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Development Model of Halal Order Management Systems (OMS) for Online Business Pet Shop in Indonesia

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ABSTRACT

The rapid growth of the pet shop industry in Indonesia highlights the need for an efficient and halal-compliant operational system to meet the increasing demand for halal-certified products among Muslim consumers. This study proposes the development and implementation of a Halal Online Management System (OMS) that integrates real-time inventory management, order processing, shipment tracking, and compliance with halal standards. Using Soft Systems Methodology (SSM), the research addresses operational challenges, including stock errors, delivery inefficiencies, and the segregation of halal and non-halal products. The proposed system ensures a streamlined workflow while fostering transparency and trust among stakeholders. The implications of this system are significant for stakeholders: consumers benefit from assured halal compliance and enhanced service quality, employees experience greater efficiency through automated processes, and business owners gain a competitive advantage in a rapidly evolving market. Additionally, logistics providers benefit from improved shipment accuracy and operational collaboration. By aligning business practices with halal principles, the system not only boosts customer satisfaction but also reinforces ethical and religious values in the supply chain. This conceptual model has broader implications for advancing halal business practices and offers a scalable framework for similar industries. Further research is recommended to empirically validate the system's impact on stakeholder engagement and business performance.

Keywords: *Halal; Order Management System; Pet Shop; Soft System Methodology*

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1. Introduction

The acceleration of technological advances today encourages the business world to continue to adapt and innovate, following the dynamics that exist so that it can remain competitive with its competitors. The development of technology and information is increasingly advanced in a business, and the implementation of technology is often used to support business processes to increase profits and competitiveness. In this case, the Internet is one of the outputs of the rapid advancement of technology and information that can be utilized by businesses to stay in accordance with market conditions and target markets.

The changing market trend related to the presence of the Internet is the growing interest or purchasing power of buyers online. This is, of course, a very open opportunity for entrepreneurs who want to develop their business by selling online. Entrepreneurs who previously had offline businesses can also develop their businesses with online sales as one of the attractions for buyers. This has also resulted in many buyers who have never shopped online now being forced to rely on digital shopping platforms to fulfil their needs.

The existence of the Internet, which has developed as part of the development of up-to-date and real-time information technology, is the right solution in the digital era. One of the business industries affected by the development of the Internet is pet shops. In recent years, the pet shop industry worldwide has experienced rapid growth, fuelled by the increasing demand for pet ownership and demand for pet products. Indonesia, the fourth most populous country in the world, has also experienced a surge in the pet industry, especially in the online pet shop segment (Simangunsong & Subagyo, 2021). When looking at pet ownership, there has been at least a 40 percent increase in the last 10 years, with around 47 percent of the 72 percent of pet ownership being cats (Rakuten Insight, 2021).

Cats, which are the pets of the majority of the population in Indonesia, are correlated with the pet food market share. According to Magpie E-commerce Intelligence research, the cat food market in Indonesia reached Rp470.1 billion with sales of 30.7 million products from January to May 2024. Wilhendra, CEO of Magpie, revealed that the highest increase occurred in the pet food category, with Gross Merchandise Value (GMV) in May 2024 reaching 33.56 percent from the previous month.

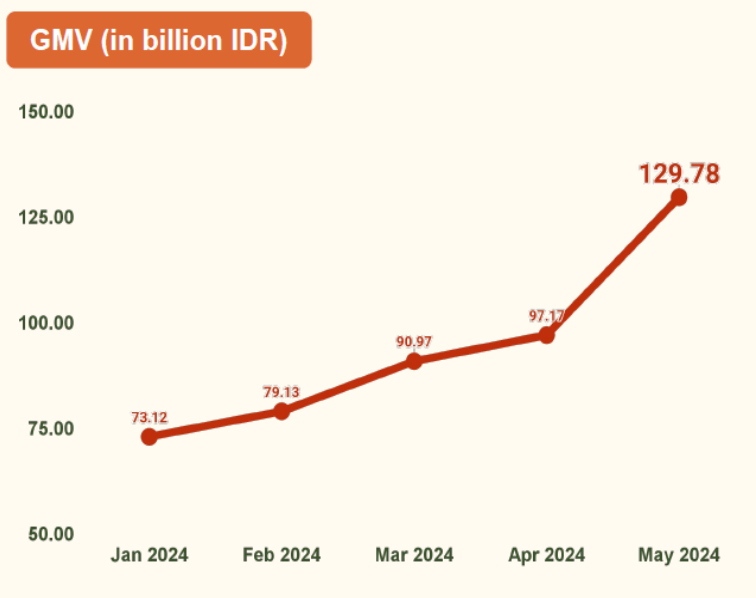

Figure 1. Growth of the Pet Food Category E-commerce Market
Source: (Magpie Ecommerce Intelligence, 2024)

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Findings from Magpie E-commerce Intelligence also showed that Shopee ranked first as the e-commerce with the highest sales in the pet shop category. Shopee dominated with a market segment of 74.1 percent, followed by Tokopedia at 18.7 percent and Lazada at 6.87 percent. Shopee significantly increased its segment by 47 percent in May, while Tokopedia saw a 12 percent increase in the same period. Compared to other e-commerce platforms, Shopee is preferred as a one-stop platform for purchasing products in the pet shop category.

Figure 2. E-Commerce Market Share for Pet Food Category
Source: (Magpie Ecommerce Intelligence, 2024)

Meanwhile, Royal Canin was the top-selling brand in the cat food category, reflecting consumers' preference for product quality. The top five brands accounted for more than half of total sales, with Royal Canin topping the cat food category with a market share of 17.2 percent. Cat Choize came in second with 12.5 percent, while Me-O held 9.6 percent.

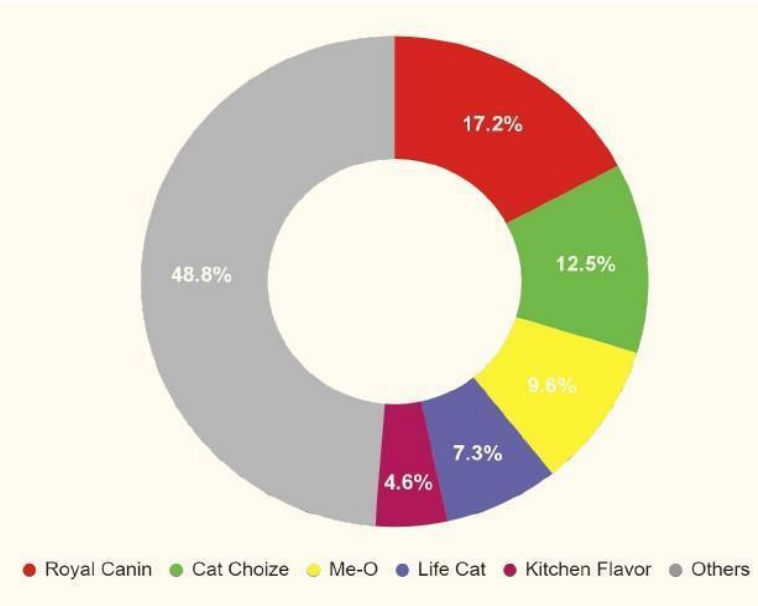

Figure 3. Cat Food Market Share by Brand
Source: (Magpie Ecommerce Intelligence, 2024)

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However, the rapid growth of the online pet shop industry in Indonesia also emphasizes the need for a halal Order Management System (OMS) to streamline the order process on a halal basis. Muslim consumers in Indonesia have a strong preference for pet food products that are labeled halal, driven by the belief that halal products are not only in accordance with the law but also comply with the law. This is driven by the belief that halal products not only comply with religious Halal but have become a new paradigm in modern business and exchange in ensuring product quality. Halal has influenced people's way of life by changing their attitudes, tastes, and values (Lada et al., 2009). In addition, the shift in the marketing policy of the Consumer Packaged Goods (CPG) industry, which adopts a value-driven approach along with a customer-centric approach, has put halal projections into the modern business style. Halal requires every company that produces or trades halal products to ensure halal integrity until the end consumer (Ali et al., 2017).

Halal labeling on pet food packaging assures Muslim pet owners that the food they provide is clean, free from prohibited ingredients, and aligns with their religious beliefs. Additionally, halal-labeled products are perceived as safer and more hygienic for their pets. Consequently, halal indicators on packaging play a significant role in influencing purchasing decisions, particularly among consumers who prioritize religious considerations in their product choices. Marketing strategies that emphasize halal certification enhance the appeal of products within the Muslim market. As such, pet food manufacturers are encouraged to incorporate halal labeling into their products to meet the specific demands of religiously observant consumers (Prawira & Pangaribuan, 2023).

This condition must be responded to immediately by pet shop business owners because, according to Oracle, having a reliable OMS for every business, including pet shops, will have a significant impact on simplifying the ordering process (Oracle, 2023). The OMS will automate tasks such as order recording, inventory management, order regulations, and order tracking. This can overcome common obstacles such as inadequate customer databases, inefficient delivery methods, and lack of initiative in optimizing logistics patterns.

Another area of concern is the mechanism of selling pet shop products through multi-channels, such as physical stores, e-commerce sites, and social media (e.g., Meta and Instagram) (Oracle, 2023). These multi-channel sales often face challenges such as management complexity that leads to increased costs and decreased profitability per channel (Sharma & Mehrotra, 2007; Yuan & Zhu, 2022). Of course, this can be overcome if the pet shop management structure can be done well, specifically referring to the application of an integrated OMS to consumer orders in various channels. The issue of pet shop stock inventory can also be optimized by preventing out-of-stock or overstock situations. Through accurate inventory information, pet shop owners can fulfill orders from the most suitable geographical location, reduce shipping costs, and increase customer satisfaction. This is essential as data from Oracle reveals that 29 percent of consumers will shop elsewhere if their regular store is out of stock of the items they need (Oracle, 2023). To address this, this research aims to explore the development of an OMS for online pet shops in Indonesia using the Soft Systems Methodology (SSM) approach.

In this research, the SSM approach is chosen because it has advantages, such as being able to understand and solve complex problems in business systems. In the context of developing halal OMS pet shops in Indonesia, SSM will start by identifying and understanding the problems faced by involving stakeholders to get a broader perspective (multiperspective). Once a particular model is obtained to solve the problem, then a continuous evaluation mechanism is also carried out to ensure that the method works well and meets the needs of users, known as the feedback-based iteration process (Checkland, 2013). Despite the growing demand for halal-

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certified products, the pet shop industry lacks integrated systems to manage halal compliance across inventory, delivery, and returns. Existing studies on halal supply chains have primarily focused on manufacturing, education, and MSMEs, leaving a gap in e-commerce-specific applications (Aziz et al., 2021; Dzikrulloh & Koib, 2021; Hamid et al., 2024; Marjudi et al., 2023; Retnowati et al., 2023). Septiana and Maulany have conducted other previous research related to the implementation of SSM regarding the implementation of SSM in the development of data and information management at the Adventist University of Indonesia (Septiana & Maulany, 2021). Saputri and Sriwana discussed the need for a monitoring system for business improvement of chocolate Ibunmanis MSMEs using SSM (Saputri & Sriwana, 2024), Linggo et al. discussed the design of an ODOO-based warehouse system at Muhamadiyah Bandung Hospital using SSM (Linggo et al., 2016), Hananto & Septiani related to the design of a production-based practice learning model using an SSM approach (Hananto & Septiani, 2020).

If we compare the previous research in similar industries related to pet shops, current research generally only discusses website design and information systems) as for these studies, among others: WEB-based inventory of goods using the FIFO method (Salsabila & Andryana, 2022), Designing a sales website at pet shop Puffy Juwana using the Laravel framework (Tanuwidjaja & Somya, 2023), Designing information systems for sales, purchases and grooming services at Meow Pet Shop (Yuliani et al., 2022) and developing administrative information systems, 2022) and the development of pet shop administration information systems with the FAST method (Wahyuni & Aziz, 2024). This study addresses this gap by proposing a Halal OMS tailored for online pet shops using SSM. The novelty lies in integrating halal compliance into OMS to ensure operational efficiency while meeting religious standards. The research underscores the importance of a systematic, stakeholder-inclusive approach to overcoming logistical challenges in halal compliance.

2. Literature Review

2.1. Halal Order Management Systems

An order management system (OMS) is a digital platform created to efficiently and cost-effectively manage and execute securities orders (Murphy, 2024). Businesses—especially e-commerce retailers and sellers—use an OMS to optimize and automate the entire sales and fulfillment cycle, from the point of purchase through to customer delivery. For businesses, an order management system is a digital tool used to track an order from its initiation to its fulfillment. It captures all the data and processes involved throughout the order's entire journey. This covers order entry, routing, inventory management, order fulfillment, and post-order follow-up or services.

The transformative power of technology and the demand for quality have led to the integration of Halal standards into modern business practices, redefining how products and services meet consumer needs. This demand for assured quality and adherence to Halal principles has extended to all elements of the supply chain. Halal Supply Chain Management (HSCM) applies a process-oriented methodology, requiring strict documentation and adherence to standards across procurement, handling, storage, transportation, and retailing.

According to Khan et al., Halal and Supply Chain Management (HSCM) is defined as (Khan et al., 2018):

> *"A process-oriented approach, to manage the flow of material, information and capital; through strategic coordination & collaboration of stakeholders, as to create value to*

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> *improve the performance of the Supply Chain, in such a way that Halal & Toyyib is extended from farm to fork."*

A process-oriented approach in the Halal Supply Chain mandates that every activity, including procurement, handling, processing, storage, transportation, and retailing, must adhere to established and credible Halal standards and be meticulously documented. These processes are designed to prevent cross-contamination with non-Halal substances, whether physical, chemical, or biological in nature. Effective supply chain management encompasses product, capital, and information flows, all of which must align with Shariah requirements to ensure Halal integrity for consumers. Furthermore, maintaining Halal integrity necessitates strategic coordination and collaboration among supply chain stakeholders, facilitated through the sharing of resources, such as information, technology, and expertise. An Order Management System (OMS) can play a crucial role in this context by enabling precise documentation and integration of all processes, ensuring compliance with Halal standards, enhancing real-time data sharing, and fostering seamless collaboration among partners in the supply chain.

2.2. Soft Systems Methodology

The Soft Systems Methodology (SSM) emerged from research at Lancaster University, which aimed to apply Systems Engineering techniques to tackle management and business issues. Initially, the researchers tried using a Hard Systems approach. However, they encountered difficulties, particularly during problem definition, due to differing stakeholder perspectives on the nature, purpose, and boundaries of the system and its associated problems. Burge explains that the Soft Systems Methodology (SSM) was developed through the contributions of Peter Checkland and Brian Wilson (Burge, 2015; Wilson & Van Haperen, 2015). Checkland emphasized the use of "action research" to create a flexible and practical framework for addressing "soft" problems, which are typically complex and poorly defined (Checkland, 2013). Similarly, Wilson expanded on this by integrating tools such as the Rich Picture, Conceptual Model, CATWOE, and the Formal Systems Model, designed to help users systematically address such problems (Wilson, 2001). These tools are particularly effective in resolving issues that arise from intricate social interdependencies (Kamari et al., 2019).

The SSM utilizes a visual representation called a Rich Picture to capture and understand the complexity of a particular problem situation, including its diverse elements and the perspectives of relevant stakeholders. SSM employs a Conceptual Model as a visual tool to simplify and illustrate the connections and components of a specific problem and its proposed solution, thereby facilitating the understanding and communication of complex issues. Essential to the soft systems methodology, CATWOE aids in analyzing complex problems by focusing on six key elements: Customers, Actors, Transformation, Worldview, Owners, and Environmental Constraints.

Burge explained that SSM typically follows a seven-stage process that includes both real-world activities and systems-thinking activities (Burge, 2015):

1) Problem Situation Unstructured: Gather information about the situation.
2) Problem Situation Expressed: Create a 'rich picture' to visualize the issues.
3) Root Definitions of Relevant Systems: Define what systems are relevant to the problem.
4) Conceptual Models: Develop models based on these definitions.

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5) Comparison of Models with Reality: Assess how these models relate to real-world situations.
6) Feasible and Desirable Changes: Identify changes that stakeholders agree upon.
7) Action to Improve the Situation: Implement agreed-upon changes

3. Research Methodology

This research is action research with a qualitative research approach using Soft System Methodology (SSM) as a problem analysis technique. The qualitative research approach emphasizes understanding problems in social life based on holistic, complex, and detailed conditions of reality or natural settings (Murdiyanto, 2020). This research was conducted using an SSM approach, which was applied to the model of the level of understanding of the implementation of the halal order management system in online pet shops in Indonesia. The collected data was analyzed through qualitative and narrative synthesis to develop insights and frameworks for the conceptual model. Primary data were collected directly from research participants for this study, and secondary data came from library research. Library research can be understood as a technique for gathering information and data using a variety of library resources, such as reference books, relevant previous study findings, scientific papers, notes, and different periodicals. Systematic activities are carried out to collect, evaluate, and draw conclusions from data using particular approaches or procedures to identify answers to the problems addressed (Sari & Asmendri, 2020). The stages of research, according to Checkland & Poulter, define 7 (seven) stages in SSM (Checkland & Poulter, 2010), which is also known as the Checkland protocol, as shown in the figure as follows:

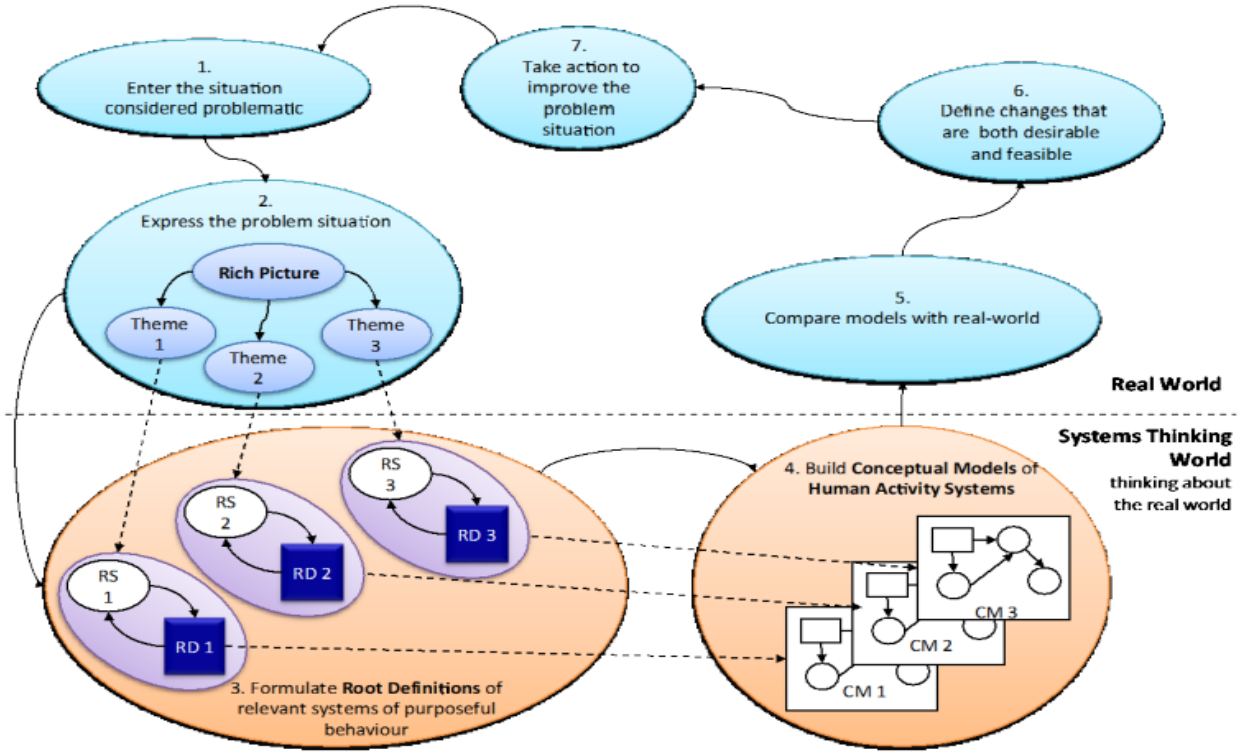

Figure 4. Soft Systems Methodology Process
Source: (Burge, 2015)

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1) Situational Analysis (Unstructured Problem Situation)

This stage involves identifying the challenges in the online pet shop's order management, including issues such as stock errors, delays in delivery, and a lack of transparency in shipment tracking. Additionally, the necessity of ensuring halal compliance in inventory and logistics processes is highlighted. The goal is to understand the real-world situation and collect input from stakeholders, including pet shop owners, customers, and logistics providers.

2) Expressing the Problem Situation

This stage maps out the interactions between key stakeholders and their roles, responsibilities, and needs. Using a Rich Picture, the relationships between various processes, such as inventory management, order tracking, and logistics, are visualized to highlight areas of inefficiency or misalignment.

3) Defining Roles and Groups Using CATWOE

The CATWOE framework (Clients, Actors, Transformations, Worldview, Owner, and Environmental Constraints) is applied. For instance:

- Clients
  Pet shop customers require halal-certified products.
- Actors
  Employees manage inventory, couriers handle delivery, and management oversees operations.
- Transformations
  Integrating halal compliance into the OMS to ensure safe and efficient order processing.
- Worldview
  Promoting ethical business practices that align with halal principles to gain a competitive edge.
- Owner
  Business owners are responsible for implementing and maintaining the system.
- Environmental Constraints: Limited resources, infrastructure challenges, and market dynamics.

4) Designing a Conceptual Model

A conceptual model is developed to integrate key processes, including inventory segregation (halal and non-halal products), real-time tracking, and customer support systems. The model illustrates the relationships between inputs (e.g., customer orders), processes (e.g., halal verification), and outputs (e.g., successful delivery of halal-certified products).

5) Comparing the Conceptual Model to Reality

The conceptual model is compared with the current processes in the pet shop business to identify gaps and areas for improvement. For example, existing inventory systems may lack real-time updates or halal segregation capabilities, which the proposed model can address.

6) Defining Feasible Changes

Based on expert feedback and stakeholder discussions, specific changes are defined. This may include training staff on halal compliance, integrating halal certification data into the OMS, and setting up separate storage areas for halal products.

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7) Implementing Improvements

The final stage involves implementing the OMS while continuously monitoring and refining the system based on user feedback and changing business conditions. The iterative nature of SSM ensures that the system evolves to meet the dynamic needs of the market and stakeholders.

This structured approach ensures the development and successful implementation of a halal-compliant OMS tailored to the online pet shop industry. While SSM is ideal for addressing complex, ill-structured problems, its results are primarily conceptual. To mitigate this limitation, this study includes actionable recommendations and proposes future empirical validation of the model. Additionally, it acknowledges the challenge of integrating halal compliance into OMS and addresses potential resource limitations.

4. Results and Discussion

4.1. Investigation of the Problem Situation

To illustrate the rich picture of this study, a number of sources of information were used to provide views from various perspectives. Initial research was conducted by collecting data through literature studies and observing operational processes that can be found on the Internet. Not all halal supply chain problems are identified in this study, but researchers limit it to the "halal logistics" area, which consists of areas storage, transport, distribution, and customers. This means that, in this case, the products produced have fulfilled halal criteria from the process of sorting raw materials and production to packaging.

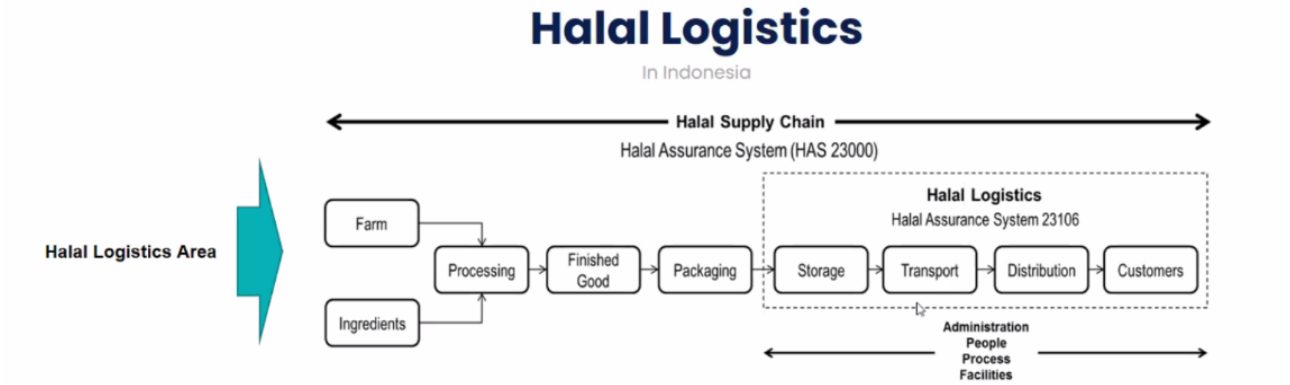

Figure 5. Halal Logistics in Indonesia

Source: (School of Business and Management Institut Teknologi Bandung, 2022)

The findings show several problems in halal OMS pet shops, namely:

1) Problems in the distribution of goods from online pet shops include the risk of contamination of halal products with non-halal products if there is no clear separation procedure, the potential for deterioration in the quality of products received by consumers due to improper handling or packaging, and the lack of transparency regarding the status of shipments which often creates uncertainty and reduces consumer confidence in the distribution process.
2) Problems in returning goods from consumers to online pet shops cover complicated return procedures that confuse consumers, challenges in evaluating the halal status of returned products, especially if they have been opened or contaminated, stock management to

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determine whether products can be resold or must be destroyed, and delays in the return process that can reduce satisfaction and risk customer loyalty.

3) Delivery delays include stock management errors and lack of visibility in the delivery system, which often cause delivery delays. As the inventory system is not integrated with orders, employees are often unaware of stock shortages until orders are placed, resulting in delivery delays.
4) Errors in stock management occur because the system used does not record stock items in real-time. As a result, stores often face situations of overstock or understock, which is detrimental to both stores and consumers.
5) Consumers cannot track their orders once they have been dispatched. This uncertainty causes dissatisfaction and reduces consumer loyalty.

4.1.1. Comparison with Existing OMS Implementations

The proposed Halal OMS differs significantly from conventional OMS implementations in e-commerce. For example:

1) The integration of halal compliance is unlike that of existing systems, and the Halal OMS incorporates procedures to ensure the segregation of halal and non-halal products throughout the supply chain. This feature addresses the unique requirements of Muslim consumers, a major demographic in Indonesia.
2) Enhanced real-time capabilities to remove conventional systems, which often lack integrated, real-time inventory and shipment tracking. The proposed system updates stock and delivery statuses in real-time, minimizing delays and errors.
3) Returns management with halal validation. In this context, the halal OMS provides tools for evaluating the halal status of returned products, a feature that is absent in general OMS implementations.

4.1.2. Practical Feasibility of Implementation

The implementation of the Halal OMS model necessitates careful consideration of cost, infrastructure, and resource allocation:

1) Cost considerations with the initial setup costs include the acquisition or development of software, integration of halal-compliance modules, and the training of personnel to ensure operational readiness and adherence to halal standards.
2) Infrastructure requirements include a robust IT infrastructure that is critical to support real-time system updates, efficient data flow, and seamless API integration with logistics providers. This ensures smooth communication between various system components and enhances operational efficiency.
3) The successful operation of the Halal OMS will require skilled personnel capable of managing system operations and overseeing halal certification processes. This includes technical experts to handle the system's deployment and staff trained in halal compliance protocols.

4.2. Stage two - Problem Situation Expressed

From the explanation that has been described in stage one, we can describe the Rich Picture of the condition of the online pet shop as illustrated in **Figure 6** below.

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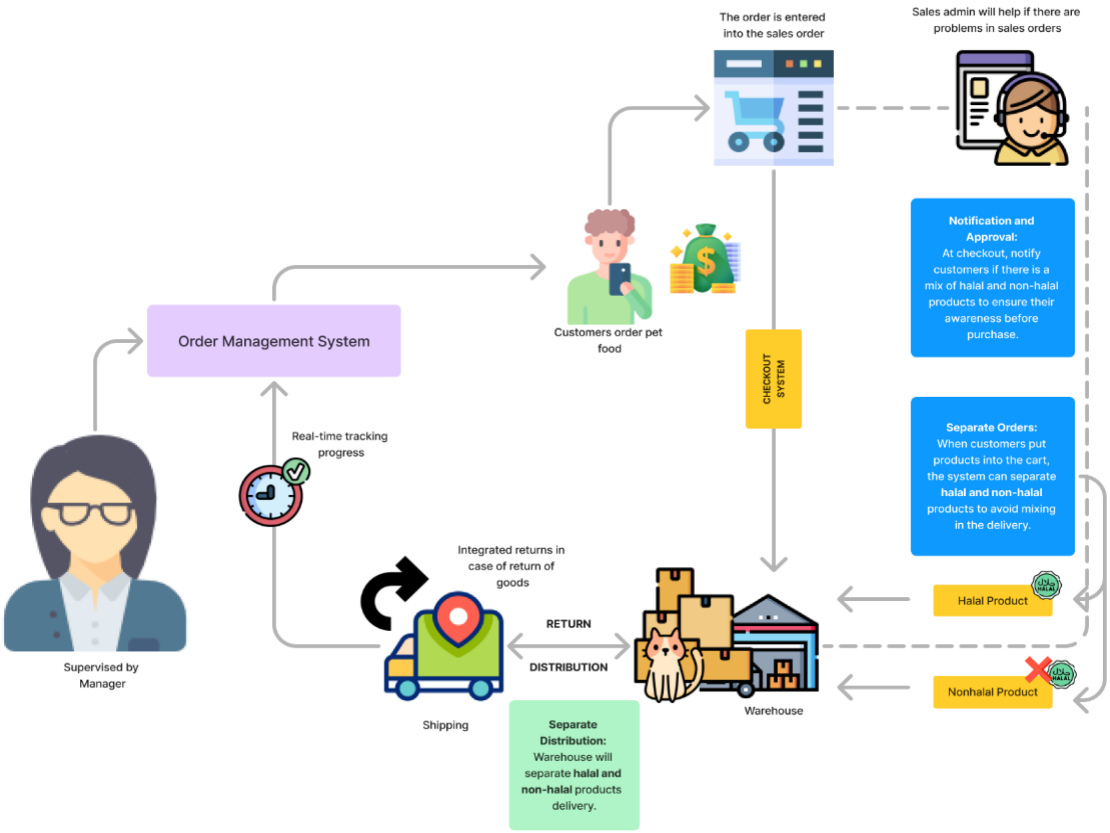

Figure 6. Rich Picture of Online Pet Shop Online Management System
Source: Processed by Researchers (2024)

This OMS serves as an order management center that integrates various processes and enables stock monitoring, order processing, shipment tracking, and customer support with the following figure:

1) Key stakeholders
   a) Consumers check the order status via smartphone, illustrating the need to track orders in real-time. Feedback from consumers is collected through the system's interaction with customer support features to enhance satisfaction.
   b) Employees, particularly administrators, are responsible for inventory management and assisting customers with complaints.
   c) The expedition team manages shipments, ensuring product hygiene and safety during the delivery process to consumers.
   d) Managers play a supervisory role, ensuring that every process aligns with standard operating procedures (SOPs). They utilize data from the Order Management System (OMS) to monitor performance, guarantee timely order fulfillment, and uphold halal supply chain processes.

2) Operational process
   a) First, the stock management process in the OMS allows employees to manage inventory in real-time. The system updates the stock whenever orders are received, or items are returned, including the separation of halal and non-halal products.
   b) Second, the delivery process is facilitated by OMS integration with logistics services, enabling the system to send delivery status information directly to consumers and update each stage of delivery.

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c) Third, an integrated returns module assists employees in handling returned items and updating stock, which directly affects customer satisfaction levels.

3) Data flow and interaction
   a) The inventory update is linked to stock items and the OMS, indicating that the system automatically updates stock whenever there is item movement.
   b) Real-time shipment tracking is represented by a connection between the OMS, the delivery service, and the consumer, showing that the system provides live delivery status.
   c) Customer support enables customers to ask questions about their orders or request return information through the OMS.

4) Identified issues and challenges
   a) Delivery delays can be minimized by integrating with the delivery system.
   b) Stock errors are resolved through a real-time inventory system.
   c) To address order tracking uncertainty, consumers can check the order and delivery status in real-time.
   d) Difficulties in returns management are overcome by integrating the OMS with returns management, which automatically updates stock.

4.3. Stage three - Root Definitions of Relevant Systems

At this stage, we create a Root Definition based on the Rich Picture in stage two. The Root Definition of this study can be described as follows: Root Definition (XYZ): X Getting a comprehensive picture of the online pet shop business with Y Using a modified order management system model for Z Integrated planning related to the halal order management system process. The next step is to define CATWOE.

CATWOE is a business analysis method and part of SSM—used to identify problems and find appropriate solutions (PPM, 2024). The term CATWOE stands for a) customers (who benefits from this business?); b) actors (who is involved in the process?); c) transformation process (what is the core transformation within this system?); d) world view (What is the big picture and its impact?); e) owner (who owns the system and will be affected? what is their relationship to it?); and f) environmental constraints (what are the limitations? how do they affect the proposed solution?)

Table 1. CATWOE in Halal OMS for Pet Shop

Elements of CATWOE	Explanation
Customer	The main consumers are online pet shop customers who want to buy halal pet food products. They want to get quality, safe, and halal-compliant products in a timely manner, as well as ease the return process if there is a problem.
Actor	The main actors in this system are the online store management team, including operational employees and pet shop owners in charge of processing orders and managing inventory, couriers or logistics services that deliver goods and managing the overall business.

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Elements of CATWOE	Explanation
Transformation	The transformation process in this system sorts customer order data into a halal order fulfillment process. Halal OMS is in charge of recording, processing, and tracking each order automatically, updating stock, organizing deliveries, and providing order status reports to consumers.
World View	The worldview underlying the development of halal OMS is that as the demand for products and services based on Islamic law increases, a halal order management system can provide a competitive advantage for online pet shops.
Owner	The owner in this context is the management or owner of the online pet shop, who is responsible for the implementation and maintenance of the OMS.
Environmental	Environmental constraints include factors such as limited budget and technology infrastructure, availability of competent human resources, potential resistance from employees to new technology, and limited cooperation with halal-certified logistics partners.

Source: Processed by Researchers (2024)

4.4. Stage four - Building Conceptual Model

At this stage, we create an initial conceptual model that can generally be described as follows: The conceptual model is a description of the relationship between the activities and roles of each party in an effort to achieve their respective targets. Each role has a complementary relationship, and sometimes, due to the limitation factor, the high level of need will be a source of conflict that must be resolved.

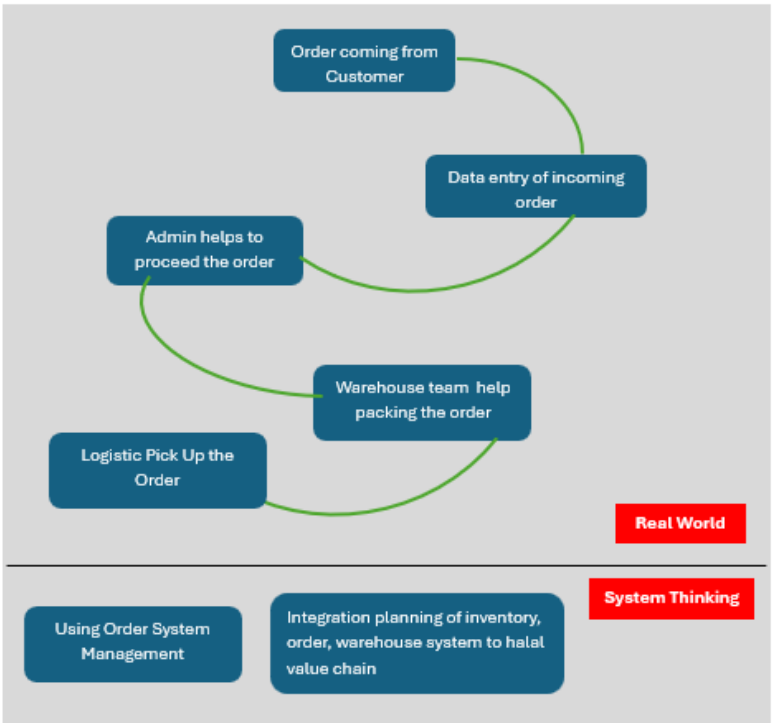

Figure 7. Conceptual Model

Source: Processed by Researchers (2024)

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Table 2. Table of 3E

Performance Size	Remark
E1 (Efficacy)	Is the implementation of OMS able to ensure accurate separation of halal and non-halal goods, simplify the process of inbound and outbound goods, and simplify inventory management?
E2 (Efficient)	Is implementing Halal-based OMS able to shorten the order process time in the warehouse, complete stock data collection and achieve profit targets?
E3 (Effectiveness)	Is the use of OMS Halal the most appropriate solution in overcoming problems that occur in current conditions, such as the process of ordering halal and non-halal goods being mixed, stock items are not separated, and order processing being delayed due to manual separation?

4.5. Comparison of the Model with the Real Situation

After designing the conceptual model, a comparative analysis of conceptual and real-world models is carried out. **Table 3** shows the fifth stage, comparing the conceptual model with the real-world problematic situation.

Table 3. Comparison of Real World vs Recommendation

Activity	Real World	Recommendation
Inventory Data Collection	Collecting only basic inventory data such as stock quantity and item details	Included is Halal Certification Data, such as supplier certificates and product compliance details (e.g., raw material-compliant pet food).
	Basic inventory tracking software	Any tools to track the Halal status for each product and ensure segregation of Halal and Non-Halal.
Purchase Orders	Simple recording of orders and quantities.	Include additional fields for Halal-specific products and customer notes.
	Records purchase orders without considering product-specific requirements.	Order system possible to validate that products in the purchase order are Halal-compliant and meet customer preferences for Halal-certified items.
Stock Availability	Checks only for stock levels to meet demand.	Possibly confirm the Halal compliance of available stock and verify that no contamination occurred during storage.
	Inventory tracking tools are generic.	Real-time tracking systems should include batch-level Halal compliance and certification details.
Delivery Order	Focuses on ensuring accurate delivery of items to	Ensures that Halal standards are maintained throughout the

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Activity	Real World	Recommendation
	customers.	distribution process, such as separate packaging and logistics for Halal products.
	Standard logistics and packaging practices.	Possible to define which Halal-compliant packaging, labeling with certification, and proper handling to avoid cross-contamination are critical.

4.6. Define the Changes to be Implemented

The desired change in the sixth stage of the Soft Systems Methodology (SSM) is the stage of formulating action suggestions for improvements, refinements and changes in real-world situations. Determination of this change can be in the form of recommendations that are in line with research interest and problem-solving interest in research, or change that is done can be recommendations so that arguments are acceptable and culturally possible.

Table 4. Situational Improvement

Proposed Changes for Improvement	Actions for Improvement
Socialization of Halal Practices to staff and stakeholders	Conduct workshops for staff and stakeholders to explain Halal requirements for pet food, accessories, and services.
Training Staff on Identifying Halal-Certified Products	Provide training to employees on recognizing Halal certifications on pet food and other consumables.
Monitoring Supplier, Logistic Provider, Product Compliance	Establish a system to evaluate suppliers for Halal certification and ensure they meet standards for products such as pet food.
Barcode scanning for Halal-certified products.	Implement barcode scanning technology to verify Halal compliance for all pet consumables before adding them to inventory.
Separate storage for Halal and non-Halal products	Set up designated storage areas to separate Halal-certified pet products from others, ensuring no cross-contamination.
Digital Halal compliance records	Maintain a digital record system that logs Halal certifications for products and suppliers for easy reference and audits.

4.7. Taking Action

Improvement actions include categorical steps that include actors and resources of concern in the problem situation. Some parties are not always motivated to implement change, especially if it is based on the logic of the conceptual model. After a model meets the requirements of reality and logic, then in realizing a model that is expected, the relationship between the level of understanding of the implementation of various parties is very important. Therefore, the next step is to act to find the best solution that fulfils the various interests that exist. In this case, the action we take is the implementation of the Halal Order Management

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System. Adopting a halal OMS enhances trust among Muslim consumers, reduces operational inefficiencies, and increases customer loyalty. Businesses can achieve cost savings through streamlined logistics and inventory processes. The broader economic impact includes promoting ethical business practices and meeting the growing demand for halal-certified products.

5. Conclusion

This research develops a conceptual Halal Order Management System (OMS) Development Model for online pet shops in Indonesia using Soft Systems Methodology (SSM). Based on the analysis conducted, it can be concluded that achieving business objectives requires the involvement of the organization in selecting personnel with expertise not only in their respective fields but also with a comprehensive understanding of the company's vision, mission, and core business goals. Strategic management plays a vital role in addressing uncertainties and complexities within the business environment. It also serves as a managerial effort to leverage the organization's strengths to capitalize on emerging business opportunities, aligning with the defined corporate objectives and mitigating the negative impacts of potential business threats.

In the context of implementing a Halal Online Management System (OMS) for pet shops, strategic management must focus on integrating halal principles into the system to ensure compliance and enhance the competitive advantage of the business. This involves analyzing both external and internal factors. External factors include the broader business environment, which can influence opportunities or threats, such as changes in consumer preferences for halal-certified products. Internal factors encompass resources such as human capital, marketing strategies, financial systems, and the integration of halal-compliant inventory and order management processes within the OMS. By leveraging SSM, the conceptual model of the Halal OMS provides a systematic approach to address the complexity of aligning operational processes with halal compliance. SSM facilitates stakeholder engagement, iterative problem-solving, and adaptive system design to ensure that the Halal OMS meets both operational and consumer requirements effectively.

However, this research has limitations, including its conceptual nature and the lack of empirical validation. The model has not yet been tested in real-world settings, and further research is needed to address these gaps. Future studies should be on the implementation and evaluation of a Halal-based Online Management System (OMS) for pet shops. This system should integrate inventory management, order processing, and shipment tracking while ensuring compliance with halal standards. The development process should include design, testing, and iterative refinement to optimize operational efficiency, enhance customer satisfaction, and address the unique requirements of halal compliance in the pet shop industry.

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7. Declaration of Conflicting Interests

The authors have declared no potential conflicts of interest concerning this article's research, authorship, and/or publication.

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