

Design of A Website-Based Ordering Information System at PT. Mutiara Busana Indah

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Abstract

The growing demand in the fashion industry has positioned Tegal Regency as one of the central hubs for garment production, offering a wide variety of fashion models and brands. PT. Mutiara Busana Indah, as a prominent player in this industry, faces challenges in managing customer orders efficiently, especially as order volumes continue to increase. This study aims to design and develop a web-based ordering information system that allows potential customers to place garment orders easily without the need to visit PT. Mutiara Busana Indah in person. Additionally, the system is designed to enhance the efficiency of recording customer order data, making the ordering process more organized and integrated. The data collection methods used in this research include interviews, involving direct question-and-answer sessions with relevant stakeholders to gather accurate information about the system requirements. Furthermore, a literature review was conducted by collecting references related to information systems, web-based technologies, and programming applications such as PHP. The insights obtained from these methods form the foundation for analyzing, designing, and implementing the proposed system. The web-based ordering information system features key functionalities, including product data management, online order creation, and order status tracking for customers. From the company's perspective, the system facilitates more structured order management, including recording and storing customer data. Consequently, this system is expected to address the operational challenges faced by PT. Mutiara Busana Indah and contribute to improved customer satisfaction. This study demonstrates that implementing web-based technology in the ordering process yields positive impacts, not only in terms of accessibility for customers but also in enhancing the company's operational efficiency. With continuous system development tailored to evolving needs, the company can maintain its competitive edge in an increasingly dynamic market.

Keywords: Ordering information system, website, garment, information technology

1. Introduction

The web-based ordering information system is a vital innovation in supporting business processes in the digital era. With the increasing need for efficiency and accuracy, many companies are integrating information technology into their operations [1]. PT. Mutiara Busana Indah, a garment producer in Tegal Regency, faces similar challenges. With a growing production volume, the company requires a solution to streamline the ordering process and manage customer data effectively. The rising demand for practical and fast solutions has driven the company to adopt digital-based systems. The manual ordering process currently employed at PT. Mutiara Busana Indah often leads to issues such as data inaccuracies, document loss, and complexity in recording orders. These problems not only hinder operational efficiency but also affect customer experience, as clients must visit the company's location directly to place orders. As a company operating in the garment industry, PT. Mutiara Busana Indah carries out a complex production process, from designing to product packaging. This process demands good coordination between various departments. However, the manual system currently in place is inadequate for managing real-time, integrated order data. Therefore, a more effective information system is needed to handle this complexity [2].

The web-based ordering information system is designed to address the challenges faced in the manual process. This system allows customers to place orders anytime and anywhere without needing to visit the company's location. Additionally, the system simplifies order data management, minimizing the possibility of errors in data recording. The research methods used in developing this system include observation, interviews, and literature studies. Observations were conducted by directly examining the ongoing ordering process in the company. Interviews were carried out to gather in-depth information from relevant parties, while literature studies were used to collect references related to the research topic. This combination of methods ensures that the designed system meets the company's needs. In the analysis phase, researchers identified system requirements based on findings from surveys and interviews [3]. The analysis results indicate that a web-based information system provides solutions to various problems, such as time efficiency, data validity, and ease of access for customers. The system is also designed to integrate all order data into a single platform accessible to multiple parties.

The system design was carried out using the UML (Unified Modeling Language) method, which includes various diagrams such as Use Case Diagrams, Activity Diagrams, Sequence Diagrams, and Class Diagrams [4]. These diagrams are used to graphically describe the system's workflow, making it easier to understand and document. With this structured approach, the system is expected to be implemented effectively according to the specified requirements. The benefits of implementing this system are not only felt by the company but also by the customers. For the company, the system helps improve operational efficiency and reduce errors in data management. For customers, the system provides convenience in placing orders without facing geographical or time constraints. This research is expected to serve as a reference for other companies looking to develop similar information systems [5]. Moreover, the findings contribute to the development of information technology in the garment industry, particularly in supporting more efficient and customer-oriented business processes. By implementing a web-based ordering information system, PT. Mutiara Busana Indah can improve service quality while maintaining competitiveness in an increasingly intense industrial landscape. This demonstrates that the integration of information technology is not only a necessity but also a crucial strategy for addressing business challenges in the modern era.

2. Research Methodology

This study employs a qualitative approach aimed at analyzing system requirements and designing a web-based ordering information system applicable to PT. Mutiara Busana Indah. The qualitative research method is used to gain an in-depth understanding of the current ordering system conditions and the specific needs of the company. The data collection methods used in this research consist of three main approaches: observation, interviews, and literature review. The observation method involves directly observing the ongoing ordering process at PT. Mutiara Busana Indah. This observation aims to understand the workflow and existing procedures as well as to identify problems that arise in the manual system. The interview method involves engaging relevant parties at PT. Mutiara Busana Indah, such as management, administrative staff, and production employees. The interviews aim to gather deeper insights into the system requirements, challenges faced, and expectations for the new system to be developed [6].

A literature review is conducted by examining relevant literature, such as books, journals, and articles discussing information systems, PHP programming, and web-based system design. The literature review provides theoretical foundations and references for designing an effective and efficient information system. In data analysis, this study uses a qualitative descriptive analysis method to identify problems and system requirements. The analysis stages include surveying the current manual system, analyzing the findings from the survey, and identifying information needs and system requirements. The results of this analysis are then used as the basis for designing the proposed information system. To support system design, this research employs the Unified Modeling Language (UML) design method. UML diagrams used include Use Case Diagrams, Activity Diagrams, Sequence Diagrams, and Class Diagrams. These diagrams help visualize the system workflow and ensure that each identified requirement is accommodated in the system design [7].

The system design process involves several key steps. The process includes identifying user requirements by exploring the needs of prospective system users, both from the company's internal team and the consumers; designing the system architecture by developing the framework of the system, including database structures and user interaction flows; and developing a prototype to be tested by users and refined based on their feedback for improvement [8]. Once the system is fully designed, system testing is carried out to ensure that it functions as intended. This testing includes functionality, integration, and security tests. The testing results are then used to refine the system before its full implementation. The research methodology is structured to produce a web-based ordering information system that can improve the efficiency and accuracy of the ordering process at PT [9]. Mutiara Busana Indah. With this methodology, the resulting system is expected to not only meet the company's needs but also provide a better experience for consumers. The entire research process is expected to make a significant contribution, both in the development of the information system at PT. Mutiara Busana Indah and as a reference for similar studies in the future. Additionally, the methodology used can serve as a guide for other companies seeking to transition from manual systems to technology-based information systems [10].

3. Result and Discussion

In this study, the process analysis at PT Mutiara Busana Indah focuses on two main areas: clothing ordering and the recording and creation of receipts. The clothing ordering process at PT Mutiara Busana Indah is still done manually, involving several steps that are time-consuming and require the direct presence of customers at the company. The first step in the ordering process is when customers come directly to PT Mutiara Busana Indah to order the desired clothing products. After that, the admin provides an order form for the customer to fill out. Once completed, the order form is submitted to the production department for further processing. The production process begins with the creation of the clothing product, which is then moved to the packaging stage. Once the product is finished and packaged, the packaging department confirms to the admin that the item is ready to be shipped. Finally, the product is shipped to the customer. Although the ordering process is clear, it still has several shortcomings that could cause inconvenience for customers and inefficiency for the company. One of the issues is that customers are required to come to PT Mutiara Busana Indah to place orders, which means they must incur travel expenses and spend considerable time. In addition, the manual recording of order data makes the process slower and prone to errors. The customer order data is stored by stacking the forms together with other order forms, which can lead to damage or loss of data if not handled carefully. Furthermore, the manual creation of receipts for payment to customers increases the possibility of calculation or transaction recording errors. Regarding the recording of data and the creation of receipts, PT Mutiara Busana Indah still relies on manual methods, which require a lot of time and effort. Each customer order is recorded on an order form, which is then collected with other order forms. This not only worsens the efficiency of the ordering process but also increases the risk of data loss or damage, which in turn affects the accuracy of the information received by both the customer and the company. The poorly organized manual records also make it difficult for the admin to track the status of orders and manage customer data efficiently. Therefore, the current system not only wastes time and resources but also increases the potential for errors that can harm both parties, the customer and the company.

To better illustrate the order process at PT Mutiara Busana Indah, refer to **Figure 1**, which shows the flow of order documents. In this diagram, the process begins with the customer submitting an order request, followed by the seller providing the form and sending the order

data to the production team. After the product is produced and packaged, it returns to the seller and ultimately reaches the customer. Although the flow is clear, the manual management of data can significantly affect the smoothness of the process.

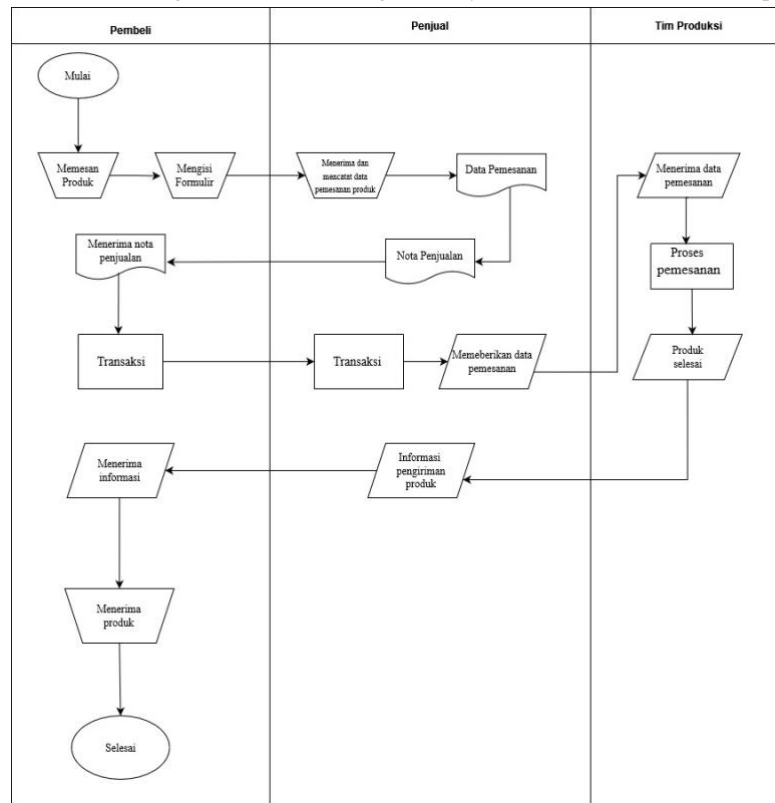


Fig. 1: Flow Of Document Order at PT Mutiara Busana Indah

Based on the analysis of the current system, several major issues have been identified that hinder the smooth operation of the company. The ordering process that still requires customers to visit the company not only inconveniences the customers but also slows down the process and adds operational costs for the company. Additionally, the manual recording of order data makes the system inefficient and prone to errors. The stacking of order data also increases the risk of losing data, which can affect the accuracy of information provided to customers. Moreover, the manual creation of receipts adds to the time needed to complete transactions and can cause errors in payment receipt generation. To address these issues, a more efficient and computerized system is needed, such as a web-based information system that can make it easier for customers to place orders without having to visit the company in person. By using a web-based system, the ordering process can be done anytime and anywhere, which will save time and travel costs for customers. Additionally, the order data recorded in the system will be better organized, reducing the possibility of errors in recording or data loss. As a result, the company will be able to provide faster, more accurate, and efficient services to customers.

One of the advantages of a web-based system is the ability to monitor and manage order data in real-time, which will make it easier for the admin and production team to track the status of orders and ensure that products ordered by customers are processed and shipped on time. This faster and more efficient process will undoubtedly improve customer satisfaction and accelerate company growth. Furthermore, with a computerized system, the receipt creation process can also be automated, reducing the possibility of errors in receipt creation and speeding up the payment process. With the implementation of a web-based information system, PT Mutiara Busana Indah is expected to improve the quality of service to customers, reduce errors in data recording, and speed up the ordering and product shipping process. Additionally, the system will help the company better manage customer data, which will, in turn, accelerate the production and shipping process. In the long run, the implementation of this information system could improve the company's competitiveness and accelerate the business growth of PT Mutiara Busana Indah. In this regard, this research is crucial in providing a clear understanding of the problems in the current ordering system at PT Mutiara Busana Indah and offering a more efficient solution through the implementation of a web-based information system.

The implementation of this more modern system is expected to address the shortcomings of the manual ordering system and lead the company toward a more advanced and developed direction. Therefore, this research provides significant contributions to the company by improving operational quality and service to customers. Overall, the findings from this study show that the implementation of a web-based information system can provide many benefits for PT Mutiara Busana Indah, in terms of operational efficiency, data management, and customer satisfaction improvement. With a more organized and automated system, the company will be able to increase productivity and reduce errors that have occurred in the manual ordering system. As a result, PT Mutiara Busana Indah will be able to compete more effectively in the market and provide better services to customers.

3.1. Usecase Diagram

The process of using the web-based ordering information system at PT Mutiara Busana Indah begins with the login step, which is required for both main actors: the consumer and the admin. Both actors must log in first to access the available features in the system. For consumers, the login process allows them to access the various products available for ordering. Once logged in, consumers can select the products they want, fill out the order form, and confirm the payment once the transaction is completed. This process ensures that each consumer who places an order is properly registered in the system and can track the status of their order.

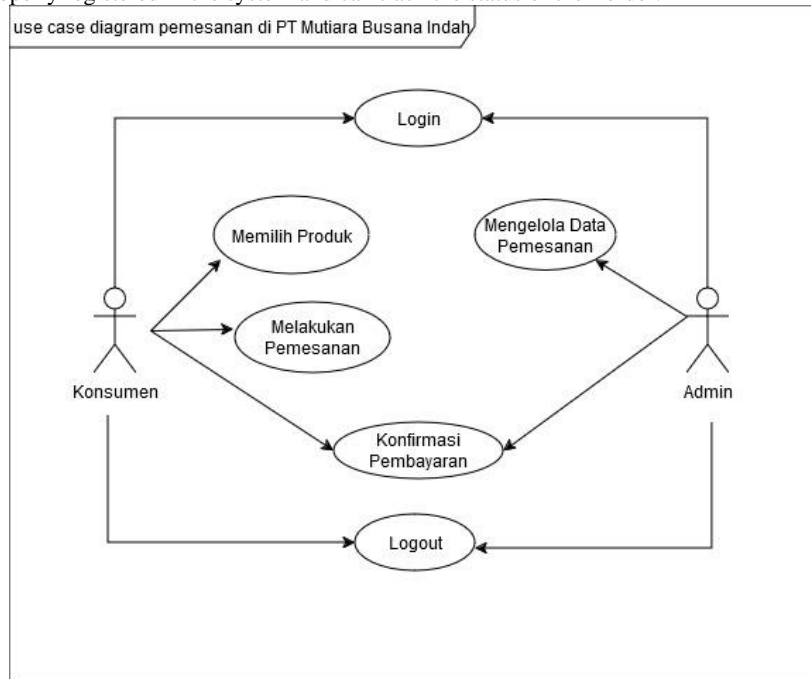


Fig. 2: Use Case Diagram of Ordering at PT Mutiara Busana Indah

Meanwhile, for the admin, logging in provides access to manage incoming order data and verify payment confirmations from consumers. Admins play an important role in ensuring that order data is accurately recorded and that payments made by consumers are received and verified. Once their tasks are completed, both consumers and admins will log out of the system to secure their accounts and prevent unauthorized access. After logging in, consumers can easily select the products they desire from the catalog provided. This feature allows consumers to view various clothing items available, with complete information about prices, sizes, and available colors. After selecting the product, consumers will fill out an order form that includes their personal details, shipping address, as well as the quantity and type of products they wish to order. This process replaces the previous manual procedure that required customers to visit PT Mutiara Busana Indah in person to place an order, making it much more efficient and convenient for customers. Once the order is completed, consumers can confirm the payment through the system. This system allows consumers to choose their preferred payment method and upload the necessary payment proof. With this feature, consumers no longer need to visit the company in person to make payments or wait for manual confirmation. Admin will then check and confirm the payments made by consumers through the system, ensuring that all transactions are accurately recorded and that the payment has been received. An important aspect managed by the admin is ensuring that the incoming order data is properly recorded in the system. Admins have access to view the entire list of orders placed by consumers, verify the order details, and ensure that the information entered by the consumers is consistent with the available data. Admin is also responsible for monitoring the product shipping process, ensuring that every order is processed quickly and shipped according to the pre-determined schedule.

This system not only simplifies the ordering process for consumers but also makes it easier for admins to manage order data. With a computerized system, admins can easily access order histories, record data more accurately, and manage product stock more effectively. This will undoubtedly improve the operational efficiency at PT Mutiara Busana Indah, reduce human errors, and expedite the ordering and product shipping process. Once both consumers and admins have completed their tasks, they will log out to end their sessions. The logout process is essential to keep user accounts secure and prevent unauthorized access after the session has ended. With the logout feature, the system ensures that personal data and transaction details remain safe. Overall, this web-based ordering system is designed to streamline both consumer and admin activities in placing orders and managing data. With an integrated system, the entire process of ordering, payment, and data management can be done more quickly, efficiently, and securely. This will undoubtedly enhance customer satisfaction and speed up operational processes at PT Mutiara Busana Indah, while also reducing errors that occurred in the previous manual system. With the implementation of this web-based information system, PT Mutiara Busana Indah is expected to improve customer service quality and operational efficiency. This system provides significant convenience for consumers in placing product orders, as well as making it easier for admins to manage data and verify payments. The system's implementation will lead PT Mutiara Busana Indah toward a more advanced and competitive position in the ever-evolving market.

3.2. Class Diagram

The Class Diagram In the website-based ordering information system at PT Mutiara Busana Indah, there are several main tables interconnected through relationships between entities. The first table is the User Table, which stores data about system users. This table consists of key fields such as Id_user as the primary key, username which functions as a foreign key to link users with consumer or admin data, and password for user authentication. With this structure, only registered users can access the system. Next, the Category Table stores information about the product categories available at PT Mutiara Busana Indah. This table has two main fields: Id_kategori as the primary key and Nama_kategori which describes the type of product category, such as men's clothing, women's clothing, children's clothing, or other categories. This categorization is essential to make it easier for consumers to find products according to their preferences.

In the Product Table, which stores data about the products sold by PT Mutiara Busana Indah, there are more detailed fields. This table has Id_produk as the primary key, nama_produk to specify the product name, and kategori which links the product to the appropriate category. Additionally, there are fields like stok to show the available stock, harga to record the product price, and gambar to store the product image URL. With this structure, PT Mutiara Busana Indah can efficiently manage its product inventory and provide clear information to consumers. The Consumer Table stores data about consumers who are registered in the system. This table includes various personal information such as id_konsumen as the primary key, nama_konsumen, username, and password for the login process. Consumers also provide their address and phone number to facilitate product delivery. With this comprehensive information, the admin can easily verify and manage the data of consumers who place orders. Next, the Order Table stores data about the orders made by consumers. This table has id_pemesanan as the primary key, id_konsumen which links the order to the consumer who placed it, as well as nama_pelanggan and telepon for contact information. This table also records tanggal_pesan, jumlah_produk, total_harga, and status_pembayaran, indicating the payment status for each order. With this table, the admin can track the status of each order and ensure smooth transactions.

The Payment Confirmation Table is used to record payment confirmations made by consumers. This table includes fields like id_pembayaran as the primary key, id_konsumen which links the payment confirmation to the consumer who made the transaction, and nama_konsumen to record the consumer's name. Furthermore, it has fields such as jumlah_produk to indicate the number of products paid for, tanggal for the payment date, and status_pembayaran which indicates whether the payment has been received or not. Admin will verify and update the payment status based on the data recorded in this table. The relationships between these tables are crucial to the efficient functioning of the ordering system at PT Mutiara Busana Indah. For example, the Product and Category tables are linked through the kategori field, which makes it easier for consumers to select products according to their desired category. Similarly, the Order and Consumer tables are connected through the id_konsumen, which allows the admin to verify data about the consumers who place orders.

With clear relationships between these tables, the system can operate smoothly, allowing both the admin and consumers to interact seamlessly. When a consumer selects a product and places an order, the order data is directly recorded in the Order Table. Afterward, consumers can make payments, and the system will record the payment in the Payment Confirmation Table for verification by the admin.

This system offers significant advantages for PT Mutiara Busana Indah in terms of data management. The use of a well-structured database allows the admin to easily manage product, order, and payment data. Additionally, consumers can enjoy a convenient process for placing orders and making payments without needing to visit the store in person.

Overall, by using this well-structured class diagram, PT Mutiara Busana Indah can maximize operational efficiency and enhance customer satisfaction. The website-based ordering information system, utilizing this class diagram, provides convenience for all parties involved, both admins and consumers, to perform ordering, payment, and confirmation activities quickly, securely, and organized.

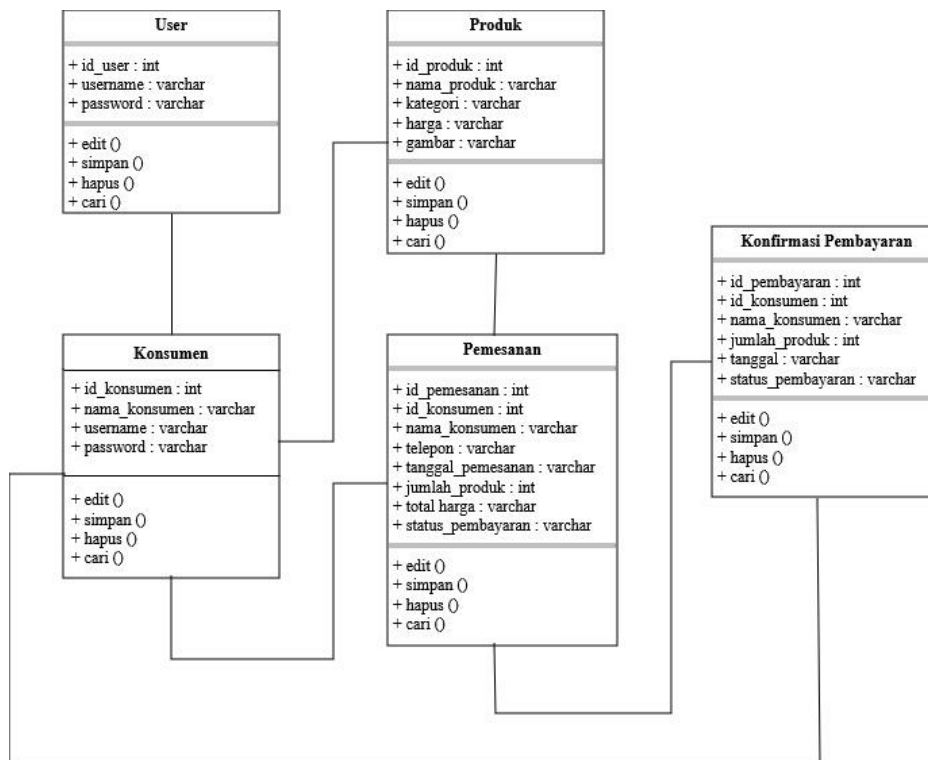


Fig. 3: Class Diagram for Ordering at PT Mutiara Busana Indah

4. Conclusion

The conclusion of this study is that the website-based ordering information system developed for PT Mutiara Busana Indah has a clear and efficient structure in managing order and payment data. This system integrates several important elements, starting from the login and logout processes, product selection by consumers, ordering, to payment confirmation managed by the admin. With a well-structured information system, the business processes at PT Mutiara Busana Indah can run more smoothly and efficiently. One of the main components in this system is the login process carried out by two actors, namely the consumer and the admin. Both actors are required to log in to access the system, and they can only perform activities according to their respective roles and access rights. After the ordering process is complete, both actors can log out to end their session. This ensures that user data security and privacy are maintained. This system also includes various interrelated tables, such as the user table, product categories, products, consumers, orders, and payment confirmations. Each table has a clear structure and functions to store the data needed in the ordering process. The user table stores data related to user accounts, the category table groups products by type, while the product table stores data about products available for purchase.

With the consumer table, the system can effectively manage consumers' personal information such as names, addresses, phone numbers, and login data. This allows the admin to easily access the information of consumers who have placed orders. The order table records details of each order placed by consumers, including the number of products ordered, total price, and payment status. This table serves as the main source for the admin to manage and monitor every transaction that takes place. Next, the payment confirmation table becomes an important part of the transaction process. After the consumer makes a payment, the payment confirmation data will be recorded in this table for verification by the admin. This table records the number of products paid for, payment date, and payment status, which will then update the order status in the order table. Therefore, the admin can monitor and ensure that every payment has been received and recorded correctly. The system built using this class diagram utilizes the relationships between tables to ensure efficient data integration. For example, the order table is linked to the consumer table through `id_consumer`, and the product table is linked to the product category via `category`. This allows the admin to obtain complete and accurate information about the orders placed by consumers, as well as makes it easier for consumers to select the desired products. In addition, the use of a website-based system allows consumers to place orders online easily without needing to visit the store. The product selection process, order data entry, and payment confirmation can all be completed quickly and efficiently. The system also provides a user-friendly interface that is easy to understand, so that consumers can perform transactions smoothly. From the admin's side, the system provides convenience in managing order and payment data. The admin can easily monitor order statuses, verify payments, and manage product stock. With such an integrated system, PT Mutiara Busana Indah can improve operational efficiency and ensure that every transaction runs smoothly.

By using a structured database, PT Mutiara Busana Indah can utilize the existing data to generate useful reports and analysis for decision-making. For example, the admin can access reports about the number of orders, payment statuses, or the most popular product categories among consumers. This can help the company plan business strategies and improve service to customers. Overall, the implementation of a website-based ordering information system at PT Mutiara Busana Indah can accelerate transaction processes, reduce human errors, and improve customer satisfaction. By utilizing the right technology and an integrated system, the company can provide a better shopping experience for consumers and ensure more efficient and effective operations. Therefore, the development of this system is a strategic step for PT Mutiara Busana Indah in facing challenges in an increasingly competitive business world.

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