



DEVELOPING SALES FORCE AUTOMATION PROTOTYPE AT INDONESIAN FURNITURE TRADING COMPANY

Thendy Rhenaldy¹, Raymond Sunardi Oetama²

^{1,2}Department of Information System, Universitas
Multimedia Nusantara, Tangerang, Indonesia

^{1,2}scientia Garden Boulevard Raya Gading Serpong,
Tangerang, Banten, Indonesia

*Corresponding author

raymond@umn.ac.id

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Abstract

Information technology is crucial in enhancing company performance and driving business growth. Maintaining good customer relationships is essential, and Customer Relationship Management focuses on building customer commitment. Sales Force Automation systems automate sales processes and manage customer interactions in a furniture company in East Jakarta. This Company aims to automate its sales force and centralize operational information through a web-based Sales Force Automation system using Electronic Customer Relationship Management. The research adopts the "Prototyping" method, offering a shorter development duration and flexible implementation. Visual Studio Code and Xampp, along with PHP and MySQL, are utilized as development tools. The result is a Sales Force Automation system based on Electronic Customer Relationship Management that assists in automating its sales force. The design successfully automates tasks, supported by Electronic Customer Relationships and the prototyping method. The Sales Force Automation system passed the functionality evaluation, achieving high user acceptance test scores and indicating its effectiveness in meeting user requirements.

1.0 INTRODUCTION

The rapid development of information technology brings numerous advantages to various aspects of human life [1]. It helps process activities efficiently, saving energy and time and yielding accurate results. Information technology is now a vital tool driving business progress, leading many companies to adopt it for employee performance enhancement. In Indonesia, large companies have implemented information technology systems to streamline their processes [2], offering benefits like attracting new customers [3] and maintaining solid relationships [4].

Customer relationships are crucial for business success [5], necessitating excellent service to foster loyalty. Companies employ Customer Relationship Management (CRM) strategies to cultivate these relationships. CRM enhances revenue by maintaining good customer relationships [6] and building commitment to products or services [7]. Customers are vital for business success, so providing excellent service and maintaining good relationships is crucial. CRM strategies help cultivate these relationships and enhance revenue. Sales Force Automation is a critical functional component of CRM, as it plays an essential role in facilitating and optimizing the sales process [8]. Sales Force Automation automates sales processes, records transactions, stores customer data, and provides necessary information [9]. Its key

features include contact management, product management, report management, input management, and sales reporting. Implementing Sales Force Automation ensures organized customer contacts and product catalogs [10].

Sales Force Automation Systems (SFA), as demonstrated by various research papers and projects. These initiatives have employed Multiple methodologies and technologies to address the distinct needs of different organizations and industries. For instance, a user-centered design was applied, resulting in a system that manages contacts, provides product information, and generates sales reports [10]. Conversely, Extreme Programming (XP) was embraced to create an SFA platform encompassing sales, product management, customer relations, order processing, and a comprehensive sales dashboard [11]. Prototyping and the PHP framework CodeIgniter were used to manage employee information, product data, and sales records [12]. Furthermore, the Waterfall approach was adhered to, leading to a system that efficiently handles product categorization, inventory tracking, customer management, visit monitoring, sales analytics, and reporting [13]. Prototyping and Lean Six Sigma emphasized customer management, pre-order processing, event planning, promotions, and detailed reporting [14]. In contrast, a prototype and Agile methods were adopted, resulting in a system tailored for sales, customer relationship management, and billing [15]. A mobile application was developed with features like Sales Orders, Purchase Orders, To-Do Lists, Visit Location tracking, and User Profiles [16]. CMS Odoo was harnessed for an application proficient in managing quotations, processing orders, handling invoicing, and tracking payments [17]. PHP was relied upon to streamline visit management, customer interactions, and order processing [18]. Finally, sales process automation for the Indonesian Islamic Bank was introduced using Excel software, primarily focusing on enhancing sales processes and generating comprehensive reports [19]. However, the mentioned research has not previously developed complaint features for SFA systems. Such an addition would enhance customer service by allowing customers to efficiently report issues or complaints about products or services [20]. This feature enables companies to respond more quickly and efficiently to customer complaints, ultimately improving customer satisfaction.

One Company that has yet to embrace the advantages of a SFA system is PT. Maju Jaya Kreasindo. To provide a brief overview, this Company operates within the furniture trading sector in East Jakarta, specializing in selling mattresses, beds, wardrobes, bookshelves, and various other furniture items. Their operational information management relies on manual processes, such as maintaining customer contacts, product records, transaction records, delivery schedules, and report generation. Unfortunately, this manual approach has proven ineffective and inefficient, lacking the automation required to streamline their sales team's activities effectively. Recognizing these challenges, our research endeavors to develop a web-based SFA system utilizing the prototyping method to aid the Company in automating its salesforce operations. What sets this study apart from previous research is its distinctive approach to creating a web-based SFA system, integrating Electronic Customer Relationship Management (eCRM) with a customized complaint management feature explicitly tailored to the organization's needs, achieved through prototyping. This comprehensive system will proficiently oversee various functions, including customer data management, product catalog maintenance, sales transaction tracking, delivery scheduling, efficient handling of customer complaints, and generating insightful sales reports. Ultimately, this innovation promises to empower better decision-making processes within the Company.

2.0 METHODOLOGY

In this study, prototyping is chosen because it offers a relatively short development duration for the system [21] and allows for easier and more flexible modifications according to customer requirements [22] while the system is still in the prototype stage. Additionally, this method was deemed appropriate for this research as the system to be built falls within the small to medium scale [23]. Therefore, the prototyping method was selected as the system development approach. Figure 1 shows several phases that need to be conducted using the prototyping method: Communication, Quick Plan, Modeling Quick Design, Construction of Prototype, and Deployment Delivery and Feedback [24].

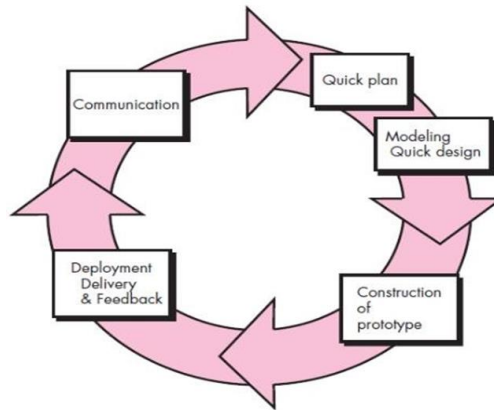


Figure 1. Prototyping Method [24]

Within the system development methodology, the initial stage is dedicated to problem analysis and research requirements. It entails conducting interviews with the Company Director, followed by on-site visits to engage in discussions with several staff members. The objective is to gather comprehensive information and delve into current challenges, categorized into Business Process and System Requirements. The second stage is centered on database design, system design, and modeling and creating the User Interface within the Quick Plan and Modeling Quick Design phase. For database design, phpMyAdmin serves as the primary tool. System design and modeling tasks are accomplished using the Unified Modeling Language (UML), a widely adopted industry standard for visualizing and modeling system development projects [25]. UML provides a standardized set of diagrams and notations that facilitate effective communication and comprehension of system representations. These visual representations vividly portray the workings of the system.

Meanwhile, the user interface design is conducted using the Figma platform. In the third stage, the Construction of the Prototype phase strongly emphasizes system development. The tools employed in the system development process include Visual Studio Code and Xampp, with the programming languages PHP and MySQL. This phase also encompasses rigorous system testing, performance evaluation, implementation, and continuous refinement until all user requirements are satisfactorily addressed. System testing holds paramount importance as it serves to identify and rectify any errors, ensuring seamless operation. Finally, the fourth stage involves Deployment, Delivery, and Feedback. This phase incorporates User Acceptance Testing, a critical step that validates the system's functionality [26]. Various user roles, including Super Admin and Admin, actively participate in this testing phase to confirm that all design features align with user requirements and perform as intended.

3.0 RESULT AND DISCUSSION

3.1 Communication

During the initial phase of system development, the Communication phase of the prototyping system development method is applied by conducting problem analysis and research needs assessment. In performing the problem analysis and research needs assessment, interviews are conducted to gather information and identify the current challenges faced by the organization. The problem analysis and research needs assessment are divided into two parts, namely the business process and the System Requirements.

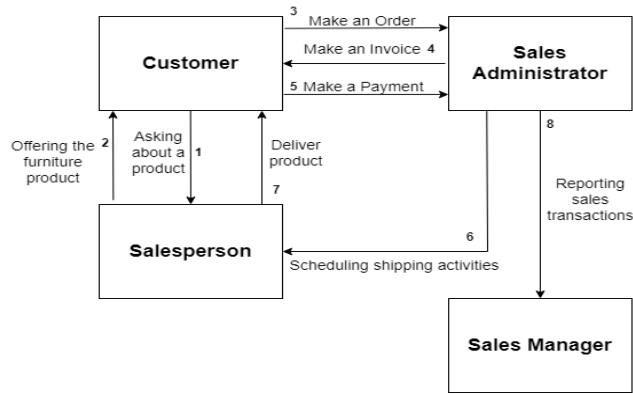


Figure 2. The Sales Business Process

As shown in Figure 2, the sales business process involves four parties: Customer, Sales Administrator, Salesperson, and Sales Manager. The Customer makes purchasing transactions, while the Sales Administrator handles management and operations. Salespersons sell furniture products to customers, and the Sales Manager leads and manages the sales team to achieve targets and maximize revenue. These parties collaborate to carry out the furniture sales process. Customers can select furniture products online through Tokopedia or offline by inquiring with the Salesperson. After discussing their needs with the Salesperson, customers receive an offer for suitable furniture products. Upon agreement, customers can order and purchase online through Tokopedia or offline. After placing an order, the Customer receives an invoice created by the Sales Administrator as a payment receipt. The Customer then pays using cash, bank transfer, or credit. The Sales Administrator records the sales transaction to ensure accurate documentation and improved customer service. Product delivery scheduling is manually done using Microsoft Excel, aiming to manage delivery time and achieve operational efficiency. The Salesperson delivers the furniture products to customers based on the scheduled time using the store's courier service or available fleet. Customers receive the returned products, which are now ready for use. After successful delivery, the Sales Administrator sends the sales transaction report to the Sales Manager, who can then plan sales strategies and identify target markets based on the provided information.

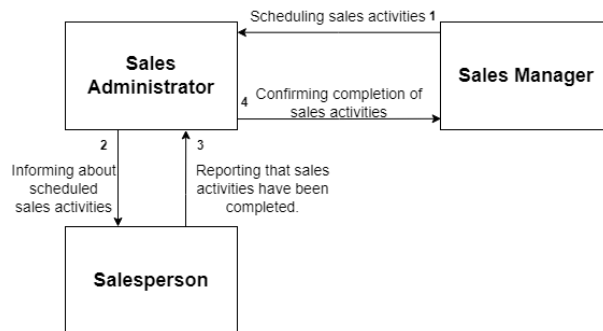


Figure 3. Sales Activity Business Process

Based on Figure 3, a sales activity business process occurs. The parties involved in this business process are the Sales Administrator, Sales Manager, and Salesperson. The process begins with the Sales Manager scheduling sales activities for the Sales Administrator, which includes activities such as delivering furniture products to customers. After the Sales Manager plans the sales activities, the Sales Administrator will inform the Salesperson to proceed with the designated sales activities set by the Sales Manager. After the Salesperson has completed the selected sales activities, they will report to the Sales Administrator that the assigned activities have been completed. The Sales Administrator will then promptly confirm with the Sales Manager that the sales activities assigned to the Salesperson have been completed.

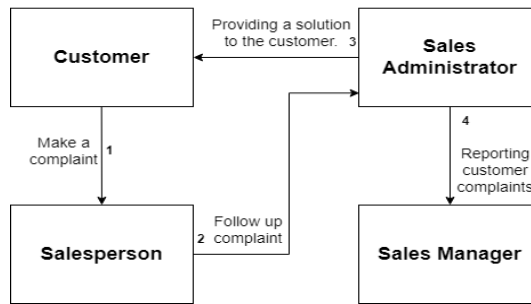


Figure 4. Complaint Business Process

As can be seen in Figure 4, the complaint business process involves four parties: The Customer, the Salesperson, the Sales Administrator, and the Sales Manager. Customers can complain by visiting the store offline or providing online reviews on Tokopedia, managed by the Salesperson. The Salesperson follows up on the complaint, discusses it with the Sales Administrator to find a solution, and responds to the Customer. The Sales Administrator periodically provides complaint reports to the Sales Manager for performance evaluation.

Table 1 provides an overview of the functional requirements for the Sales Force Automation system based on the business process in Figures 2, 3, and 4. The key features include General System Requirements, Contact Management, Product Management, Input Management, Sales Reporting, and Report Management. The system has two user roles: Sales Manager as the Super Admin and Sales Administrator as the Admin. The Super Admin manages user data, while the Super Admin and Admin can access Contact Management and Product Management. Input Management is accessible to both user roles, except for managing Sales Activity Data, which is exclusive to the Super Admin. Both user roles can utilize Sales Reporting, while the Super Admin completes Report Management for dashboard monitoring.

Table 1. Functional Requirements

Sales Force Automation Key Features	Requirements	Users	
		Super Admin	Admin
General System Requirement	Manage user data	Yes	No
contact management	Manage customer data	Yes	Yes
product management	Manage product data	Yes	Yes
input management	Manage sales transaction data	Yes	Yes
	Manage sales activity data.	Yes	No
	Manage complaint data	Yes	Yes
sales reporting	View dan Confirm sales activity data	Yes	Yes
report management	View Dashboard	Yes	No

3.2 Quick Plan & Modeling Quick Design

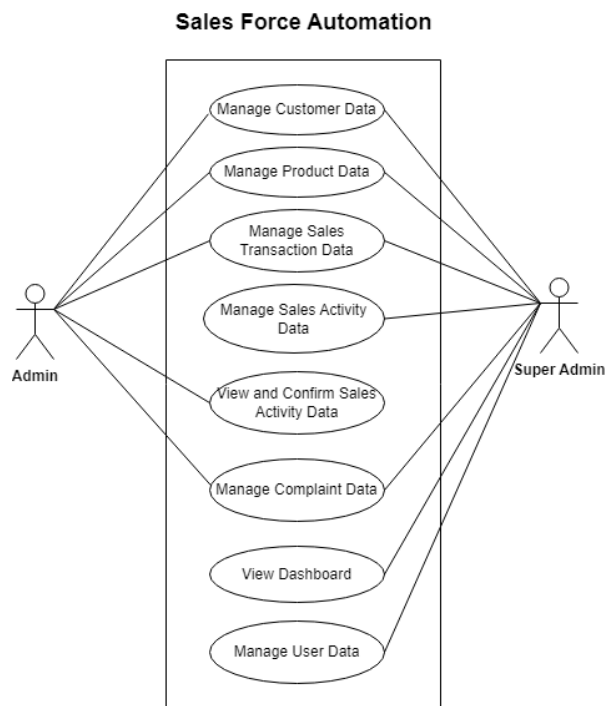


Figure 5. Use Case Diagram

In the second phase of system development, the researcher applied the Quick Plan and Modeling Quick Design phase within the prototyping system development approach to design the system, addressing the Company's specific challenges. It involved comprehensive system design and modeling, including creating a visual system model using the Unified Modeling Language (UML). As part of the Sales Force Automation system's design, a use case diagram shown in Figure 5 was developed. The system encompasses two key user roles, Admin and Super Admin, each with shared functionalities for managing customer data, product information, sales transactions, and complaints. Nevertheless, the Super Admin holds exclusive privileges, including access to real-time sales activity data, comprehensive dashboard monitoring, and user data management. The Super Admin effectively takes on the responsibilities of the Sales Manager, whereas the Sales Staff members are designated Admin personnel.

3.3 Construction of Prototype

3.3.1 Manage Customer Data

Figure 6 displays the customer data page accessible to both the Super Admin and Admin. The page provides customer name, address, phone number, priority, and status information. Customers are categorized into tiers based on their total transaction amount: Basic, Silver, Gold, and Platinum. Users can add and modify customer data but cannot delete it. However, they can deactivate customer data if the Customer is no longer active in transactions with the Company.

Data Pelanggan

No.	Nama Pelanggan	Alamat	Nomor HP	Prioritas	Status	Aksi
1	Agil	KP. WARUNG JENGKOL RT 006/ RW 02 NO. 26	(+62) 85640426229	Silver	Aktif	Detail
2	Ahmad Lutfi	PONDOK KINTAMANI, JL. MARGONDA RAYA JALAN PINANG GANG KECAPI	(+62) 89616866937	Gold	Aktif	Detail
3	Anita Fuji	JL. BUMI RAYA 6 RT 02 / RW 03 NO. 54 DUREN SAWIT JAKARTA TIMUR	(+62) 81808881896	Basic	Aktif	Detail
4	Asmiwanti (Ibu Rafli)	JL. DELIMA V GG. XI NO. 184 RT 014/ RW 05 PERUMNAS KLENDER	(+62) 81289677966	Silver	Aktif	Detail
5	Aulia Novisyahrani	JL. H. HANAFI GG. ANGGREK RT 011/ RW 02	(+62) 81385133942	Silver	Aktif	Detail
6	Bp Aditya Manda	JL. SWAKARSA II NO.44 RT 03/ RW 04 JATIBENING BARU PONDOK GEDE	(+62) 81807140696	Platinum	Aktif	Detail
7	Bp Amir	JL. HARPA 1 BLOK AA NO. 23 KELAPA GADING JAKARTA UTARA	(+62) 81385207175	Basic	Aktif	Detail
8	Bp Arif	RUKO PERMATA JL. BEKASI TIMUR IX 17 06 RT 04/ RW 03 RAWAMANGUN (GOLDEN JANAHA) RUMAH MAKAN SEDERHANA	(+62) 85811888567	Silver	Aktif	Detail
9	Bp Basana	CAKALANG 2 NO.27 RAWAMANGUN DEKAT TERMINAL	(+62)	Silver	Aktif	Detail

Figure 6. Manage Customer Data Page

3.3.2 Manage Product Data

Figure 7 represents the product data page accessible to both the Super Admin and Admin. The product feature provides various information, including product code, product name, category, brand, item type, unit, cost price, selling price, description, and product status. In this system, users cannot delete product data but can deactivate product data if the product is no longer available for sale. Users can only add and modify product data.

Data Produk

Kode Produk	Nama Produk	Jenis	Merek	Tipe Item	Satuan	Harga Pokok	Harga Jual	Keterangan	Status	Aksi
LE00B160	Buffet 160	Laci	BAROKAH	INV	PCS	Rp. 1.500.000,00	Rp. 1.700.000,00	Black	Aktif	Detail
LE00RJK160	Ranjang Kayu 160	Ranjang Kayu	LESTARI	INV	PCS	Rp. 1.000.000,00	Rp. 2.300.000,00		Aktif	Detail
OL00B160CK	Bearland 160 Coklat	Matras	OLYMPIC	INV	PCS	Rp. 1.000.000,00	Rp. 1.200.000,00		Aktif	Detail
PO00L2PTPSW001	Lemari 2 Pintu Populer SW 016	Lemari	POPULAR	INV	PCS	Rp. 500.000,00	Rp. 800.000,00		Aktif	Detail
SPC00BAN	Bantal Spring Care	Busa	SPRING CARE	INV	PCS	Rp. 20.000,00	Rp. 50.000,00		Aktif	Detail
SPC00GUL	Guling Spring Care	Guling	SPRING CARE	INV	PCS	Rp. 20.000,00	Rp. 50.000,00		Aktif	Detail
RA00DIRA90HI	Divan Rangka 90 Hitam	Divan	RANGGA	INV	PCS	Rp. 1.000.000,00	Rp. 1.250.000,00		Aktif	Detail
FO00BFOS160	Busa Foamita Super 160	Busa	BAROKAH	INV	PCS	Rp. 1.000.000,00	Rp. 2.440.000,00		Aktif	Detail
BR00L2PTJBF14	Lemari 2 Pintu Jumbo BF 14	Lemari	BAROKAH	INV	PCS	Rp. 1.500.000,00	Rp. 3.300.000,00		Aktif	Detail

Figure 7. Manage Product Data

3.3.3 Manage Sales Transaction Data

Figure 8 represents the sales transaction data page accessible to both the Super Admin and Admin. The sales transaction feature provides various information, including transaction date, customer name, total transaction amount, and payment method. Users cannot delete or modify the sales transaction history in this system. Users can only add new sales transaction data. To view the details of a transaction, users can click the "Detail" button in the action column. Additionally, users can export sales transaction data to an Excel format and print invoices in PDF format for the sales transaction data on this page.

Data Transaksi

No.	Tanggal Transaksi	Nama Pelanggan	Total Transaksi	Metode Pembayaran	Aksi
1	22-05-2023 17:06	Ahmad Lutfi	Rp. 1.700.000,00	Transfer	Detail Export Excel Print
2	19-05-2023 16:14	Agil	Rp. 2.300.000,00	Transfer	Detail Export Excel Print
3	19-05-2023 11:32	Bp Aditya Manda	Rp. 1.700.000,00	Transfer	Detail Export Excel Print
4	26-02-2023 00:00	Anita Fuji	Rp. 1.250.000,00	Transfer	Detail Export Excel Print
5	26-02-2023 00:00	Asmiwati (Ibu Rafilis)	Rp. 2.440.000,00	Transfer	Detail Export Excel Print
6	19-02-2023 00:00	Aulia Novisyaharani	Rp. 3.300.000,00	Transfer	Detail Export Excel Print
7	15-02-2023 00:00	Bp Amir	Rp. 1.000.000,00	Transfer	Detail Export Excel Print
8	13-02-2023 00:00	Bp Arif	Rp. 1.500.000,00	Cash	Detail Export Excel Print
9	12-02-2023 00:00	Bp Basana Sidabutar	Rp. 3.500.000,00	Transfer	Detail Export Excel Print

Figure 8. Manage Sales Transaction Data Page

3.3.4 Manage Sales Activity Data

Figure 9 represents the sales activity page accessed by the Super Admin. The sales activity feature provides various information, including user name, activity category name, and customer name, along with their priority level, activity deadline, description, activity creation date, and activity status. In this system, only the Super Admin can add sales activity data, while the Admin cannot add, modify, or deactivate sales activity data. The Super Admin can still alter and deactivate sales activity data if the submitted data's status is "Not Executed" or has not received confirmation from the Admin that the activity has been completed. When the Admin presses the "Done" button, and the status changes to "Awaiting Confirmation," the sales activity data cannot be changed again. The Super Admin can click the "Detail" button in the action column to view the details of the completed sales activities.

Aktivitas Sales

No.	Nama	Aktivitas	Pelanggan	Tenggang Waktu	Deskripsi	Dibuat Tgl	Status	Aksi
1	admin	Pengiriman	Agil - Silver	05-02-2023 10:00	KP. WARUNG JENGKOL RT 006/ RW 02 NO. 26 KEL. RAWATERATE KEC. CAKUNG	18-05-2023 16:53	Selesai	Detail
2	admin	Pengiriman	Ahmad Lutfi - Gold	09-02-2023 00:53	PONDOK KINTAMANI, JL. MARGONDA RAYA JALAN PINANG GANG KECAPI NO. 44 RT 01 / RW 03 BEJI 16424 KOTA DEPOK JAWA BARAT	19-05-2023 00:53	Selesai	Detail
3	admin	Pengiriman	Anita Fuji - Basic	18-02-2023 11:24	Jalan pegangsaan No. 11	19-05-2023 11:25	Selesai	Detail
4	admin	Pengiriman	Bp Arif - Silver	14-02-2023 22:53	RUKO PERMATA, JL. BEKASI TIMUR IX 17 06 RT 04/ RW 03 RAWAMANGUN (GOLDEN JANAH) RUMAH MAKAN SEDERHANA	21-05-2023 22:53	Selesai	Detail
5	admin	Pengiriman	Bp Aditya Manda - Platinum	16-02-2023 23:54	tes	21-05-2023 23:54	Selesai	Detail
6	admin	Pengiriman	Ahmad Lutfi - Gold	22-06-2023 16:31	Jalan Cibodas blok 2 no 1	19-06-2023 16:32	Selesai	Detail
7	admin	Pengiriman	Agil - Silver	28-06-2023 13:57	jalan seruni 9	28-06-2023 13:57	Menunggu Konfirmasi	Detail Konfirmasi

Figure 9. Manage Sales Activity Data Super Admin Page

Figure 10 represents the sales activity page accessed by the Admin. The sales activity feature in this system provides the same information as the Super Admin view, including user name, activity category name, and customer name, along with their priority level, activity deadline, description, activity creation date, and activity status. However, the Admin cannot add, modify, or deactivate sales activity data in this system. The Admin can only receive sales activity data assigned by the Super Admin and confirm to the Super Admin when an activity is completed by clicking the "Done" button. The "Done" button on the admin page will appear when the Super Admin assigns sales activity data to the Admin.

Aktivitas Sales

No.	Nama	Aktivitas	Pelanggan	Tenggang Waktu	Deskripsi	Dibuat Tgl	Status	Aksi
1	admin	Pengiriman	Agil - Silver	05-02-2023 10:00	KP. WARUNG JENGKOL RT 006/ RW 02 NO. 26 KEL. RAWATERATE KEC. CAKUNG	18-05-2023 16:53	Selesai	-
2	admin	Pengiriman	Ahmad Lutfi - Gold	09-02-2023 00:53	PONDOK KINTAMANI, JL. MARGONDA RAYA JALAN PINANG GANG KECAPI NO. 44 RT 01 / RW 03 BEJI 16424 KOTA DEPOK JAWA BARAT	19-05-2023 00:53	Selesai	-
3	admin	Pengiriman	Bp Arif - Silver	14-02-2023 22:53	RUKO PERMATA JL. BEKASI TIMUR IX 17 06 RT 04/ RW 03 RAWAMANGUN (GOLDEN JANAH) RUMAH MAKAN SEDERHANA	21-05-2023 22:53	Selesai	-
4	admin	Pengiriman	Bp Aditya Manda - Platinum	16-02-2023 23:54	tes	21-05-2023 23:54	Selesai	-
5	admin	Pengiriman	Anita Fuji - Basic	18-02-2023 11:24	Jalan pegangsaan No. 11	19-05-2023 11:25	Selesai	-
6	admin	Pengiriman	Ahmad Lutfi - Gold	22-06-2023 16:31	Jalan Cibodas blok 2 no 1	19-06-2023 16:32	Selesai	-
7	admin	Pengiriman	Agil - Silver	28-06-2023 13:57	jalan seruni 9	28-06-2023 13:57	Menunggu Konfirmasi	-

Figure 10. Manage Sales Activity Data Admin Page

3.3.5 Manage Complaint Data

Figure 11 depicts the complaint page accessible to both the Super Admin and Admin. The complaint feature provides various information, including customer name, date, category, complaint details, solution, and status. In this system, users are unable to delete complaint data. However, as an alternative, users can deactivate complaint data if the data becomes inactive or the complaint has been resolved based on the provided solution. Users are only allowed to add and modify complaint/feedback data. Complaint/feedback records are input based on customer grievances expressed directly or online through buyer reviews on Tokopedia. The complaint data input process consists of three categories: delivery, product, and packaging. The delivery category is used for buyer reviews with complaints related to the delivery process, the product category is used for buyer reviews with complaints about receiving products that do not match the Customer's order or damaged items, and the packaging category is used for buyer reviews with complaints about improper packaging resulting in damaged goods.

Komplain/Kritik/Saran

No.	Nama Pelanggan	Tanggal Komplain	Kategori	Komplain	Solusi	Tgl Solusi Diselesaikan	Status	Aksi
1	Dava	29-06-2023	Pengiriman	Sebaiknya pengiriman dipercepat	Memilih ekspedisi yang terpercaya	30-06-2023	Aktif	Detail
2	I**j	18-05-2023	Pengemasan	packing plastiknya beda dengan yang di foto	Mengemas produk dengan lebih rapi	18-05-2023	Aktif	Detail
3	Dewi	18-05-2023	Produk	Bantal dan gulingnya kayak batu, gak bisa dipake sama sekali! gak sesuai deskripsi	Melakukan Quality Control terhadap produk sebelum dikirimkan kepada pelanggan	12-05-2023	Aktif	Detail
4	I**h	18-05-2023	Produk	Pas dibuka bantal kempes, buruk sekali	Melakukan Quality Control terhadap produk sebelum dikirimkan kepada pelanggan	22-05-2023	Aktif	Detail

Showing 1 to 4 of 4 entries

Figure 11. Manage Complaint Data Page

3.3.6 View Dashboard

Figure 12 represents a dashboard page that can only be accessed by the Super Admin. The dashboard feature displays various pieces of information, such as the Top 5 Product Sales, allowing viewing of the best-selling products. The Complaints section provides insights into the most frequent complaint categories. The Customer Priorities section shows the number of customers in each tier. The Top 5 Sales Profit Development by Product allows for monitoring the profit margin of specific products in a given month. In comparison, the Top 5 Sales Quantity Development by Product provides information on the quantity sales growth of a particular product. These pieces of information are derived from the data inputted by users in each feature and are visualized through pie charts and line charts.

Dashboard

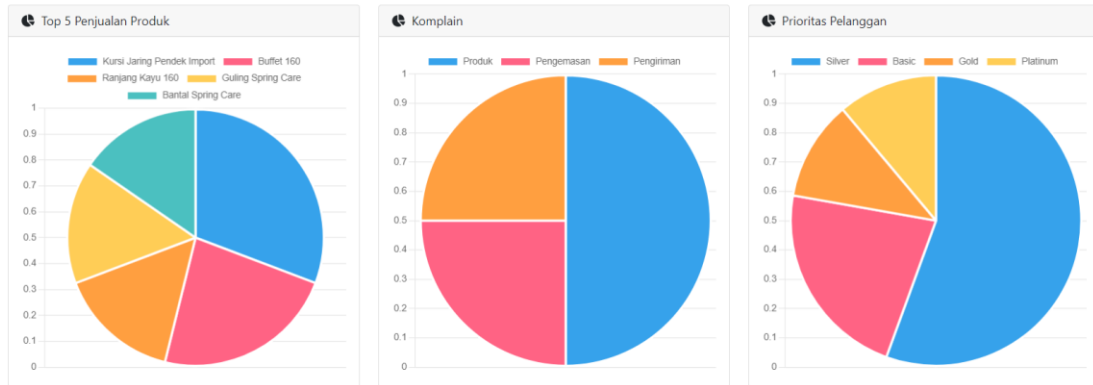


Figure 12. View Dashboard Page (1)

Figure 13 represents a dashboard page that can only be accessed by the Super Admin. Within the Super Admin's exclusive dashboard, an "Admin Data" section serves as a Sales Force Automation system user data repository. It cannot be deleted once admin data is entered into the system. The Super Admin can deactivate other admin data if a user becomes inactive or is no longer employed at the Company. Editing admin data can only be done through the profile menu of each account, allowing modifications to the Admin's name and password. The Super Admin can also activate new accounts when new users or employees register.

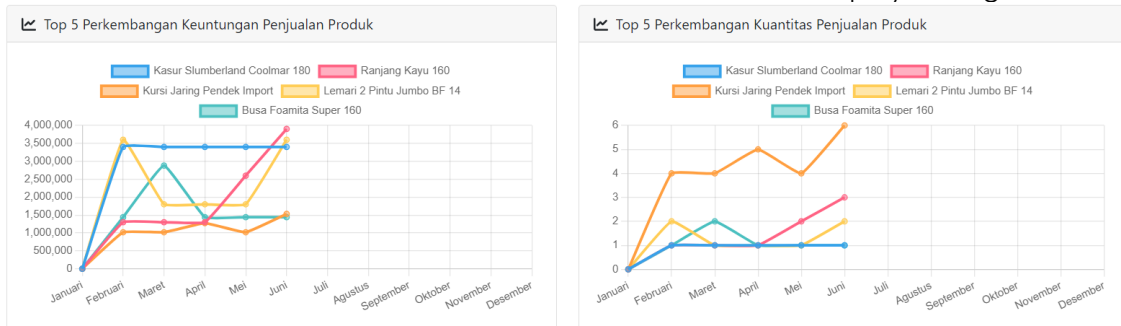


Figure 13. View Dashboard Page (2)

3.3.7 Manage User Data

Figure 14 represents the user profile page that both the Super Admin and Admin can access. The user profile page displays various information, including the user's name, email, old password, new password, and password confirmation. In this system, users can configure their profiles by changing their username and password. However, the email address cannot be modified.

Figure 14 shows the user profile page for a Super Admin. The page includes a sidebar menu with options like Dashboard, Pelanggan, Produk, Transaksi Penjualan, Aktivitas Sales, and Komplain. The main content area is titled "Profil" and contains the following sections:

- General:** Fields for Name (superadmin) and Email (superadmin@gmail.com), with a "Ubah" button.
- Password:** Fields for Password Lama, Password Baru, and Konfirmasi Password Baru, with a "Ubah" button.

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Figure 14. Profile User Page

3.4. Deployment Delivery and Feedback

During the Deployment Delivery and feedback phase of the prototyping system development method, the researcher conducted User Acceptance Testing. The system was built, and the User Acceptance Testing process was carried out, involving two roles: the Sales Manager as the Super Admin and the Sales Administrator as the Admin. The objective of User Acceptance Testing was to ensure that all system features were functioning correctly according to user requirements. Several indicators were created for percentage calculation, ranging from strongly disagree (1 point) to agree (5 points) strongly.

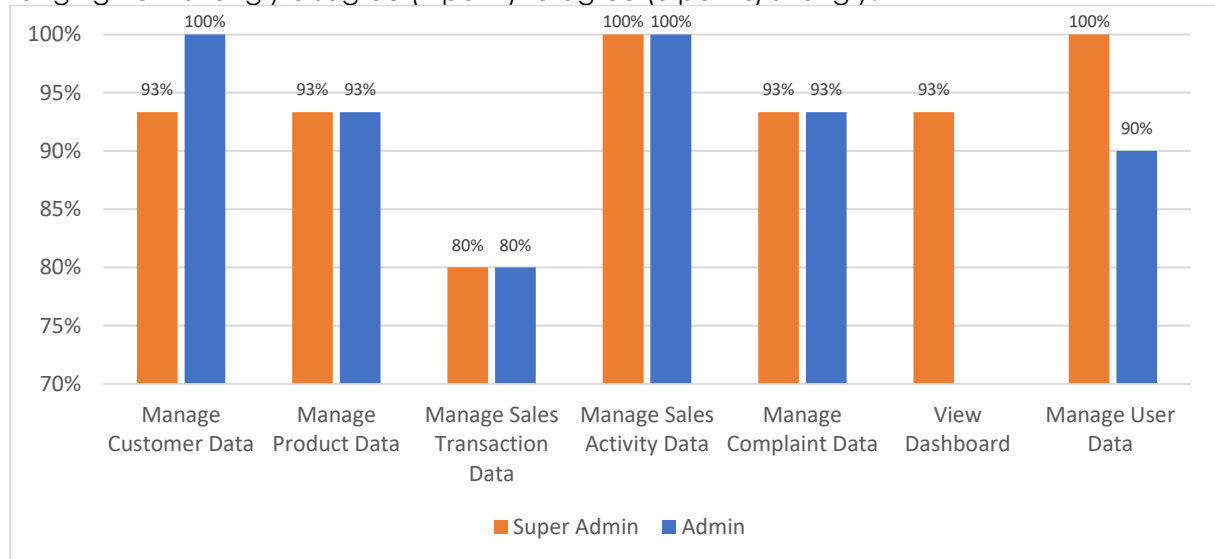


Figure 15. User Acceptance Testing

The User Acceptance Testing results, as presented in Figure 15, demonstrate key users' successful adoption and satisfaction with the system. The Sales Manager achieved an impressive average UAT score of 93.33%, reflecting the system's strong alignment with their needs and expectations. The Sales Administrator also obtained a commendable average UAT score of 92.94%, indicating high user satisfaction. In customer data management, the Admin's complete acceptance level is 100%, and the Super Admin's level is 93%, affirming the system's effectiveness in these areas.

Afterward, the User Acceptance Testing results reveal that for four specific features, both the Super Admin and Admin roles have achieved identical acceptance levels. Notably, they share a high acceptance level of 93% in effectively managing product data. Both positions have a similar acceptance level of 80% in handling sales transactions. The system has demonstrated exceptional performance in efficiently managing sales activity data and addressing customer complaints, with both roles achieving complete acceptance, scoring 100% and 93%, respectively. Furthermore, the Super Admin has demonstrated significant strides in viewing the dashboard, reaching an acceptance level of 93% despite the Admin's lack of access to this feature. Finally, in user data management, the Super Admin has attained a flawless acceptance level of 100%, while the Admin has achieved a strong acceptance level of 90%. Overall, these User Acceptance Testing results underscore the system's positive impact, highlighting its effectiveness in meeting user expectations, streamlining processes, and ultimately contributing to improved operational efficiency and decision-making within the organization.

5.0 CONCLUSION

Based on the research conducted at PT. Maju Jaya Kreasindo, a Sales Force Automation system based on Electronic Customer Relationship Management, was designed to automate the tasks of its employees or sales personnel. The design of a web-based Sales Force Automation system can be developed using the prototyping method. The prototyping method is commonly used as a development approach that allows flexibility in system development, ensuring that user requirements are well met. In this study, the prototyping method has been successfully implemented to design and build a web-based Sales Force Automation system that automates the sales process. As a result, users can easily access the Sales Force Automation system through the web and perform various operational activities of the

Company, such as managing customer contacts, products, sales transactions, sales activities, and customer complaints. By employing the prototyping method, the Company benefits from faster development, a better understanding of user needs, and the ability to adapt to changing user requirements.

The Sales Force Automation system was designed and evaluated to meet user requirements. User Acceptance Testing was conducted to ensure system functionality, resulting in average scores of 93.33% for the Sales Manager (Super Admin) and 92.94% for the Sales Administrator (Admin). These scores indicate the system has successfully met user needs and passed the functionality evaluation. However, to further enhance the design, gathering feedback from users and stakeholders could be beneficial to identify any areas for improvement or additional features that could be implemented in future iterations. This feedback can contribute to refining the system and ensuring its continued success in meeting the evolving needs of the users and the business.

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