a long queue and incorrect writing of codes, names, and QTY of goods, making it difficult for ADM to input to its S2 support system. Damaged goods occur due to handling shipped from the warehouse, handling at the store, or returning customers.

Meanwhile, stock minus occurs due to sales with wrong codes, wrong goods received goods, and stock taking.

The purpose of this research is to determine how the administrative process dashes effectively and efficiently, namely by implementing a digitalized work system that will later make new habits for employees to adapt to developing technology with the creation of the ADF and Minus submission applications. Employees are facilitated in filling out the logbook replacement form that already has a database; employees can see whether the submitted damaged goods have progressed ADM, employees can see what items have a discount status, and employees can see the previous damaged goods submission report, all in the ADF submission application. Employees can see what item code is minus, employees can see product images, employees can see the stock of the compass, and employees can give feedback directly in the Minus application. So that ADM can directly progress its input into the system.

The validation methods used in this study involved multiple stages:

1. **Prototyping and Iterative Testing:** The applications were prototyped and refined through iterative feedback from end-users. Each iteration aimed to enhance usability and functionality, ensuring the applications met the specific needs of the administrative processes.
2. **Black Box Testing:** This method was employed to verify that each application's outputs aligned with the expected results. The testing covered all significant functionalities, such as data submission, processing, and reporting, to ensure accuracy and reliability.
3. **User Acceptance Testing (UAT):** Employees from the administration department participated in UAT to evaluate the applications' performance in a real-world setting. Feedback was collected on the usability, efficiency, and effectiveness of the applications.
4. **Comparative Analysis:** The study compared the performance of the digitalized process using the AppSheet applications against the traditional manual methods. Metrics such as processing time, error rates, and user satisfaction were analyzed to measure the improvements brought by the new system.
5. **Environmental and Operational Validation:** The applications were tested under different operational conditions to ensure they could handle varying levels of usage, including peak times and data loads. This stage also included an assessment of compatibility with existing infrastructure and integration with other systems.

Results and Discussion

The implementation results are screenshots from the steps to create the application until it becomes a mobile phone application used by employees for the administrative process of submitting ADF for damaged goods and Stock Minus. This application can be used by downloading the AppSheet application on the Google Play Store or App Store and logging in with the registered email.

The implementation of a digitalized work system is necessary for the Company because it can minimize errors and data loss that may be needed later. This digitalization system is also considered very effective and fast when performing administration.

In the discussion, the following images and narratives can be described:

Create a spreadsheet in Google Drive as a database of the adf application application, and create the header that suits the needs in the sheet. The display can be seen in Figure 1.

| | A | B | C | D | E | F | G | H | |
|---|---------------------|----------|-------------------------|------|--------|--------|-------|-----|---------------|
| 1 | Tanggal | Artikel | Description | jarm | harga | NIK | No | Qty | Keterangan |
| 2 | 02/08/2024 15:20:04 | 10427999 | ORBITAL SANDER 125MM 3 | AG | 564900 | 102293 | AJI | 1 | Putaran lama |
| 3 | 15/05/2024 10:59:57 | 10074505 | DRY IRON PHILIPS HD1172 | AO | 369900 | 177074 | FAHRI | 1 | Rusak tidak p |

Figure 1. View of the ADF application spreadsheet

Then open a browser, type www.appsheet.com, and sign in using the Google Drive account you created. The display can be seen in Figure 2.



Sign in with:



Figure 2. Sign in with the Google account display

Then select Create and then select Start with existing data because a spreadsheet database already exists. The display can be seen in Figure 3.

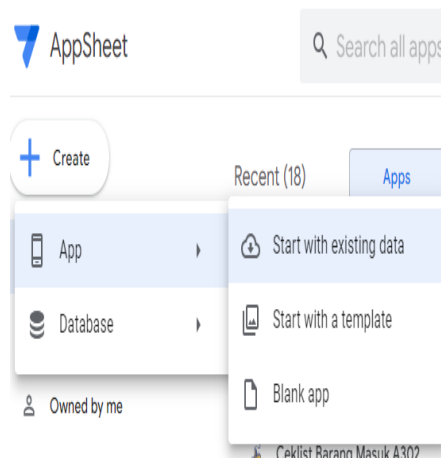


Figure 3. Create app view from existing data

Then, please enter the name of the application to be created and choose its category. This is to mark this app as inventory management. The display can be seen in Figure 4.

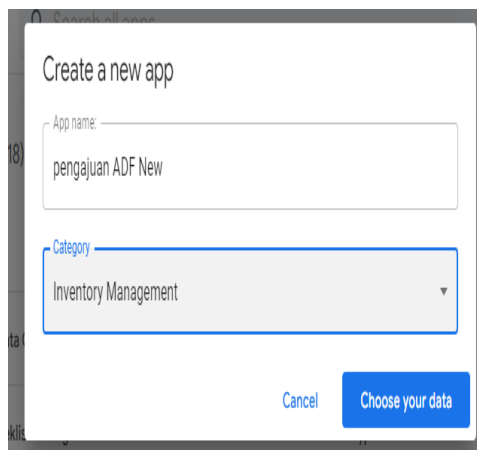


Figure 4. Display when entering app names and app categories

Then, select the spreadsheet database created at the beginning as a container to record transactions that occur during the application's use. The display can be seen in Figure 5.

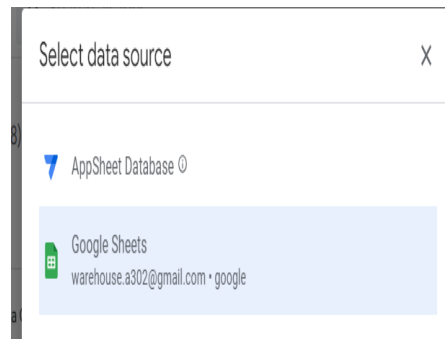


Figure 5. View when retrieving source data from Google Sheets

Then, the data type, home user display, and formula are set on the available menu. The display can be seen in Figure 6.

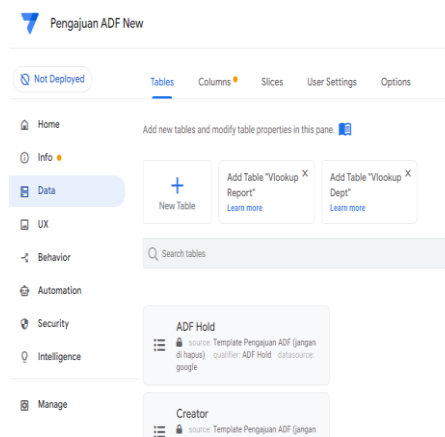


Figure 6. Menu view to design the app to be created

A brief introduction to the ADF application and its application

This ADF application was created as a replacement for the ADF logbook to file for damaged goods. This application was created to make it easier for employees who want to submit their damaged goods anywhere without having to queue because this application is made specifically for mobile phones, so employees also do not have to go to the ADM department anymore. Because all photos, item codes, and others have been integrated with ADM.

Home User Interface display on the ADF submission application

This Home User Interface is a menu available for the needs of the process before submitting the damaged item and the history after the damaged item is input by ADM. Users can select the menu that is currently needed. The display can be seen in Figure 7.



Figure 7. Display of the Home User Interface of the ADF submission application

For its application, in the ADF submission application, a menu is available:

1. Want to apply for an ADF?

This menu is chosen when employees want to submit their damaged goods. The sheet contains a form that must be filled out according to the provisions and needs. The image display can be seen in Figure 8.

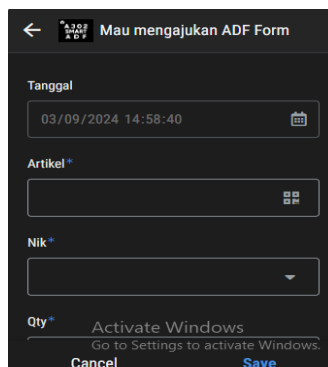


Figure 8. Display of the form for submitting damaged goods

2. Already input s2 support,

This menu displays the data of damaged goods that ADM has input into S2 support if the Department wants to track whether the goods they have submitted have been input into S2 support. The display can be seen in Figure 9.

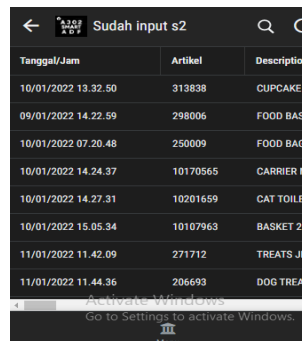


Figure 9. The display has input s2

3. Speciality ADF Bulb

This menu is dedicated to submitting damaged lamp items that are due to be off within the warranty period. The display can be seen in Figure 10.

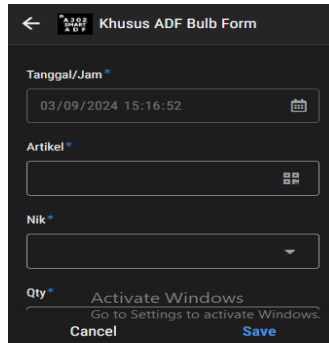


Figure 10. ADF Bulb Form unique menu display

4. Value 1001

This menu displays the value of each damaged item still in slot 1001 (damaged goods), so the debt has data on how many damaged goods they have to submit. The display can be seen in Figure 11.

| Dept | Value |
|------|------------|
| AA | 322,800 |
| AB | 0 |
| AC | 0 |
| AD | 0 |
| AE | 5,997,000 |
| AF | 0 |
| AG | 17,505,800 |
| AH | 384,800 |
| AI | |

Figure 11. Menu value display 1001

5. Data 1001 update

This menu displays the details of the article's data, depth, and quantity, as well as the status of whether ADF has submitted it or not. It is a reminder that damaged goods must be submitted to disappear from the 1001 slot of damaged goods. The display can be seen in Figure 12.

| Item | Sloc 1001 | Pengajuan WO |
|----------------------|-----------|----------------|
| TOP&ALU TELEPOLE ... | 1 | Belum diajukan |
| PPER 22 BENDED SH... | 1 | Belum diajukan |
| ANDLE 7 WIDE STEP... | 1 | Belum diajukan |
| ANDLE 8 WIDE STEP... | 1 | Belum diajukan |
| ANDLE WOOD 7 WID... | 1 | Belum diajukan |
| T 66 PCS | 1 | Belum diajukan |
| S SPARTAN 6IN(41/7) | 1 | Belum diajukan |
| ST 55X115 NYLON P... | 3 | Belum diajukan |

Figure 12. Data display 1001 update

6. Value 1004

This menu displays the value of discounted damaged goods. The department has data on how many damaged goods are discounted so that they can apply for tiered discounts or be destroyed (written off). The display can be seen in Figure 13.

| Dept | Value |
|------|------------|
| AA | 2,719,700 |
| AB | 19,933,700 |
| AC | 74,800 |
| AD | 5,341,414 |
| AE | 17,129,800 |
| AF | 0 |
| AG | 10,576,000 |
| AH | 12,927,500 |
| AI | |

Figure 13. Value display 1004

7. Data 1004 update

This menu displays detailed article data, qty, current discount amount, and damaged information. It can also be a feedback menu to apply for a discount increase. The display can be seen in Figure 14.

| Dept... | Article... | Article Description | Slise 1004... |
|---------|------------|------------------------|---------------|
| AA | 241103 | BROOM W/STICK PPL ... | 12 |
| AA | 256426 | FURNITURE CREAM W/... | 5 |
| AA | 308027 | HUMYDRY MOISTURE ... | 1 |
| AA | 308029 | HUMYDRY MOISTURE ... | 3 |
| AA | 10057... | STAIN MEDIC BOZ PAR... | 5 |
| AA | 10157... | LEATHER CONDITIONL... | 2 |
| AA | 10163... | SURFACE CLEANSER 7... | 1 |
| AA | 10186... | ALL IN 1 DISHWASHER... | 6 |

Figure 14. Data 1004 update

8. ADF Hold

This menu displays ADF submissions that are being held back for input to s2 support due to a budget that has exceeded the limit given by the head office. The display can be seen in Figure 15.

| Tanggal ↓ | Artikel | Description |
|-------------------------|----------|----------------------|
| 2/29/2024 2:52:21 PM | 121983 | WHISKAS ADULT DR. |
| 1/23/2024 1:07:30 PM | 10199751 | FLOOR FOLDING CH. |
| 12/13/2023 4:47:56 PM | 10045763 | CERAMIC POT SHEE |
| 12/12/2023 1:22:56 PM | 216481 | DOG FOOD COUNTR. |
| 12/12/2023 9:17:40 AM | 10327962 | HAIR DRYER TRAVE... |
| 12/11/2023 11:05:40 ... | 10209097 | VACUUM CLEANER ... |
| 12/10/2023 10:40:47 ... | 10407333 | FISH FOOD TROPIC... |
| 12/10/2023 9:59:40 AM | 10431195 | FISH FOOD KRILL G... |

Figure 15. ADF Hold menu display

9. Report ADF ALL

This menu displays the history of ADF applications from previous Years. It is for your needs. If you want to know if this item has been submitted by ADF before or if you are looking for a No, this is the correct ADF. The display can be seen in Figure 16.

| no_adf | transdate | dept |
|-----------------------|-----------|------|
| ADF/A302/2023/05/0092 | 5/9/2023 | AA |
| ADF/A302/2023/05/0091 | 5/9/2023 | AD |
| ADF/A302/2023/05/0100 | 5/9/2023 | AH |
| ADF/A302/2023/05/0101 | 5/9/2023 | AH |
| ADF/A302/2023/05/0101 | 5/9/2023 | AH |
| ADF/A302/2023/05/0097 | 5/9/2023 | AH |
| ADF/A302/2023/05/0101 | 5/9/2023 | AH |
| ADF/A302/2023/05/0104 | 5/9/2023 | AH |

Figure 16. ADF All Report menu display

10. User terms

This menu displays the rules that application users must follow to avoid mistakes. The display can be seen in Figure 17.

| Ketentuan yang wajib dipatuhi |
|---|
| ~ Dilarang keras menghapus/membuka spreadsheet temp... > |
| ~ Hanya bisa mengajukan barang berstatus beli putus > |
| ~ Jika mengajukan SR Customer, harap isi yang benar no... > |
| ~ Untuk defect from vendor, wajib ada ACC by(...) atau em... > |
| ~ Tandai barang yang sudah di ajukan ADF, agar tidak dou... > |
| ~ Jika ada no. ADF yang lama, wajib di isi di kolom no. AD... > |
| ~ Harap hubungi creator jika ada pertanyaan dan kesulitan > |

Figure 17. User terms menu display

Brief introduction of the Minus application and its application

The Minus application was made as a replacement for the paper leaflets distributed by ADM to the department to complete the stock minus using only a mobile phone. All the data provided by ADM and what the department is doing have been integrated. So, the department does not need to report directly to ADM.

For its application in the Minus application, there is a menu:

1. Menu input

This menu displays the data of article articles included in the stock minus. The department can also respond by editing in the completion column. The display can be seen in Figure 18.

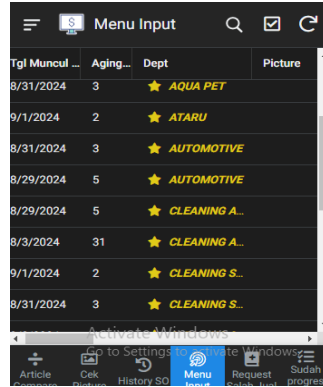


Figure 18. Input menu display on the Minus app

2. Article compare

This menu displays all the codes or articles of one store item along with the stock system and price so that the department can easily find its opponent when submitting a wrong sale without the need to check again with the computer. The display can be seen in Figure 19.

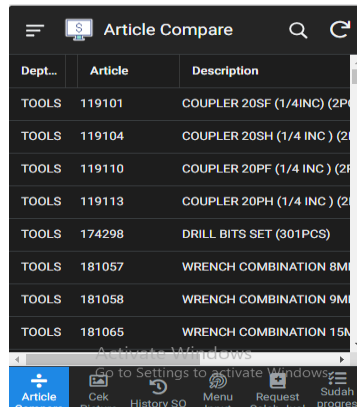


Figure 19. The article compares menu display

3. Cek picture

This menu displays all photos of products in the store, making it easier for you to know what the product image looks like. The display can be seen in Figure 20.

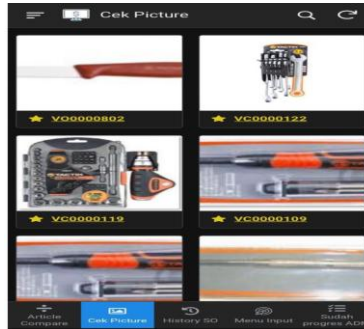


Figure 20. Picture check menu display

4. Already progress ADM,

This menu displays the stock minus data that ADM has worked on; in this menu, you can see the history of the stock minus that they have worked on before has progressed or not. The display can be seen in Figure 21.

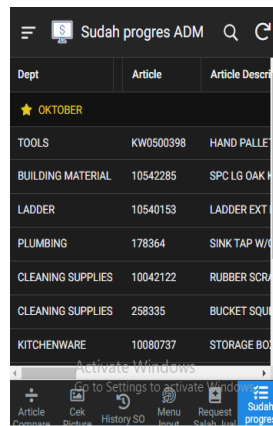


Figure 21. The menu display has progressed. ADM

5. History SO

This menu displays the stock-taking history last year and whether there has ever been a plus or minus adjustment. By checking the SO history, it can be easier to analyze why the item is included in the stock minus. The display can be seen in Figure 22.

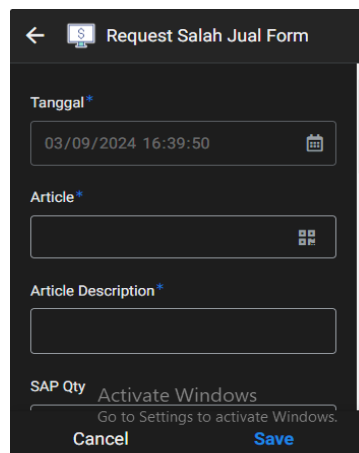


| Article | Description | MvT | Sloc |
|---------|--------------------|-----|------|
| 168 | SPONGE CELLUL... | 702 | 1000 |
| 514 | SPRAYER POLY H... | 702 | 1000 |
| 581 | ROLLER 1 COAT A... | 702 | 1000 |
| 3719 | BULB-FLASHLIGH... | 702 | 1000 |
| 5860 | SMOKE DETECTO... | 702 | 1000 |
| 8543 | GLASS COAT RAI... | 701 | 1000 |
| 8732 | CAR FRSHNR RO... | 702 | 1000 |
| 8795 | CLEANER TUFF S... | 702 | 1000 |

Figure 21. So, the history menu display

6. Request wrong sale

This menu is intended if the department knows that there are goods that are different from the system but have not appeared in the stock minus data. Then, the department can submit a request for the wrong sale in this menu so that the system and the physical goods are in accordance with the return. The display can be seen in Figure 22.



Request Salah Jual Form

Tanggal*
03/09/2024 16:39:50

Article*

Article Description*

SAP Qty Activate Windows
Go to Settings to activate Windows.

Cancel Save

Figure 22. The display of the Request menu is sold incorrectly

Black Bo test results

Testing using the Black Box Testing method was carried out in this study to ensure the conformity of the results with the initial design; the test results can be seen in Table 1 for the ADF submission application and Table 2 for the Minus application. Testing this app is carried out sequentially according to the menu stages shown in the previous images. The implementation of the digitization system using this appsheet-based application is the right step for problems in the administration of PT. Aspirasi Hidup Indonesia, Tbk. Pluit Branch.

Table 1. ADF submission app test results

| Menu | Submission | Input | Output | Result |
|---------------------------|---|--|--------------------------------------|-------------|
| Want to Apply for an ADF? | Are you showing the form to apply for an ADF? | Users access the Want to Apply for ADF menu. | Show Form Want to Apply for ADF? | Appropriate |
| ADF Hold | Displaying the ADF Hold Page | Users access the ADF Hold menu | Displaying the ADF Hold Page | Appropriate |
| Already Input S2 | Displaying S2 Input Pages | The user accesses the S2 Input menu | Displaying S2 Input Pages | Appropriate |
| Special ADF Bulb | Displaying the ADF Bulb Special Page | Users access the ADF Bulb Special menu | Displaying the ADF Bulb Special Page | Appropriate |
| Data 1001 Update | Displaying the 1001 Update Data Page | The user accesses the Data 1001 Update menu | Displaying the 1001 Update Data Page | Appropriate |
| Value 1001 | Displaying a 1001 Value Page | The user accesses the Value 1001 menu | Displaying a 1001 Value Page | Appropriate |
| Data 1004 Update | Displaying the Data Page 1004 Update | The user accesses the Data 1004 Update menu | Displaying the Data Page 1004 Update | Appropriate |
| Value 1004 | Displaying a 1004 Value Page | The user accesses the Value 1004 menu | Displaying a 1004 Value Page | Appropriate |
| Report ADF ALL | Displaying the ADF ALL Report Page | Users access the ADF ALL Report menu | Displaying the ADF ALL Report Page | Appropriate |
| Terms | Displays the Terms page | The user accesses the Terms page menu | View the Terms page | Appropriate |

Table 2. Minus app Test Results

| Menu | Pengujian | Input | Output | Hasil |
|--------------------|-----------------------------------|---|-------------------------------------|-------------|
| Article Compare | Display the Article Compare page | Users access the Article Compare menu | Display the Article Comparison page | Appropriate |
| Cek Picture | Displaying the Picture Check Page | Users access the Check Picture menu | Displaying the Picture Check Page | Appropriate |
| History SO | Displaying the SO History Page | Users access the History SO menu | Displaying the SO History Page | Appropriate |
| Menu Input | Displaying the Input Menu Page | User access the Input Menu menu | Displaying the Input Menu Page | Appropriate |
| Request Salah Jual | Displaying Request Missold Pages | The user accesses the Request Salah Sell menu | Displaying Request Missold Pages | Appropriate |
| Sudah Progres ADM | Displaying the ADM Progress Page | Users access the ADM Progress menu | Displaying the ADM Progress Page | Appropriate |

Conclusion

Based on the discussion that was carried out previously, it can be concluded that this digitalization transformation must be implemented in PT. Aspirasi Hidup Indonesia Tbk, Pluit branch. In the increasingly advanced era of digitalization, we are aware of the speed, accuracy, and efficiency of time that must be considered. By following the development of existing technology, the individual and the company will undoubtedly grow rapidly.

Employees who are trained for new habits by implementing a digitalized work system will work faster and have an impact on their work productivity. Based on the conclusion, the ADF and Minus application based on the AppSheet is a solution to PT's performance. Aspirasi Hidup Indonesia Tbk, Pluit branch. This means that a practical and easy way of working can build innovative and fast work motivation for employees and will have a significant impact on the Company.

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