Increasing the Effectiveness and Efficiency of Local MSME Consignment Cooperation with the Portal Vendor System

Fredy Rizaldi[1*], Agus Munandar[2]
Universitas Esa Unggul, Indonesia
Email: fredyriz1503@student.esaunggul.ac.id

*Correspondence

ABSTRACT

Keywords: vendor portal system, consignment collaboration, local MSME, effectiveness, efficiency.

MSMEs have an important role in the Indonesian economy, but they face challenges in adapting to the digital era and establishing effective collaborations with retail companies. This study aims to develop and evaluate a vendor portal system that can overcome this challenge by increasing the effectiveness and efficiency of consignment cooperation between local MSMEs and retail companies. Using a qualitative descriptive method, this study analyzes the impact of the implementation of the vendor portal system on the consignment business process, including operational efficiency, transparency, and collaboration between the two parties. The results show that the vendor portal system has succeeded in improving operational efficiency, providing real-time transparency of sales and inventory data, and facilitating better communication between MSMEs and retail companies. In addition, this system also supports the government's program in encouraging MSMEs to "Go Digital" and "Upgrade Class".

Introduction

Micro, Small, and Medium Enterprises (MSMEs) have a crucial role in the Indonesian economy, contributing significantly to GDP and labor absorption. However, the COVID-19 pandemic has had a very detrimental impact on the MSME sector, causing many businesses to go out of business and reduce the contribution of MSMEs to GDP (Sembiring, 2021).

To overcome the impact of the pandemic and encourage economic recovery, the government has launched various policies, including the "Go Digital" and "Upgrade" programs that aim to accelerate the digital transformation of MSMEs (Kominfo, 2022). Meanwhile, the retail industry continues to experience rapid growth, driven by changing consumer behavior that is increasingly accustomed to shopping online and offline. (Bahri, 2020). This opens up opportunities for MSMEs to expand market reach and increase sales through collaboration with retail companies.

However, collaboration between MSMEs and retail companies often faces obstacles, especially in terms of effectiveness, efficiency, and transparency of the

transaction process. The lack of adequate digital platforms and integrated systems is the main obstacle for MSMEs in maximizing the potential of this collaboration (Sebayang et al., 2022).

MSMEs (Micro, Small, and Medium Enterprises) have a crucial role in the Indonesian economy, contributing significantly to GDP and labor absorption. (Putra et al., 2023). However, MSMEs often face challenges in accessing a wider market and adapting to technological developments. The "Go Digital" and "Upgrade" programs initiated by the government aim to overcome this challenge by encouraging MSMEs to utilize digital technology in their business activities. (Kemenko Perekonomian, 2021).

The retail industry, on the other hand, continues to grow rapidly with the increasing adoption of digital platforms by consumers. (Bahri, 2020) Collaboration between MSMEs and retail companies through the consignment system offers mutually beneficial opportunities. MSMEs can take advantage of the extensive distribution and marketing network of retail companies, while retail companies can obtain unique and quality products from MSMEs.

The purpose of this study is to design a vendor portal system that can increase the effectiveness and efficiency of consignment cooperation between local MSMEs and retail companies. In addition, this study aims to analyze the benefits obtained from the implementation of the vendor portal system for local MSMEs and retail companies, as well as identify challenges and solutions that may arise in its implementation. The results of this study are expected to make a positive contribution to several parties. For local MSMEs, this system is expected to increase effectiveness and efficiency in consignment cooperation with retail companies, expand market reach, increase sales, strengthen competitiveness, and provide more transparent results in consignment cooperation.

For retail companies, this system is expected to be able to increase efficiency in the process of procurement and product curation, and potentially increase customer satisfaction. Meanwhile, for the government, this portal vendor system can support the "Go Digital" and "Upgrade" programs for MSMEs, help increase MSMEs' contribution to GDP, and encourage national economic recovery.

Method

Type of Research

This study uses a qualitative descriptive approach to deeply understand the phenomenon of consignment cooperation between local MSMEs and retail companies. The qualitative approach was chosen because this research focuses on exploring the meaning, experience, and perspective of the actors involved in this collaboration.

Data Collection Methods

In this study, data were collected through the following approaches:

1. Participant Observation: The researcher is directly involved in the consignment cooperation process between local MSMEs and the retail company where the researcher works. This observation was carried out to observe firsthand how the

consignment process took place, and how the portal vendor system was used, as well as to identify problems and potential improvements.

2. In-depth Interviews: Interviews were conducted with various parties involved in consignment cooperation, including local MSME actors, and representatives from the company's retail, accounting, and information technology divisions. This interview aims to explore in-depth information about the experiences, perspectives, and needs of each party related to the consignment system and the implementation of portal vendors.

3. Literature Studies: Literature studies are conducted to collect secondary data relevant to this study. The literature reviewed includes scientific articles, research reports, and government publications related to MSMEs, the retail industry, consignment systems, and information technology. This literature study aims to strengthen the theoretical foundation of research and provide a broader context for the phenomenon being studied.

Results and Discussion

MSME Development

The COVID-19 pandemic has had a significant impact on the Indonesian economy, including the MSME sector. Many MSMEs have experienced a decline in sales and even gone out of business due to social restrictions and a decrease in people's purchasing power. (Marginingsih, 2021). However, MSMEs also show strong resilience in facing crises, such as what happened in the 1997/1998 economic crisis.

The Indonesian government has taken steps to support the recovery of MSMEs, including through the "Go Digital" and "Naik Kelas" programs (Kominfo, 2022). This program aims to encourage MSMEs to take advantage of digital technology in running their businesses so that they can increase competitiveness and expand market reach.

On the other hand, the retail industry continues to experience growth, driven by changing consumer behavior that is increasingly accustomed to shopping online. This creates opportunities for MSMEs to collaborate with retail companies in marketing their products.

The Government of Indonesia has shown a strong commitment to supporting the recovery and growth of MSMEs, especially during and after the COVID-19 pandemic. Various assistance programs have been launched, including the National Economic Recovery Program (PEN) which allocates most of its budget to strengthen the MSME sector (KemenkeuRI.go.id, 2021). This support covers various aspects, ranging from financing assistance such as KUR and BPUM, to training and mentoring programs to increase the capacity of MSMEs.

Digitalization has become a key factor in increasing the competitiveness of MSMEs. Although MSMEs contribute more than 60% to Indonesia's GDP, data from the Ministry of Cooperatives and SMEs shows that the adoption of online platforms is still limited (Dilogo et al., 2021). Therefore, encouraging MSMEs to "Go Digital" is crucial

in facing increasingly fierce competition and meeting the demands of the ever-growing market (Evangelista et al., 2023).

Latest Retail Industry Information

"Today's retail sector is an exciting place, with ever-changing consumer behavior and evolving technology demanding brands to be agile, creative and forward-looking. Some of the key trends impacting the industry, from social commerce to personalization, to diversification in terms of markets, channels, and audiences, present significant challenges for both existing and new brands – but these challenges are not worth the opportunities on offer. Making the most of these opportunities will require retailers to pursue an end-to-end omnichannel strategy that leverages real-time data. This is to increase customer loyalty, lower costs, and improve marketing performance." (Hanspach et al., 2024).

What is estimated globally, is in line with what is happening to the national retail industry. Retail sales are expected to remain strong in August 2023 with a Real Sales Index (IPR) of 204.4, showing a positive growth of 1.3% compared to the previous year. This strong sales performance was driven by an increase in sales of the clothing subgroup, as well as improvements in the motor vehicle fuel group and other household appliances. (Bank Indonesia, 2023b).

Consumer optimism on economic conditions increased in December 2023 compared to the previous month, according to the Bank Indonesia Consumer Survey. The Consumer Confidence Index (CPI) rose to 123.8 from 123.6 in the previous month. The increase in the CPI was mainly due to the strengthening of the Current Economic Conditions Index (IKE), especially in the Durable Goods Purchase Index. Nevertheless, the Consumer Expectations Index (IEK) for economic conditions in the next 6 months remains strong, supported by the Income Expectations Index. (Bank Indonesia, 2023a).

**Consignment Sales in Several Retail Industries of Public Companies**

Table 1
Contribution of Consignment Sales in Several Retail Industry Sectors

Miliar Rupiah

Kode Saham	Nama Emiten	Sales	2018	2019	2020	2021	2022	2023 Q3
LPPF	Matahari	Own Goods	6,661	6,559	3,094	3,407	3,708	2,830
		Consigment	11,184	11,471	5,489	6,839	8,627	6,748
		Total Sales	17,845	18,030	8,583	10,246	12,336	9,578
		Growth		1.0%	-52.4%	19.4%	20.4%	
RALS	Ramayana	Own Goods	4,805	4,579	2,062	2,063	2,326	1,587
		Consigment	3,734	3,941	1,820	2,112	2,626	2,123
		Total Sales	8,539	8,520	3,882	4,176	4,953	3,710
		Growth		-0.2%	-54.4%	7.6%	18.6%	

Based on Table 1 of the Contribution of Consignment Sales of Several Retail Industry Sectors, ignoring the table in 2020, especially due to the correction of the COVID-19 pandemic, shows the consistency of retail sales growth per year.

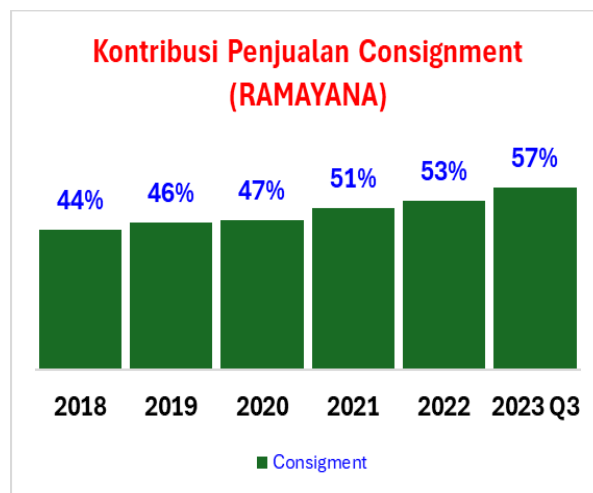**Contribution of Consignment Sales to Several Open Retail Companies**

1. PT Matahari Department Store Tbk (LPPF)
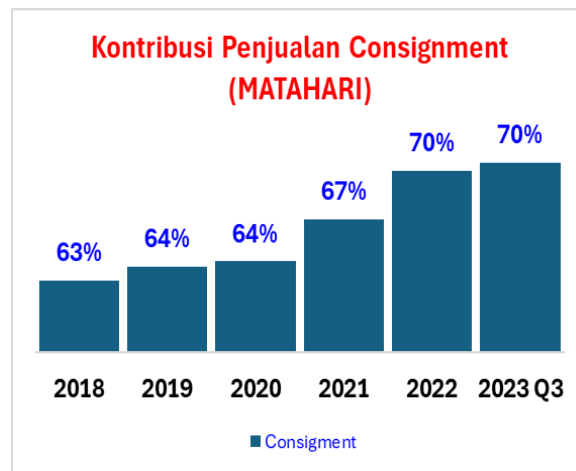
Figure 1
Solar Consignment Sales Contribution Chart

The contribution of consignment sales to Matahari shows the contribution of an increase in proportion from 2018 (63%) to Q3 2023 (70%).

2. PT Ramayana Lestari Sentosa Tbk (RALS)

Figure 2
Graph of Ramayana Consignment Sales Contribution

The contribution of consignment sales shows the contribution of an increase in proportion from 2018 (44%) to Q3 2023 (57%).

This increase shows that retail companies are increasingly aware of the potential of consignment business models in increasing sales and expanding market reach. In addition, this also reflects the increasing interest of MSMEs to collaborate with retail companies through the consignment system.

In general, consignment sales systems offer several advantages for retail companies. First, companies do not need to spend capital at the beginning to buy goods, because the goods are entrusted by MSMEs. Second, the obligation to pay MSMEs only

arises after the goods are sold, so that the company has flexibility in managing cash flow. Third, the company receives payments from customers first before sharing profits with MSMEs. However, the consignment system also has disadvantages, especially lower profit margins compared to the sale of goods purchased in disconnection.

Consignment sales is a sales method in which the owner of goods (called a consignor), in this case, MSMEs, entrusts their merchandise to another party (called a consinye), namely a retail company, to be sold. If the goods do not sell well within a certain period, they will be returned to MSMEs (Jurnal Manajemen, 2019).

Collaboration between MSMEs and the Retail Industry: A Strategic Solution

The strength of national MSMEs, the growth of the retail industry both globally and nationally, the high level of consumer confidence, and massive government support, have created a strong momentum for Indonesia's economic growth. Collaboration between MSMEs and the retail industry, especially through the consignment system, is one of the strategic solutions to take advantage of this momentum.

Collaboration between MSMEs and retail companies not only provides economic benefits for both parties but also has a dimension of social responsibility. The triple bottom line concept emphasizes that companies need to consider the social and environmental impacts of their business activities, apart from financial benefits (Faculty of Business, Duta Wacana Christian University, Yogyakarta, 2016). By partnering with local MSMEs, retail companies can demonstrate their commitment to social responsibility, especially in terms of community economic empowerment

Background of the Implementation of the Portal Vendor System

The retail companies studied in this study previously experienced several obstacles in the consignment sales system. These constraints are summarized in Table 2 below:

Table 2
System weakness information table before the implementation of the portal vendor system

Lingkup	Kondisi Sebelum implementasi System
Mitra UMKM	→ Monitoring hasil penjualan produk Mitra berdasarkan informasi Sales Assistant (SA) secara catatan manual harian
Perhitungan Bisnis (bagi hasil)	→ Masih terdapat perselisihan bagi hasil antara Mitra UMKM dan Perusahaan (Terutama dalam perpajakan bagi mitra yang masih minim pengetahuan tentang perpajakan)
Divisi Penjualan & Merchandising	→ Registrasi master data produk konsinyasi dilakukan oleh tim merchandising karena masuk ke dalam sistem yang dikelola oleh internal perusahaan
Divisi Warehouse	→ Sistem penjualan tidak terhubung dengan saldo persediaan
Divisi Accounting	→ Data Penjualan diolah secara terpisah antara sistem penjualan dan laporan keuangan
Teknologi	→ Sistem masih menerapkan "silo activiy" di mana sistem pencatatan akuntansi terpisah (Accounting software) dengan sistem penjualan dan sistem persediaan → Belum memiliki sistem terintegrasi dengan E-commerce

These obstacles cause inefficiency and ineffectiveness in the management of consignment sales. This results in losses for the company, such as a lack of replenishment of goods stock on goods with a fast sales turnover, data discrepancies, and dissatisfaction of MSME partners. To overcome these obstacles, the company decided to implement ERP in the retail industry which is integrated with a consignment sales collaboration system known as the Vendor portal. ERP is a system that unites various business processes within a company so that it can improve operational efficiency, facilitate communication between departments, and facilitate access to important information (Heriningsih et al., 2018). ERP, which stands for Enterprise Resource Planning, is the process of collecting and organizing business data in an integrated manner through a series of interconnected software. ERP software includes a variety of applications that automate business functions such as production, sales reporting, accounting, and more (Sebayang et al., 2022). By integrating ERP and vendor portals, it is hoped that management can be more effective and efficient for consignment cooperation, as well as increase transparency and collaboration between companies and MSME partners.

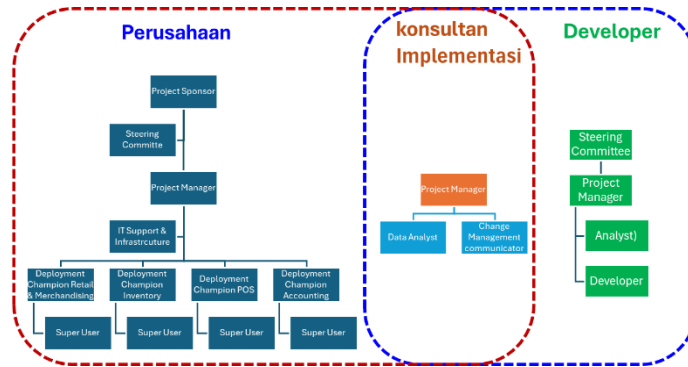**Portal Vendor System Implementation Team Structure**

To implement the Vendor portal system, the company formed a special team called the Task Force team which consists of the IT, accounting, and business handling teams. The team is then divided into several subteams with different roles and responsibilities, such as:

1. Project Sponsor & Steering Committee: Comprising the President and Directors from related fields, this team is responsible for strategic decision-making and project oversight.
2. Project Manager: A Company employee who is experienced in ERP implementation and masters the Company's business processes from end to end, serves as a project leader, and is responsible for the smooth execution of the project.
3. IT Support & Infrastructure: Prepare and analyze all IT infrastructure-related needs, budgeting, and coordination with procurement needed for implementation.
4. Deployment Champion: A super user who describes business requirements by the company's business process model, serving as a user representative in the system implementation process.

In addition to the company's internal team, the company also involves external parties, namely vendor developers and implementation consultants. Vendor developers are in charge of building and designing systems based on common business processes and making modifications based on business requirements in generally acceptable customs. The implementation consultant is in charge of translating the business requirements, and common business processes, and monitoring the project timeline of each party:

1. Enterprise: As described in Deployment Champion above;
2. Developer: An external party who builds, and designs a system based on common business processes and makes modifications based on business requirements as long as it does not deviate from the common business model

3. Implementation Consultant: An external party who translates business requirements, and common business processes and monitors project timelines for each party.

The structure is formed as follows:

Figure 3
Joint Structure of the Company, Implementation and Developer

Stages of Portal Vendor System Implementation

Information systems are a combination of human activities, software, hardware, communication networks, and data sources that are interconnected to collect, process, and distribute information within an organization. (Pricilia & Firdaus, 2024). How to apply consignment cooperation to Information System components:

1. People: Accountants, local MSME business actors, and retail business actors.
2. Procedures and instructions: The business process agreed upon in the collaboration of this collaboration system from the initial stage of the goods ready to be sold by the consignor to the distribution of the commission from the consignor to the consignor when the goods have been sold.
3. Data: Sales transactions through POS (Point of Sales).
4. Software: A collaboration system through middleware built by API connections between consignors by consignors.
5. Information technology infrastructure: computer, cloud servers, jaringan internet.
6. Internal Controls: A consignment cooperation agreement between a consignee and a consignor.

The implementation of the Vendor portal system is carried out through several stages, namely:

1. Preparation
   1) Formation of Team Counterpart: This stage is carried out to form a team consisting of representatives from various internal divisions of the company and external parties.
   2) Developer Vendor Procurement Process: This stage is carried out to select the right developer vendor through a transparent and accountable procurement process.

    3) Preparation for project execution: This stage aims to ensure that all necessary preparations have been made prior to the implementation of the project, such as IT infrastructure, documentation, and training.

2. Design
   1) Preparation of Business Requirement Document (BRD): This stage is carried out to document the company's business needs related to the Vendor portal system.
   2) Gap Analysis: This stage is carried out to analyze the gap between the company's business needs and the common business processes available in the ERP.
   3) Business Blueprint: This stage is carried out to design the Vendor portal system design based on BRD and Gap Analysis.
   4) Design IT Solution & IT Technical Documents: This stage is carried out to design the IT solution and technical documents required to build the Vendor Portal system.
   5) IT infrastructure preparation: This stage is done to prepare the IT infrastructure needed to support the port Vendor system
   6) Custom Development: This stage is carried out to develop the Vendor portal system according to the design that has been made.

3. Implementation & Data Migration
   1) Data Migration: This stage is performed to move data from the legacy system to the Vendor portal system.
   2) Training The Trainers: This stage is carried out to train super users in using the Vendor portal system.
   3) Dry Run: This stage is done to test the Portal Vendor system as if it was already running at the implementation stage before it was officially launched while making quick improvements.
   4) Go Live: This stage is carried out to officially launch the Vendor portal system.

4. Post-Implementation Support
   1) Assistance & Maintenance: This stage is carried out to provide assistance to users of the Vendor portal system and perform maintenance to ensure that the system runs properly. This assistance is carried out by a support team from vendor developers and implementation consultants. Maintenance carried out includes bug fixes, software updates, and system adjustments to changing business needs.
   2) Troubleshooting: This stage is carried out to resolve any obstacles or obstacles that may occur when using the Vendor portal system. Users can report problems through the provided troubleshooting portal. The support team will follow up on the report and resolve the issue based on the Service Level Agreement.
   3) Continuous Improvement: This stage is carried out to continuously improve the performance of the Vendor portal system based on input from users and technological developments. Continuous improvement is carried out through a structured and systematic process, such as:

a) Feedback collection: Feedback from users can be collected through various means, such as surveys, interviews, and focus group discussions and evaluation of errors found after the store operates with the vendor portal system

b) Feedback analysis: The feedback collected is then analyzed to identify areas that need to be improved on a priority basis

c) Solution development: Solutions to improve areas that need to be improved are then developed.

d) Solution implementation: The developed solution is then implemented into the Vendor portal system.

e) Evaluation: The implementation of the solution is then evaluated to ensure its effectiveness.

Impact of the Implementation of the Portal Vendor System

The implementation of the Vendor portal system has had a positive impact on the company, both internally and for MSME partners. These positive impacts include:

1. Increased effectiveness and efficiency of consignment sales management: The Vendor portal system has helped companies improve the effectiveness and efficiency of consignment sales management. This can be seen from several indicators, including:

   1) Accelerate the time needed to process registration and price to delivery of consignment products.

   2) Improving the accuracy of consignment sales transaction data in real time.

   3) Decrease in operational costs related to the management of consignment sales.

2. Increased transparency and collaboration between companies and MSME partners: The Vendor portal system has increased transparency and collaboration between companies and MSME partners. This can be seen from several indicators, such as:

   1) The increase in the trust and satisfaction of MSME partners in the company with an increase in the number of partners every period.

   2) The sales monitoring process can be carried out by partners independently in real time.

   3) MSME partners can find out the simulation of the rights that will be obtained when new consignment products are activated in the system so that if there is a discrepancy, corrections can be made immediately.

   4) Partners can control what sells and what doesn't so that product replacement can be carried out faster

Challenges and solutions in the implementation of the portal vendor system

Although the implementation of the Vendor portal system has had a positive impact on the company, there are still several challenges faced, including:

1. Change in mindset and work culture: The implementation of the Vendor portal system requires a change in mindset and work culture from employees. Employees need to get used to using the new system and need to adapt to the new business processes.

2. User skills and knowledge: Users of the Vendor portal system must have sufficient skills and knowledge to use the system. Companies need to provide adequate training for users.

3. Integration with other systems: The Vendor portal system needs to be integrated with other systems in the company, such as accounting systems and inventory management systems.

To overcome these challenges, companies need to implement several solutions, including:

1. Conducting socialization and education: Companies need to socialize and educate employees and MSME partners about the benefits and how to use the Vendor portal system.

2. Provide adequate training: The company needs to provide adequate training for the users the Vendor portal system.

3. System integration: The company needs to integrate the Vendor portal system with other systems in the company.

Based on the stages of the implementation process above, the following solutions to system problems are prepared:

Table 3
Table of information analysis and solution of needs for system weaknesses before the implementation of the Collaboration System

| Lingkup		Analisa Kebutuhan		Solusi Kebutuhan
Mitra UMKM	→	Diperlukan sistem terintegrasi kepada eksternal untuk informasi hasil penjualan secara real time	→	Membangun middle-ware yang menghubungkan kebutuhan informasi eksternal dan ERP
Perhitungan Bisnis (bagi hasil)	→	Diperlukan sistem informasi bagi eksternal dan perusahaan untuk perhitungan simulasi komisi dari produk yang dipasarkan sebelum terjadinya penjualan (simulasi)	→	Membangun custom module yang dapat mensimulasikan bagi hasil atas produk yang akan dijual secara kontrak kerjasama
Divisi Penjualan & Merchandising	→	Diperlukan peran mitra konsinyasi yang ikut terlibat dalam register produk sesuai kebutuhannya untuk minimalisir fungsi klerikal di perusahaan	→	Membangun custom module yang menghubungkan register produk mitra dengan validasi pada ERP oleh karyawan perusahaan untuk efisiensi proses kerja perusahaan
Divisi Warehouse	→	Diperlukan integrasi persediaan dan penjualan, untuk mengetahui jumlah stok siap jual dan tersedia di gudang	→	Membangun sistem penjualan dengan integrasi ke jumlah stok milik mitra konsinyasi pada gudang perusahaan
Divisi Accounting	→	Diperlukan end to end process antara front End (sales) sampai dengan back End (laporan keuangan)	→	Membangun system terintegrasi antara POS (Point of Sales) dan ERP
Teknologi	→	Diperlukan end to end process antara front End (sales) sampai dengan back End (laporan keuangan)	→	Membangun system terintegrasi antara POS dan ERP
	→	Diperlukan sistem terintegrasi Online to Offline (O2O)	→	Membangun system terintegrasi antara POS dan ERP dan online

Data Flow Diagram (Dfd)

DFD is a visual representation that describes how information flows in a system or process, including details about the inputs and outputs of each entity and the processes

involved (Rizaldi & Munandar, 2024). Based on the process that the company has taken, the author has compiled the DFD as follows:
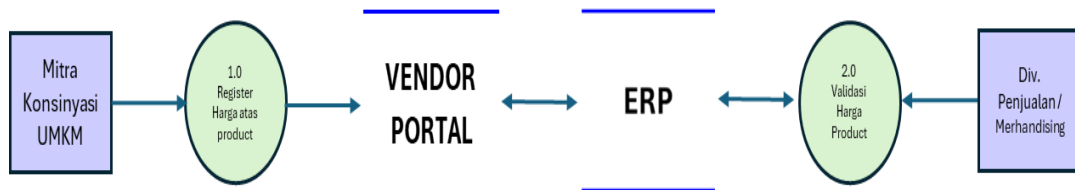
Product Register

In the vendor portal system, the consignment sales process begins with the registration of products to be sold by MSME consignment partners (or MSMEs). In this case, MSMEs have carried out a consignment cooperation contract with the Company. So the initial stage of product registration is carried out by MSMEs through portal vendors. The vendor portal will provide notifications to the ERP on the application used by the Sales/Merchandising Division (or MD). MD will check the suitability of the name and article as well as the product group registered by MSMEs, after it is appropriate, the product will be validated by MD, and MSMEs will know on the Vendor portal if the product is ready to be given a price. If there is a discrepancy between the name and article and the product group, then the MD will provide information to the MSMEs to replace and have the authority to reject the ERP, automatically the Vendor portal provides this notification. So that the registered product is not ready to be given a price.
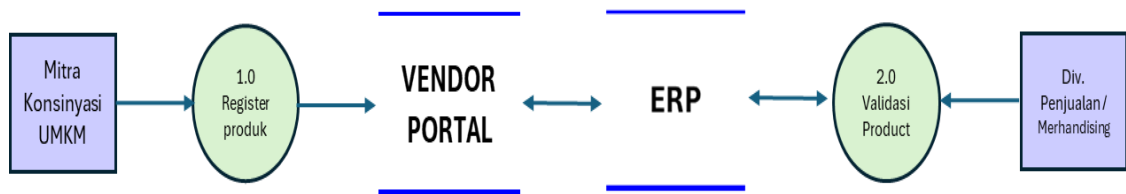
Figure 4
DFD Product Register

Price Register

In the next stage after product registration is successfully carried out by MSMEs, the product can be given a retail selling price by MSMEs. Important information at this stage is, that when the partner gives a price on the product, based on the profit-sharing agreement, the portal vendor provides a simulation of the rights that will be received by MSMEs before the product is successfully sold. At this stage, it is important for MSMEs to carefully examine the rights they will receive based on the price registered on the system. If it turns out to be inappropriate, MSMEs can contact the MD to verify the calculation method. MD can still revise the price before it is validated by MD. If the price is appropriate, MSMEs can contact the MD to validate. After the MD performs Validation, the product that has been given a price is ready to be registered to the inventory system for the delivery of goods.

Figure 5
DFD Price Register

Product Shipment

Based on the agreement on the delivery schedule, MSMEs can deliver products that will be sold at the Company's outlets, by previously registering the products to be delivered systematically. This stage is called product shipment. Products that have been validated in price will be registered by MSMEs to be sent systematically through the vendor portal. On the Vendor portal, there is a goods delivery menu, the menu contains columns that will be filled in with the product to be sent, and the number and location of the outlet to be addressed. Product registration that has been completed in the Vendor portal, will automatically issue the same Delivery Order (DO) number as the ERP in the Warehouse Division (or called the Warehouse).

Based on the confirmation of the delivery schedule, the products sent by MSMEs will be received by the Warehouse, for further verification of product quality suitability so that they are not defective and ready to be displayed at the outlet. After the product is suitable, the Warehouse will verify the conformity of the quantity received with that recorded in the DO. If appropriate, then the product is ready to be sold on the ERP system, if it is not by the Warehouse can change the quantity or completely reject the product sent to DO.

In this case, the product registration process until it enters the ERP system is ready for sale.

Figure 6
DFD Product Shipment

When there is a process of forming partner rights due to the realization of the sale of consignment partners, the end-to-end *DFD* is formed as follows:
The consumer transaction process for the purchase of consignment products to the payment of rights to partners.
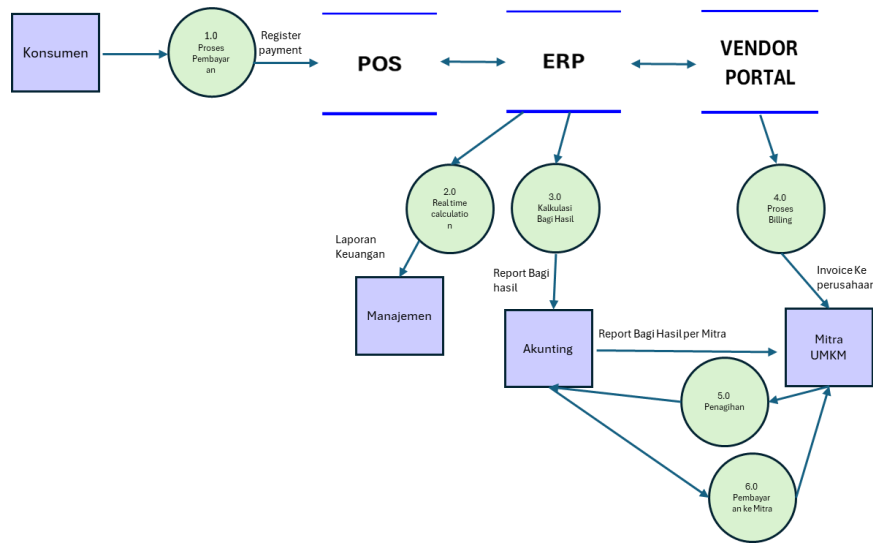
Figure 7
DFD processes consumer transactions on the purchase of consignment products up to the payment of rights to partners

The information listed in the Data Flow Diagram in Figure 3.5 describes the following process.

1. Payment by consumer diagram:
   1) This diagram explains the data transformation of the payment process carried out by consumers in register payment information, which is stored in the form of a POS system, generating payment information, consignment products sold;
   2) The POS system forwards information to the ERP system, resulting in sales information and Cost of Goods Sold (COGS) that are formed at a certain time for MSME partner products sold. The Company records HPP as a debt transaction that has not been collected from the partner due to the partner's rights that arise;
   3) The ERP system passes the information to the Vendor portal system, thus generating information for partners regarding their rights that arise at a given time based on POS sales at a particular outlet.
2. Real-Time Calculation Diagram: This diagram explains the transformation of data from the ERP system on sales at the POS into financial report information at a certain time. This process is calculated in real time at the time of registration payment.
3. Revenue Sharing Calculation Diagram: This diagram explains the transformation of data from the ERP System on sales at the POS into unbilled debt information for MSME partners at a certain time.
4. Billing Process Diagram: This diagram explains the transformation of data from the ERP System on sales at the POS into information on rights that can be billed by MSME partners at a certain time to be issued in the form of invoices.
5. Billing Diagram: This diagram describes the transformation of data from unbilled debts to MSME partner debts after the collection process by the MSME partner and accounting verification.

6. Payment Process Diagram to Partners: This diagram explains the transformation of MSME partners' debt data after going through the payment register process and payments to MSME partners turn into a list of invoices that have been paid. This information reconciles the ERP system and the Vendor portal system. At this stage, MSME partners need to check the status of invoices that have been billed with the realization of the payments they have received.

Flowcharts

Based on information on the business process made by the company and the documentation flow, the following is an overview of the business process (Level) Resolution owned by the company:
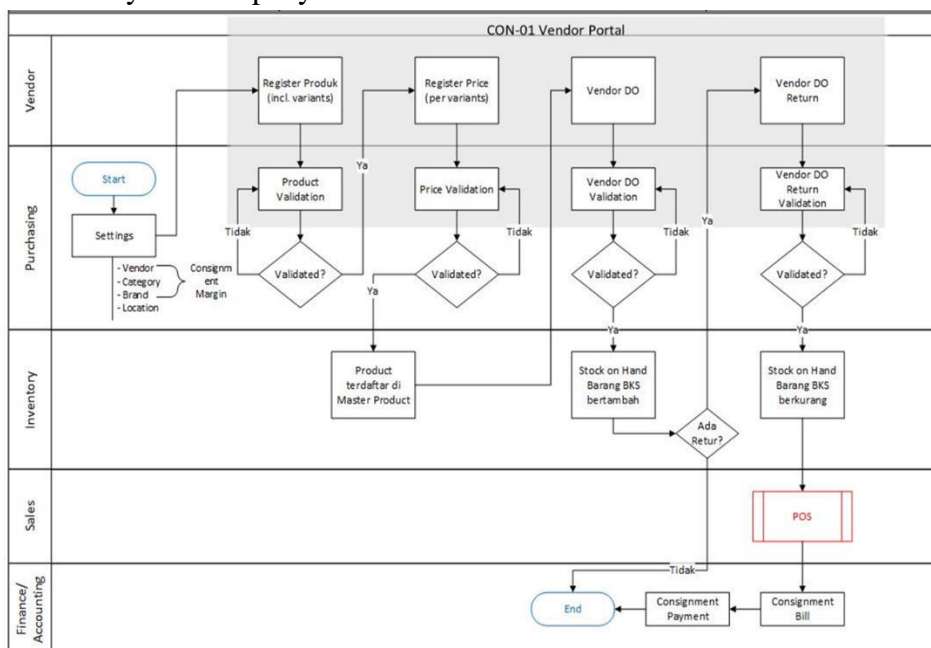
Figure 8
Flowcharts overview of business processes (High Level) Company Consultation

Conclusion

The conclusion of this study illustrates that the development of the retail industry has triggered the creativity of information system solutions that simplify business processes, increase administrative efficiency and resources, and provide information disclosure to stakeholders quickly.

This study finds that the implementation of the consignment sales collaboration system has succeeded in increasing the effectiveness and efficiency of consignment sales management companies, increasing transparency and collaboration between companies and MSME partners, and increasing consignment sales turnover.

The implementation of the consignment sales collaboration system has made a positive contribution to the company in improving the effectiveness and efficiency of consignment sales management, increasing transparency and collaboration between the company and MSME partners, and increasing the turnover of consignment sales. Therefore, the implementation of a consignment sales collaboration system can be

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recommended for retail companies that want to improve the performance of consignment cooperation with MSME partners.

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