Website-Based Vintage Clothing Sales Information System Using the Laravel Framework

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Abstract— In recent years, thrifting has become a trending phenomenon in Indonesian society, especially for young people. Many people are now looking for used goods to get rare or vintage products. As a result of this incident, many people are now doing this business. However, not many people open this business with a website, on average people sell and buy their products on social media, including in the case study of this research, namely Atlas Shop. This shop sells used products with good quality at affordable prices and customers can also find rare products at Atlas. This research aims to design and implement a web-based vintage clothing sales information system using Laravel. This research uses the Rapid Application Development application development method and the testing method uses the UTAUT model. This website-based information system using the Laravel Framework is a modern solution for facilitating transactions and managing sales from Atlas. This website is designed to be responsive so that users can access this website on all devices they own and make it easier to buy products and ensure efficiency in transactions. Users can visit the website by entering url at the address https://atlastriftshop.com/. By developing this system, it is hoped that it can increase operational efficiency and increase the competitiveness of this growing thrifting business.

Keywords— vintage shop, application website, laravel, Rapid Application Development, php, UTAUT Model

I. INTRODUCTION

As technology develops so quickly, information systems have become a necessity for humans and will certainly not be much needed for various business fields. We cannot avoid technological developments, humans will continue to compete to find technology that can help humans in activities that will be more effective and efficient, including in the fashion industry. The fashion industry is one of the industries that many people are looking at, especially the sale of vintage fashion. Lately this year, many people have been looking for rare or antique clothes from used goods and then selling them at higher prices. This vintage fashion has its own charm because it creates a unique fashion and classic style that is still relevant in the world of fashion.

The use of a website-based Information System is an effective solution in expanding and managing the market, and makes it easier for customers to make transactions. The speed and flexibility of information technology innovation allows businesses to respond quickly to changing market conditions. Organizations that can adapt to technology are better able to test and develop new products and services, and adopt more adaptable business models [1].

Laravel is one of the popular web development frameworks and provides advantages in development speed, security and ease of maintenance. By using Laravel, the author was able to implement the Vintage Clothing Sales Information System effectively and efficiently.

Laravel is an open source PHP framework created by Taylor Otwell and created to help make developing website applications easier, Laravel is created with the MVC Model View Controller architectural pattern which can be managed, providing something new in accessing relations between databases, and maintaining websites easily [2]. MVC is a concept where building an application is in three parts, in the first part there is a Model, which helps interact in relationships between databases, a View which regulates the programming logic, a Controller which regulates the interaction of the view with the model [3].

Use Laravel installed with Composer Composer is an assistant feature for PHP, which you could say Composer is a 'dependency' to help develop websites. Composer helps in adding the libraries needed by the website without having to download them manually, that's why it is called 'dependency' when one component depends on another requiring or using functionality provided by another component [4].

To create a responsive display, using bootstrap is useful for providing a comfortable experience to users that can be accessed on all devices. Bootstrap is a front end framework to help develop websites that also have a responsive display on various devices such as mobile. Bootstrap provides ready-to-use HTML, CSS and Java Script and to complement Bootstrap it also provides responsiveness which makes bootstrap now very popular. So you could say Bootstrap is a framework that has many conveniences in developing websites [5].

Payments are made using midtrans Midtrans is a payment gateway that helps online sales in Indonesia to receive customer payments quickly. The payment process on the website or on mobile will be much easier, faster and safer [6]. integrated using API, API (Application Programming Interface) built by system developers so that all system functions created can be used. It can be said that an API contains a set of techniques for interacting directly between software that has different components. The API function makes it easier when developing software that requires interaction between software [7]. API testing using postman, Postman is an application or web browser plugin and can be installed on the desktop as well which functions to test the REST API. API is a powerful GUI platform. Using Postman can speed up interaction with APIs from testing, documentation and sharing [8].

The language that is widely used is PHP, PHP or Hypertext Preprocessor is a programming language that functions to build dynamic websites or website applications. PHP can connect to databases, and can interact with files and folders, therefore it can be said that PHP is a dynamic website programming language, different from HTML which can only display static content [9]. HTML is Hypertext Markup Language, which is a standard language for building websites that contains tags to organize the elements of the website. The role of HTML is to structure the website page by placing each element to arrange the desired layout. Usually HTML is saved in files in .html format [10].

The aim of the research carried out is to build a clothing sales information system to make a positive contribution to increasing productivity and business competitiveness. It is hoped that business owners will focus more on developing their vintage clothing collections.

This research will discuss the steps for developing a Vintage Clothing Sales Information System using Laravel, as well as the benefits that can be obtained by business owners and customers. In this way, it is hoped that it can provide practical guidance for those who want to utilize

information technology to improve the performance of their vintage clothing sales business.

II. METHOD

2.1 Data Source

In this research, the data sources used to assist the analysis and development of a website-based vintage clothing sales information system use the Laravel framework, data in the form of primary and secondary.

2.1.1 Primary Data

This primary data is directly obtained from individual respondents from a focus group. What is obtained from the main focus of primary data sources is regarding the needs and expectations of potential customers regarding the vintage clothing sales system. The primary data used is individual respondents because of their diverse background preferences for vintage clothing products.

2.1.2 Secondary Data

Some of the secondary data used to support this research include books, scientific articles, journals and other supporting archives.

2.2 Data collection technique

The data collection technique used in this research was carried out using quantitative techniques and questionnaire techniques.

2.2.1 Quantitative Techniques

Quantitative methods are the choice because this research obtains data that can be measured numerically and will provide an objective picture that can be analyzed. This data collection technique is carried out through questionnaires to respondents who will be potential users or potential customers of the vintage clothing sales information system.

2.2.2 Questionnaire Technique

In this questionnaire technique, it is the main step in collecting quantitative data, a questionnaire is a series of structured questions whose contents lead to an assessment of the preferences, expectations and needs of potential users for the system. Respondents will be asked to answer the questions and answers provided.

2.2 Thinking Framework

In this research, the structure of this thinking framework is very important for the development of a website-based vintage clothing sales information system. The role of this thinking framework in organizing and explaining the variables involved in this research. In applying this thinking framework, we hope to make it easier for investigations to be more structured and systematic, in Figure 1 below is the thinking framework used in research.

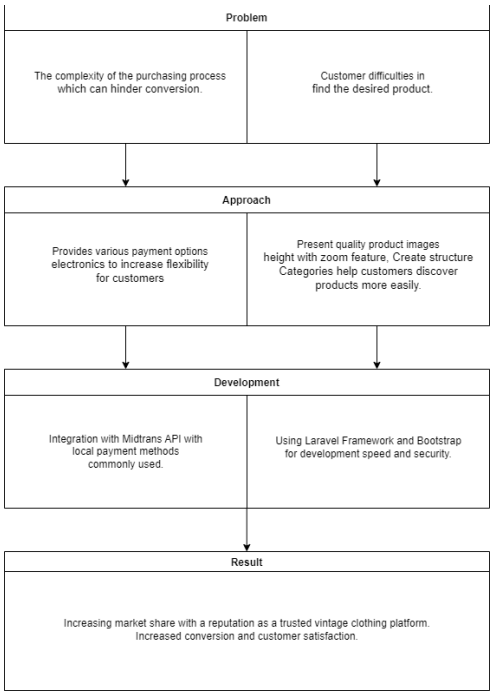

Figure 1. Atlas Shop Thinking Framework

2.3 Website Testing

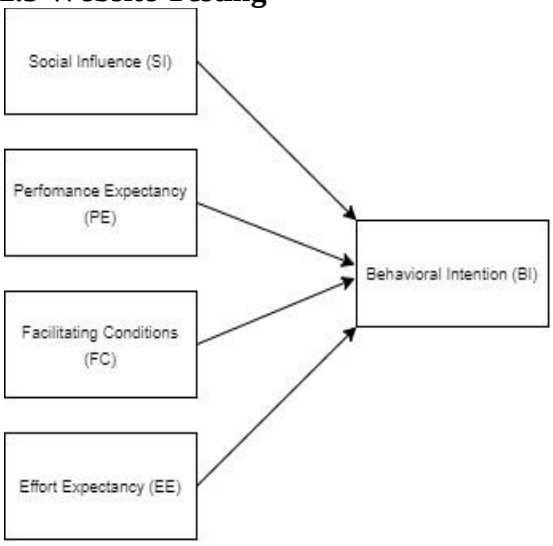

Figure 2. UTAUT Testing Model

The aim of the UTAUT model is to explain how users behave in information technology to be used in understanding the factors that influence user acceptance of technology. This model includes six types of variables consisting of performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention [11].

Figure 2 explains that the variables Facilitating Condition, Performance Expectancy, and Social Influence have a high impact on Behavior Intention, which reflects the user's desire to further use the website. Variable performance expectancy (PE) discusses user expectations for the web application being implemented. Variable effort expectancy (EE) helps researchers see to what extent users can easily master the technology and understand the features being implemented. The Social Influence (SI) variable functions to consider the influence of other people on users in using technology. Variable facilitating conditions (FC) functions to take into account surrounding factors that can influence acceptance of technology. The behavioral intention (BI) variable aims to regulate what users expect in using technology in the long term. On these five variables, this research will be much more focused and can provide an understanding of user acceptance of technology.

2.4 Statistic test

In this research, statistical analysis was used to evaluate some of the data obtained through the distributed questionnaire. The data results will be used to analyze the results of developing website-based vintage clothing sales using the Laravel framework. In using this questionnaire, it is prepared based on hypotheses and models on user intentions towards new applications which include use, convenience and user satisfaction.

2.5 Application Development Techniques

Rapid Application Development (RAD) is a method of developing information systems in a short time, so RAD is the right method to help system development. This method is an iterative or repetitive method where this method constructs or designs a working model at the beginning to find user requirements or needs [12].

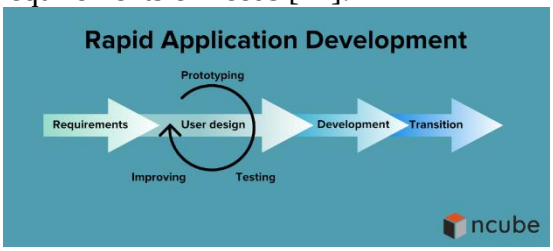

Figure 3. RAD method diagram (source: https://ncube.com/what-is-rapid-application-development/)

The system development using the Rapid Application Development method in this research is the initial stage of developing and creating a website-based vintage clothing sales information system using the Laravel framework.

III. RESULTS AND DISCUSSION

A. RESULTS

3.1 Database Design (ERD)

Entity Relationship Diagram (ERD) is a logical process that is created to describe the flow of data to and from where the system is stored, the process that produces data. Interactions occur between the data and the processes used in the model. ERD is a function used for modeling data

structures and connecting data [13]. The website-based vintage clothing sales information system using Laravel applies an ERD diagram as in Figure 4.

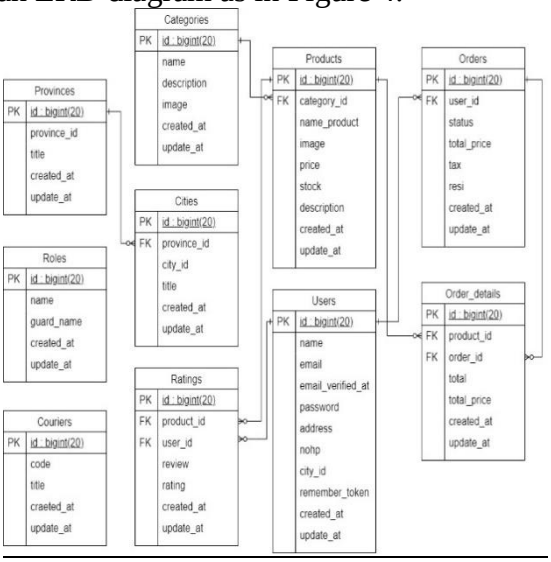

Figure 4. ERD Atlas Shop

In Figure 4 there are 9 main tables used, namely the users, orders, order_details, products, ratings, provinces, cities, roles, couriers tables. The users table has a relationship to the orders table, namely a one to many relationship, which means that 1 user can have many orders or can be said to haveMany because users are the parent, then similarly 1 order can have many order_details or one to many and 1 product can have many order_details. This also happens the other way around, but if the opposite is called belongsTo the term is still the same one to many (inverse), for example in the products table which has a belongsTo relationship in the categories table. Then other tables such as products also have a relationship in the ratings table, namely one to many, where 1 product can have many ratings. The provinces table is related to the cities table, namely hasMany, where 1 province can have many cities.

3.2 Flowchart

Flowchart is a system that is carried out after carrying out the design and planning process. This analysis is useful to make it easier to develop detailed web applications. Apart from that, it also provides an overview of what is produced in the system being developed. In order to be able to develop web applications in more detail [14]. Flowcharts in the form of graphic symbols are usually made in shapes such as ellipses, diamonds, arrows, and so on.

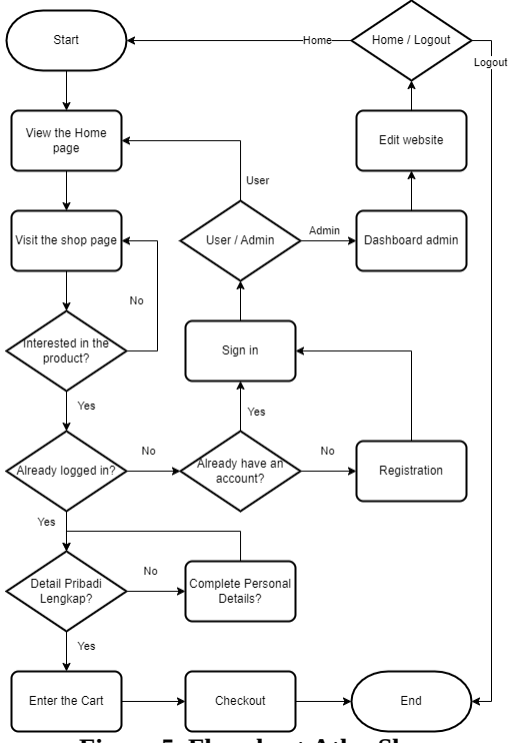

Figure 5. Flowchart Atlas Shop

In Figure 5 is a flowchart for this research. The first stage is the home page or landing page. This page can be accessed by all users without needing an authentication system or logging in first. This aims to enable users to see all the catalogs that Atlas has, or users too. can only search for the product they are looking for. So users don't need to bother creating an account first. This website also provides a live chat feature so that users can also ask questions about the atlas.

It can be seen in Figure 5 that if the user feels interested in the product, at this stage the user is required to log in first and complete personal data. When the user has logged in, the user can buy products, provide ratings and reviews and view the user's purchase history. The admin role can manage the website and carry out analysis on the development of sellers and buyers on this website, because on the dashboard the admin can see sales data.

3.3 Usecase Diagram

Use Case Diagrams provide interactions between use cases and actors where these actors can be people too, use cases function to describe the functional system or requirements that are met from the user's point of view. On the web, the clothing sales information system uses a use case diagram as in Figure 6.

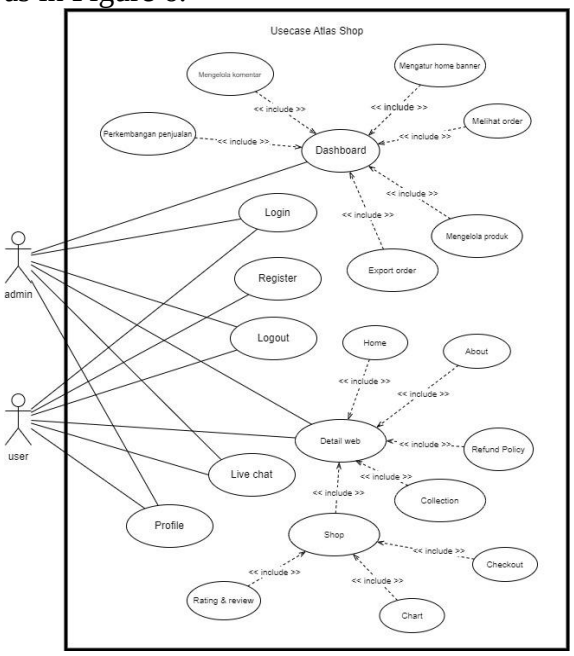

Figure 6. Use Case Diagram Atlas Shop

In Figure 6 the use case has 2 actors, namely User and Admin. Both actors have their respective roles or access rights. Users are actors with small access rights where users can view the website as a whole and can use available features such as live chat. If the user logs in, the user can shop and provide ratings and reviews on products.

Then in the Admin role which is the role with the highest access rights where an Admin can manage the entire Atlas Shop application website, including being able to see the development of income earned from each user who buys products via this website, then the admin can also manage categories, products, ratings & reviews, and view orders from users.

B. DISCUSSION

The landing page for the Atlas shop website is on the home page, this home page is the starting point when visitors first access this website. The home page of the Atlas shop website is designed to look aesthetic and modern to attract the attention of visitors, especially young people. The aim of the design is to make it as attractive as possible to attract attention so that it will invite visitors to explore more deeply the various product catalogs that Atlas Shop has. To access the main page, users only need to be connected to the internet and access the address of this website, namely https://atlastriftshop.com/. On the home page there is also a live chat on the far right. If users experience difficulties or have questions about Atlas Shop, they can use live chat. The admin will reply to the chat during operational hours.

The Atlas shop website was developed to be responsive to provide an optimal user experience from various devices. Figure 7 is a visual representation of the home page and there are several home banners to display the Atlas shop catalog and easy navigation to explore the Atlas shop in more depth.

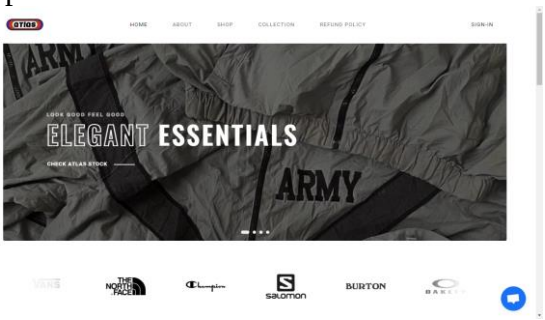

Figure 7. Landing page Atlas Shop

This login page gives users all access to shop, provide ratings and reviews, and make payments. The login page also serves to provide access to their personal area, where they can view all order history and user order details. The login system is also an important thing because it can increase the security of customer data privacy. The login display can be seen in Figure 8. This login page also determines our role. This website has 2 roles, namely admin and user. If you log in as a user you will be redirected to the home page, if you are logged in as admin you will be redirected to the admin dashboard page.

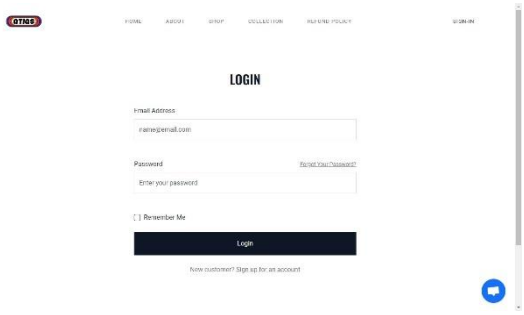

Figure 8. Login Atlas Shop

In figure 9 is the shop page of the Atlas shop website. On this page, to create a non-stuffy impression, there is a banner that includes several words that invite customers to improve their fashion through clothing products from Atlas shop. And there are several features to make it easier for customers to search for products, such as price filters and sorting products by category to make it easier for customers to search for products according to their preferences. On this page there are all the products owned by Atlas.

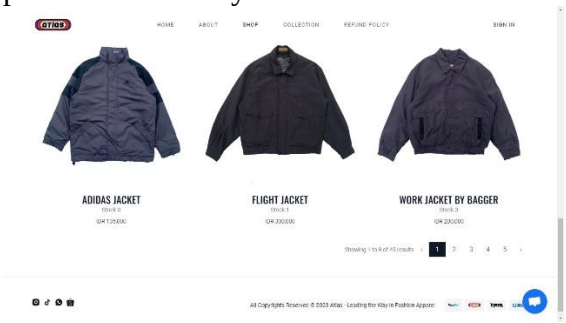

Figure 9. Page Shop Atlas

This page displays details of certain products selected by the user. This page provides more detailed information about the product such as price, description, available sizes, total rating and stock on the product. In product images, users can also zoom in on the image to see the product image more clearly.

On this page, users who want to add to the basket or buy must first input the quantity of the product they want to buy. If it exceeds stock, the system will not allow it. If the number entered does not exceed stock, the item will be entered into the cart. The detailed product display can be seen in Figure 10

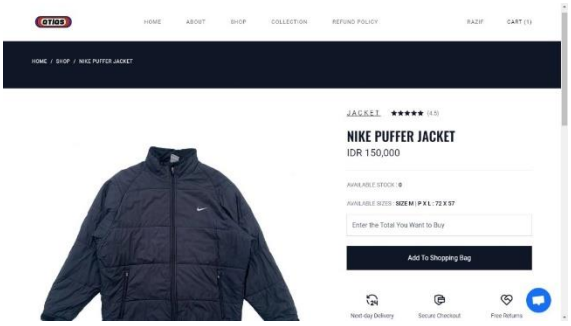

Figure 10. Detail Product Atlas Shop

When the user successfully enters the quantity for the product, the product will be put into the basket, and at the end of the navigation a notification will appear as a sign that the user has successfully entered the product into the basket. This basket notification does not display the total quantity taken but is based on how many items were added to the cart.

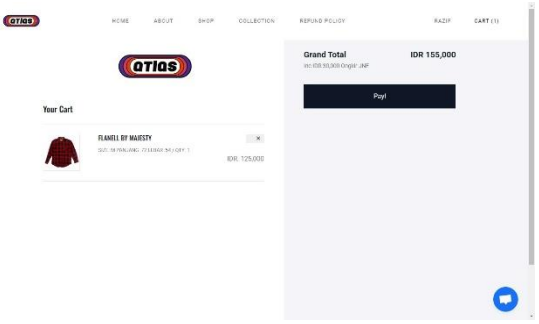

Figure 11. Checkout Atlas Shop

On the Snap Midtrans Payment page, this is the payment portion for users of the total price of the product selected by the user. Midtrans payments can be used using the API, and Midtrans also provides a UI for this payment as can be seen in Figure 12, which is Midtrans' snap UI which can be installed using Composer and calling it with a script in the Midtrans document, for the testing part or so to speak. debugging during the Midtrans payment development stage uses Postman which can be accessed by everyone for free. Midtrans also provides many payment method services such as qris, debit card, virtual account, Shopee pay.

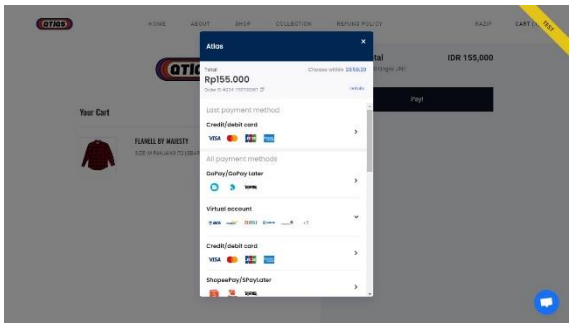

Figure 12. Snap Payment Midtrans

Figure 13 shows the user order details page. This page displays information about the details of the paid order. This is the page when the user has made payment and is redirected directly to this page. On this page there are product details, shipping address, order status. If the payment using Midtrans is successful then the status on this detailed order will be successful in green.

Below the product details there is a receipt number which will be provided by the admin, and users can also export the invoice in pdf form as proof of payment made by the user. On the right there is refund and policy information from Atlas. The goods will be sent when the admin sees the successful payment status. If successful, the admin will immediately carry out the delivery process and send a receipt to the user, which will be provided below the product details. This page has been provided with middleware or security so that other users cannot access other users' order details.

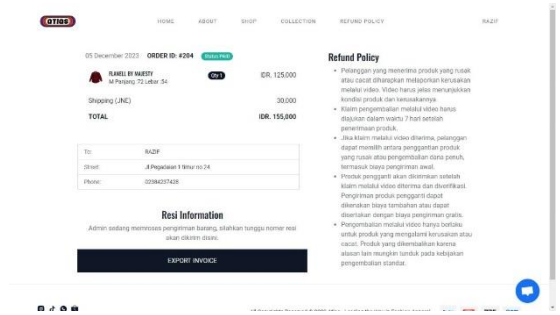

Figure 13. Detail Order Atlas Shop

The admin dashboard page displays information about Atlas shop sales, which can be seen in Figure 14, there is a line chart of Atlas sales, and there is a recap of annual sales total rating and several users who have not completed payments. At the bottom there are also the top 3 best-selling products and the remaining stock figures for these products. This dashboard page is a page that can only be accessed by the admin role, user roles cannot enter the dashboard.

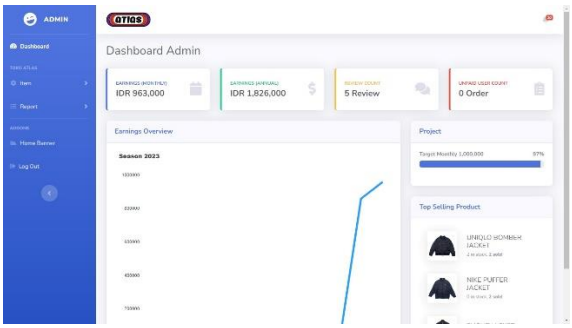

Figure 14. Dashboard Admin Atlas Shop

The validity test is a test used to measure whether the measuring instruments used or the questionnaires used are good enough variables or not. This method is used to see the extent to which the questionnaires given are accurate [15]. This research has succeeded in distributing questionnaires to the Atlas Thrift website to 111 respondents. The results of validity testing using Principal Component Factor Analysis can be seen in table 1.

In this validity test, there is a variable that is omitted, namely BI3 because in the BI group there are 2 variables that are valid in different components, so BI3 is omitted. So in table 4.1 it can be concluded that SI1, SI2, SI3, and FC1, FC2, FC3 are correlated with component 1, PE1, PE2, PE3 and EE1, EE2, EE3 are correlated with component 2, then BI1 and BI2 are correlated with component 3.

Table 1. Validity table

Rotated Component Matrix[a]

	Component		
	1	2	3
SI1	.801	.093	.358
SI2	.834	.267	.097
SI3	.609	.533	.073
PE1	.202	.717	.287
PE2	.659	.420	.160
PE3	.243	.664	.301
EE1	.488	.478	.076
EE2	.259	.767	.216
EE3	.032	.610	.547
FC1	.692	.136	.358
FC2	.477	.246	.588
FC3	.479	.380	.508
BI1	.126	.083	.856
BI2	.141	.347	.751

Reliability testing is a tool used to measure a questionnaire that has indicators for each variable. This test is used to measure how consistent it is, whether the measuring instrument used is consistent or reliable and can be used if repeated measurements are made. This test has values that can be concluded from looking at the Cronbach's Alpha value obtained and it will be said to be low if you get an alpha value below 0.50, an alpha value above 0.70 means sufficient reliability, if the alpha value is above 0.80 then reliability is strong , and an alpha value above 0.90 is a perfect reliability value. The smaller the Cronbach's Alpha value, the more unreliable items there are. The value will be said to be reliable or reliable if the Cronbach's Alpha value is above 0.60. Therefore, the criteria for the reliability test are values that are above 0.60, meaning the question items in the questionnaire are reliable or reliable, if the value is below 0.60 then the question items in the questionnaire are unreliable or not reliable [16]. In this reliability test, the variables SI with 3 items, PE with 3 items, EE with 3 items, FC with 3 items, and BI with 2 items. The results of reliability testing can be seen in table 2.

In the reliability test of this research which is presented in table 4.2, the SI variable obtained a Cronbach's alpha value of 0.831, which means it has a good or strong internal consistency value because the SI variable value is between 0.80 and 0.90, then the other variables PE, EE, FC, BI are classified in Internal consistency is Acceptable or sufficient because the variables PE, EE, FC, BI have values between 0.70 and 0.80.

Table 2. Reliability table

Variable	Cronbach's Alpha	Internal Consistency
SI	.831	Good
PE	.762	Acceptable
EE	.724	Acceptable
FC	.770	Acceptable
BI	.722	Acceptable

The correlation test is a method used to see how close the relationship is between two or more variables which is measured using the correlation coefficient, which describes how close the relationship between variables is. The correlation coefficient only tells how closely the relationship is linear, but it also shows that the relationship also influences each other [17]. In this measurement, you can see the level of correlation for each variable from the correlated significance value. The results of the correlation test in this research can be seen in table 3.

In table 3 which is the result of the correlation test, it can be concluded that the relationship of all variables with each other has a high level of correlation because it has good Pearson Correlation results with a significance level of 0.01.

Table 3. Correlations table

Correlations

		SIR	PER	EER	FCR	BIR
SIR	Pearson Correlation	1	.691**	.565**	.744**	.415**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	111	111	111	111	111
PER	Pearson Correlation	.691**	1	.673**	.659**	.510**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	111	111	111	111	111
EER	Pearson Correlation	.565**	.673**	1	.663**	.554**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	111	111	111	111	111
FCR	Pearson Correlation	.744**	.659**	.663**	1	.633**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	111	111	111	111	111
BIR	Pearson Correlation	.415**	.510**	.554**	.633**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	111	111	111	111	111

**. Correlation is significant at the 0.01 level (2-tailed).

IV. CONCLUSIONS

In research on designing, developing and implementing an Atlas thrift shop clothing selling information website system using the Laravel framework, it can be concluded that:

1. Designing the Atlas Shop website information system is needed to help increase operational efficiency. There are several features on this website's information system, such as online ordering, sales reporting, and making payments, which make it easier for Atlas Shop owners to operate, which can also be used as proof that the research and testing is valid.
2. The development and design of the Atlas Shop website information system provides a satisfactory experience, the evaluation of use shows a level of satisfaction that can be said to be high in terms of the ease of the system and the responsiveness of the user interface. From this conclusion it can be drawn that good interface design plays a positive role in user experience. Using Laravel also provides security and ease in creating a website to maintain integrity and safeguard customer data.
3. Providing a role in business development, the implementation of this information system has a positive impact on the growth and development of the vintage clothing sales business. Having an online store provides increased product accessibility and increases business competitiveness. Thus, this vintage clothing sales website information system has a positive impact on business operations.

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