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Optimization of the Payment Process at Toko Pertanian Kurnia Manokwari Using Business Process Reengineering and Throughput Efficiency

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ABSTRACT

Rapid advances in digital technology within the agribusiness sector require Micro, Small, and Medium Enterprises (MSMEs) to adapt their operational strategies to remain competitive. This study presents a single-case study conducted at Toko Pertanian Kurnia Manokwari, an agribusiness MSME in West Papua, which experiences inefficiencies in its payment and order fulfillment processes due to reliance on manual bank transfers and centralized owner-based verification. The study aims to optimize the payment process through the application of Business Process Reengineering (BPR) by modeling the existing (As-Is) and redesigned (To-Be) processes using Business Process Model and Notation (BPMN) and evaluating process performance with the ASME Standard Process Chart through throughput efficiency measurement. The analysis identifies centralized verification as a single point of failure that prolongs transaction cycle times. The proposed solution integrates an API-based automated payment gateway to replace manual verification. The results indicate that the As-Is process achieves a throughput efficiency of 35.48% with a total cycle time of 186 minutes, whereas the evaluation of the redesigned To-Be process model indicates a potential increase in throughput efficiency to 100% and a reduction in cycle time to 23 minutes. These findings demonstrate that BPR supported by digital payment system integration, based on To-Be process modeling, can significantly improve transaction efficiency and operational scalability in agribusiness MSMEs.

1. INTRODUCTION

The development of Industry 4.0 has brought fundamental changes to business operational patterns, where digitalization is no longer optional but has become an integral part of business sustainability and growth strategies. For Micro, Small, and Medium Enterprises (MSMEs), the utilization of digital technologies plays a crucial role in improving internal process efficiency, expanding market access, and strengthening business resilience against economic instability (Sundah et al., 2021). This condition has been further reinforced by the COVID-19 pandemic, which exposed the limitations of business models that continue to rely on direct interactions and manual procedures in their operational activities (Radyanto & Hayati, 2021).

However, the level of digital adoption in Indonesia remains unevenly distributed. Urban areas generally demonstrate higher levels of adaptation, while MSMEs in regions such as Eastern Indonesia face challenges related to limited infrastructure and low levels of digital literacy. Handayani and Soeparan (2022) note that the implementation of digital payment systems is a key factor in revitalizing MSMEs by reducing these disparities. Nevertheless, technology implementation often fails to produce significant performance improvements because it is carried out without restructuring the underlying business processes. Several studies indicate that digitalization without comprehensive business process analysis merely transfers inefficiencies from manual systems into digital environments (Dewi et al., 2022; Louis Hernandez et al., 2022).

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In this context, Toko Pertanian Kurnia Manokwari serves as a provider of agricultural production inputs for the local community and as part of the agribusiness supply chain in West Papua. Although the store has initiated digitalization through a web-based product catalog, its core transactional mechanisms remain conventional. Preliminary observations reveal an imbalance in the workflow, where the product selection process has been adequately facilitated, while non-cash payment processes remain fully dependent on manual verification by the business owner. In certain situations, employees function merely as intermediaries between customers and the owner, resulting in transaction delays when the owner is not present on-site to perform direct account verification.

This dependency creates operational bottlenecks in the form of prolonged and unproductive waiting times for both customers and employees. Repeated inspection activities and service delays reflect the presence of non-value-added processes. This finding aligns with Primadineska (2021), who states that consumers in digital environments exhibit a high tendency to switch service providers and prefer businesses that offer concise and practical transaction flows. Therefore, the core issue does not lie in human resource competence but in the design of business processes that have yet to effectively support operational performance.

In response to these conditions, Business Process Reengineering (BPR) is employed as an approach for comprehensive business process redesign. Unlike incremental improvement methods, BPR focuses on re-evaluating the fundamental assumptions that shape organizational workflows (Azmi & Suharso, 2025). Through process flow modeling and quantitative performance measurement, BPR enables the identification of critical points that can be analyzed in the context of technological utilization. Accordingly, this study aims to optimize the payment process at Toko Pertanian Kurnia Manokwari by employing Business Process Model and Notation (BPMN) as a process modeling tool and the ASME Standard as the basis for efficiency measurement using the Throughput Efficiency indicator.

2. LITERATURE REVIEW

2.1. Digital Transformation and Payment Systems in MSMEs

Digital transformation is not solely related to the availability of technology but also encompasses changes in organizational work patterns and leadership capacity to adapt to dynamic business environments (Farhani & Chaniago, 2021). In the context of transactions, numerous studies examine the shift from cash-based payments to digital payments as part of broader financial system changes. Previous research indicates that the implementation of digital payment systems is associated with improvements in transaction security and convenience (Wijaya & Susilawati, 2022). Furthermore, Sumari et al. (2020) argue that the ability to predict transaction patterns and trends plays an important role in effective digital wallet management. These findings indicate a close relationship between digital payment systems and MSME operational activities within a cashless economic environment.

2.2. Business Process Reengineering (BPR) & BPMN

Business Process Reengineering (BPR) is defined as the fundamental rethinking and radical redesign of business processes oriented toward improving performance indicators, including cost, quality, service, and speed. Numerous studies have applied BPR across various sectors by utilizing Business Process Model and Notation (BPMN) to represent process structures, including the use of swimlane diagrams to describe roles, responsibilities, and sequences of process activities (Santiari et al., 2021). Arrasyid and Suharso (2025) examined the restructuring of sales processes in a bakery business context, while Yudhistira and Suharso (2025) analyzed adjustments in product return workflows. In different application domains, employed BPM-based modeling for reconciliation processes, whereas M. K. B. M. and Djamaluddin (2022) utilized BPMN to describe administrative procedures in thesis registration systems. Overall, these studies demonstrate that BPMN serves as a modeling tool to represent process ownership, task handoffs, and inter-process interactions that contribute to waiting times and non-value-added activities.

2.3. Throughput Efficiency (ASME)

Throughput Efficiency is a metric used to evaluate the proportion of value-added activities within a process flow. This metric is derived from the ASME (American Society of Mechanical Engineers) Standard Process Chart, which classifies process activities into five categories: Operation (O) as value-adding activities, Transport (T) as the movement of data or materials, Inspection (I) as checking or verification activities, Delay (D) as waiting time, and Storage (S) as archiving or storage activities. Throughput Efficiency is calculated based on the ratio between value-added activity time and the total process cycle time (Total Lead Time). Studies by Zakki and Suharso (2025) and Yudadharma and Suharso (2025) indicate that manual processes in MSMEs tend to be dominated by Delay and Inspection activities, resulting in a low proportion of value-added time within the overall process cycle. Further findings by Setyaningsih et al. (2021) demonstrate that high levels of human involvement in repetitive activities are associated with instability in process cycle times.

2.4. Payment Gateways and System Integration

A payment gateway functions as an infrastructure used to authorize payments within e-business systems. Julio and Pakereng (2021) discuss the implementation of microservice-based payment gateways in handling large-scale transactions with integrated security mechanisms. The application of payment gateways has also been identified across various industrial sectors with differing system characteristics.

In the retail and fashion sector, Ariessanti et al. (2022) and Sudrajat and Aryanny (2023) discuss the integration of Firebase- and web-based payment gateways in clothing sales systems. In the service and education sector, Mubarok and Handriyantini (2021) examine the integration of Midtrans in online course platforms, while Kartini et al. (2022) utilize integrated payment systems in customer service management. In the social and cosmetics sector, Krisnandy and Nurajijah (2022) apply payment gateways to digital donation systems, whereas Hasanah et al. (2021) implement them in cosmetic e-commerce systems. Furthermore, in the taxation context, Rahayu et al. (2021) demonstrate the relationship between the use of digital cashier systems and tax recording and calculation processes.

Another study by Jefriandi and Taufiq (2020) compares transaction time characteristics between digital payment systems and manual methods, showing differences in transaction duration. These findings illustrate the role of payment gateways as part of payment technology systems that contribute to operational efficiency across various application contexts.

3. METHOD

This research applies the **Business Process Reengineering (BPR)** methodology as a framework for analyzing and redesigning business processes. BPR is understood as a structured and systematic approach to examining and modeling organizational process flows with an orientation toward process outputs intended for specific customers. In the context of this study, BPR is defined as the fundamental rethinking and radical redesign of business processes with an emphasis on measurable changes in key performance indicators.

3.1. Research Stages

This research is structured based on a series of systematic stages as illustrated in Figure 1. The research flow consists of sequential activities starting from data collection, followed by business process analysis, process modeling, and concluding with the formulation of the proposed process as the research output.

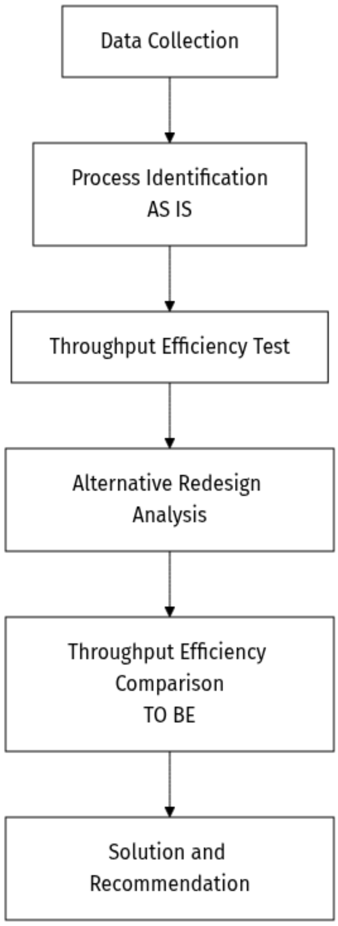

Figure 1. Research Flowchart

3.2. Detailed Research Steps

The stages of the Business Process Reengineering (BPR) method applied in this study are described in detail to illustrate the systematic flow of the research implementation.

Data Collection

Data collection is conducted as the foundation for business process analysis. This study employs data triangulation techniques, including interviews, observation, and documentation. Semi-structured interviews are conducted with the business owner and employees directly involved in the payment process to obtain information related to business rules, actor roles, and existing workflows. Observation is carried out through a *Stopwatch Time Study* to record the duration of each activity in the payment process in detail, including time variations under different operational conditions. In addition, historical transaction data are analyzed to identify delay patterns within the payment process.

Process Identification

The next stage involves identifying the existing (As-Is) process. This identification is performed by mapping the workflow in detail using Business Process Model and Notation (BPMN). Process modeling focuses on interactions among three main entities, namely customers, employees, and the business owner. The aim is to illustrate activity relationships, information flows, and process sequences within the payment system.

Throughput Efficiency Test

At this stage, the efficiency of the existing process is measured using the ASME Standard Process Chart. ASME classifies process activities into five categories: Operation (O), Transport (T), Inspection (I), Delay (D), and Storage (S). Efficiency measurement is conducted by calculating the *Throughput Efficiency* value based on Equation (1), which represents the ratio between non-*Delay* activity time and the total process cycle time.

$$Throughput\ Efficiency = \frac{\text{Processing Time (Total Time} - \text{Delay Time)}}{\text{Total Time}} \times 100\% \quad (1)$$

Alternative Redesign Analysis

This stage involves analyzing alternative process redesigns based on the identified activity characteristics and workflows. The analysis refers to the main BPR principles, namely *Eliminate*, *Simplify*, *Integrate*, and *Automate*. The *Eliminate* principle is used to assess non-value-added activities, while the *Automate* principle evaluates the feasibility of applying technology to replace manual inspection activities, including the use of an API-based *Payment Gateway*.

Throughput Efficiency Comparison

After the proposed (*To-Be*) process is designed, a comparative analysis is conducted between the existing and proposed processes. This analysis includes modeling the proposed workflow and calculating the *Throughput Efficiency* value using the same formula as shown in Equation (1) to illustrate differences in process cycle time characteristics.

Solution

The final stage of the research is solution formulation based on the results of process analysis and performance measurement. The proposed solution takes the form of a digital payment system design integrated with a *Payment Gateway*. The solution is presented through system designs and supporting artifacts that represent its implementation in the research object.

4. RESULT AND DISCUSSION

4.1. Data Collection Results

The data collection stage revealed issues within the operational flow of the payment process. Interview results indicate that the business owner receives transfer receipts at varying times, including when not physically present at the store, such as while driving or resting, which prevents immediate payment verification. Observation data show that payment verification waiting times vary widely, ranging from approximately 10 minutes to 2–3 hours. Based on interview and observation findings, this condition is experienced by both repeat customers and customers who place orders through the store's official contact number. In addition, the business owner stated that manual verification procedures are maintained as a response to previous incidents involving modified or invalid transfer receipts.

4.2. Process Identification (As-Is)

The process identification stage was conducted to map the existing payment workflow. The process begins when the customer places an order, proceeds with payment transfer, and submits the transfer receipt in the form of a screenshot. The payment proof is then forwarded by the employee to the business owner for verification. The owner subsequently accesses the mobile banking application to verify the payment. Once the payment is confirmed, the owner communicates the verification result to the employee, who then releases the goods to the customer. Based on this workflow mapping, the payment verification process is fully centralized under the business owner as a mandatory stage that must be completed before the transaction can be finalized.

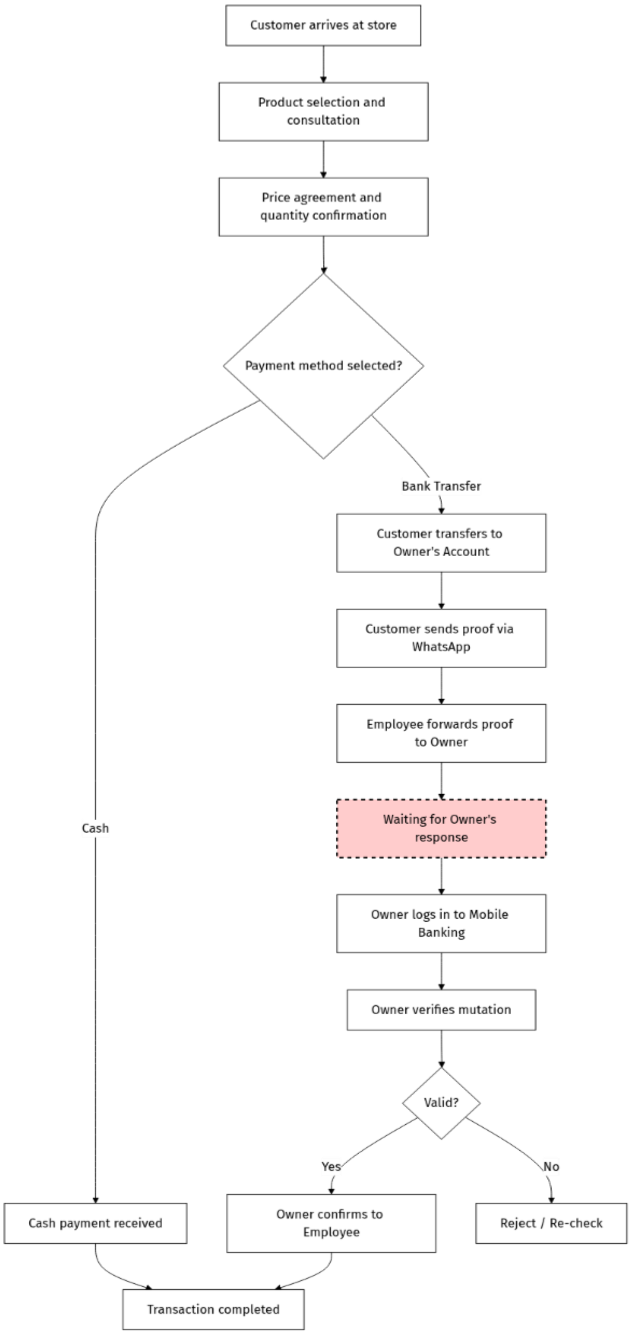

Figure 2. BPMN Diagram of the Existing (As-Is) Payment Process

4.3. Throughput Efficiency Test (As-Is)

The existing process was mapped using the ASME standard to identify Value-Added and Non-Value-Added activities.

Table 1. ASME Process Chart - As-Is Payment Process

No.	Process Step	Process Owner	Time (Min)	O	T	I	D	S

1	Selects products and consults	Customer	15	15				
2	Checks stock and prepares goods	Employee	10	10				
3	Calculates total price	Employee	5	5				
4	Performs bank transfer	Customer	5	5				
5	Sends transfer proof to Employee	Customer	2		2			
6	Forwards proof to Owner (WA)	Employee	2		2			
7	Waits for Owner's response	Employee	120				120	
8	Logs in & checks mutation	Owner	10			10		
9	Verifies amount matches order	Owner	5			5		
10	Sends confirmation to Employee	Owner	2		2			
11	Hands over goods	Employee	5	5				
12	Updates manual sales log	Employee	5	5				
	TOTAL		186	45	6	15	120	0

Based on Table 1, the Throughput Efficiency is calculated as follows:

$$Throughput\ Efficiency = \frac{186 - 120}{186} \times 100\% \quad (2)$$

$$Throughput\ Efficiency = \frac{66}{186} \times 35{,}48\% \quad (3)$$

The calculation results in a throughput efficiency value of **35.48%**, indicating that only **66 minutes** of the total process time contribute to non-delay activities. Consequently, approximately **64.5%** of the process duration is consumed by waiting time, which leads to a significant customer pain point, particularly after the payment stage.

4.4. Alternative Redesign Analysis

At this stage, the existing process is improved by applying principles of elimination, simplification, standardization, and automation. The proposed process redesign alternatives are presented in Table 2.

Table 2. Redesign Analysis Results

No.	Process Step	Improvement Step	Description
1	Sends transfer proof to Employee	Eliminate	Payment status is automatically captured through a system callback mechanism.
2	Forwards proof to Owner	Eliminate	Manual forwarding is no longer required as payment data is system-generated.
3	Waits for Owner's response	Eliminate	Waiting time is removed through real-time API-based verification.
4	Logs in & checks mutation	Automate	Payment validation is fully handled by the integrated payment gateway.

5	Verifies amount matches order	Automate	Payment confirmation is delivered instantly through the POS interface.
6	Sends confirmation to Employee	Automate	Payment confirmation is delivered instantly through the POS interface.
7	Updates manual sales log	Automate	Transaction records are automatically stored in the database after successful payment.

4.5. Throughput Efficiency Comparison

Following the implementation of Business Process Reengineering (BPR) strategies in the *To-Be* process, the workflow is reassessed. The redesigned process incorporates a payment gateway, such as Midtrans or Xendit, which is integrated with the point-of-sale (POS) system.

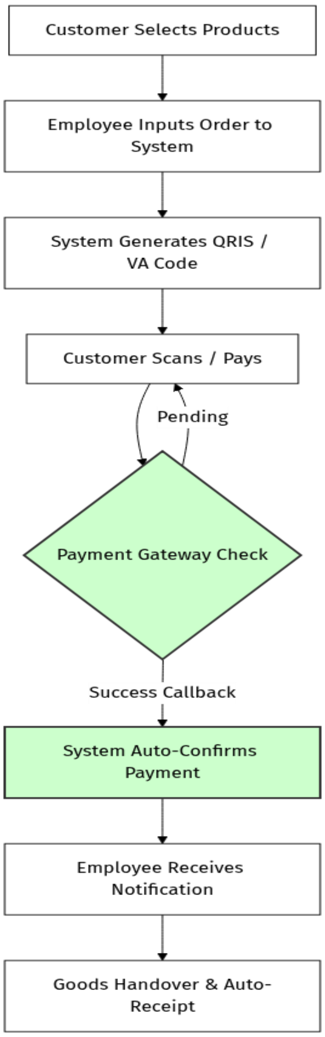

Figure 3. BPMN Diagram of the Proposed (To-Be) Payment Process

Table 3. ASME Process Chart - To-Be Payment Process

No.	Process Step	Process Owner	Time (Min)	O	T	I	D	S

1	Selects products	Customer	15	15			
2	Inputs order & generates QRIS	Employee	2	2			
3	Prepares goods	Employee	5	5			
4	Scans QRIS/Pays	Customer	1	1			
5	Auto-verification by System	System	0*			0*	
6	Receives Success Notif	Employee	0*	0*			
7	Hands over goods	Employee	0*	0*			
	TOTAL		23	23	0	0	0

**Time is negligible (< 1 min).*

Calculation for To-Be:

$$Throughput\ Efficiency = \frac{23-0}{23} \times 100\% \tag{4}$$

$$Throughput\ Efficiency = 100\% \tag{5}$$

Table 4. Comparison of Throughput Efficiency

No.	Business Process	Efficiency (Initial)	Efficiency (Redesign)	Total Time (Initial)	Total Time (Redesign)
1	Payment Transaction	35.48%	100%	186 Min	23 Min

4.6. Comprehensive Discussion

The implementation of Business Process Reengineering (BPR) at Toko Pertanian Kurnia Manokwari leads to fundamental changes in the payment process.

Process Efficiency

Throughput Efficiency increases from **35.48% (As-Is)** to **100% (To-Be)**. In the As-Is process, *Delay* accounts for **64.5%** of the total cycle time. After replacing manual verification with an API-based mechanism, *Delay* is eliminated.

Verification Mechanism

The As-Is process relies on visual inspection by the owner. In the To-Be process, verification is handled by a *Payment Gateway* using direct transaction data, shifting risk characteristics from manual to system-based verification.

Process Scalability

The As-Is process is constrained by individual capacity. In contrast, the To-Be process enables parallel verification, preventing waiting time increases as transaction volume grows.

Implementation Considerations and Challenges

Although the redesigned To-Be process demonstrates substantial improvements in throughput efficiency based on process modeling, several practical considerations need to be acknowledged for real-world implementation. The adoption of an API-based payment gateway may introduce additional operational costs and increased dependency on third-party system reliability, including network availability and service stability, which could affect transaction continuity in the event of technical disruptions. In addition, user readiness represents an important organizational factor, as the transition from manual to automated payment processes requires adjustments in work routines, basic technical training, and the establishment of standardized operating procedures. Therefore, while the proposed To-Be model demonstrates strong efficiency potential, successful implementation depends on organizational preparedness and the availability of supporting technical infrastructure.

4.7. Solution

The solution formulated in this study is based on the results of the *As-Is* process analysis and the *To-Be* process design that have been conducted. The solution focuses on designing an integrated digital payment system to replace the manual payment verification mechanism that relies on the direct involvement of the business owner.

The proposed system utilizes a Payment Gateway Service Provider (PGSP) available in Indonesia, characterized by support for various payment methods commonly used by customers. The payment system integration includes several channels, namely QRIS (Quick Response Code Indonesian Standard) for cashless payments via digital wallets and mobile banking applications, Virtual Accounts (VA) for bank transfer transactions using unique account numbers, and a Callback/Webhook API mechanism that enables the payment system to automatically send transaction status updates to the cashier system.

To illustrate the redesigned process, Figure 4 presents the flow of the proposed *Point of Sales* (POS) application system. The visualization shows an automated payment verification flow in which payment confirmation is received directly by the system without passing through a manual inspection stage by the business owner.

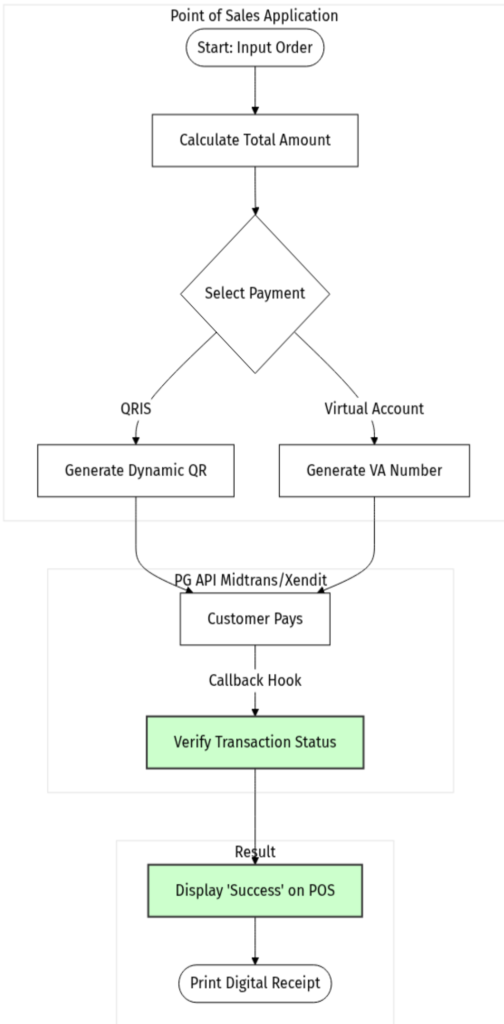

Figure 4. Proposed Application System Flow

5. CONCLUSION

Based on the results of the study, the manual payment verification process at Toko Pertanian Kurnia Manokwari exhibits a long process cycle time, with a *throughput efficiency* value of 35.48% and a total cycle time of 186 minutes. The redesigned payment process through the integration of a *payment gateway* system demonstrates a change in process characteristics, where *throughput efficiency* reaches 100% and the process cycle time is reduced to 23 minutes. These changes reflect differences in process activity structures between the *As-Is* and *To-Be* conditions, particularly in the elimination of *Delay* activities that previously occurred during the payment verification stage. The findings indicate that digital payment system integration influences the efficiency and scalability characteristics of payment processes in the context of agribusiness MSMEs.

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7. REFERENCES

Ariessanti, H. D., Aryani, D., & Santoso, S. (2022). Implementasi Firebase Realtime Platform Berbasis Mobile Untuk Sistem Pemesanan Pakaian Dengan Payment Gateway (Studi Kasus: Distro Collection). *ICIT Journal*, *8*(2), 132–147. https://doi.org/10.33050/icit.v8i2.2404

Arrasyid, M. Z., & Suharso, W. (2025). *Rekayasa Ulang Proses Penjualan Pada Bakery Resep Nenek Menggunakan Notasi BPMN*. *14*(1).

Azmi, F., & Suharso, W. (2025). *Optimalisasi Proses Bisnis Kentaro Club Menggunakan Business Process Reengineering dan BPMN*. *14*(1).

Dewi, S., Jeslin, J., Kristina, K., Sherry, S., & Aurellia, A. (2022). Analisis Kebijakan Pada UMKM Bintan Snack Millennium Dalam Meningkatkan Efisiensi Proses Bisnis. *Jurnal Cakrawala Ilmiah*, *1*(5), 985–996. https://doi.org/10.53625/jcijurnalcakrawalailmiah.v1i5.906

Farhani, I., & Chaniago, H. (2021). *Faktor Penentu Transformasi Digital UMKM: Bukti dari Indonesia*.

Hasanah, S. H., Martinus, A. I., & Jaya, S. M. (2021). *RANCANG BANGUN APLIKASI E-COMMERCE KOSMETIK MENGGUNAKAN PAYMENT GATEWAY BERBASIS WEB*.

Jefriandi, N., & Taufiq, M. (2020). Aplikasi Digital Payment Pada Transaksi Di Ar-Raihan Banyuwangi. *BINA INSANI ICT JOURNAL*, *7*(2), 166. https://doi.org/10.51211/biict.v7i2.1421

Julio, E., & Pakereng, M. A. I. (2021). Implementasi API Payment Gateway Menggunakan Arsitektur Microservice. *Jurnal Informatika*, *8*(2), 123–130. https://doi.org/10.31294/ji.v8i2.10590

Krisnandy, A. (2022). *Online Donation Information System with Payment Gateway*. *6*(158).

Louis Hernandez, Jacky, Jessica Valeria, Ellyn Olivia, & Renaldy Al Faris Pratama. (2022). TEORI EKONOMI MIKRO PROJECT PAPER BASED ANALISIS PROSES BISNIS UMKM SEOUL CAFE DI KOTA TANJUNGPINANG. *Jurnal Cakrawala Ilmiah*, *1*(5), 887–894. https://doi.org/10.53625/jcijurnalcakrawalailmiah.v1i5.1141

Mochamad Kiki Baihaki M & Djamaluddin. (2022). Perancangan Proses Bisnis Sistem Informasi Pendaftaran Tugas Akhir Menggunakan Business Prosess Modelling Notation (BPMN). *Bandung Conference Series: Industrial Engineering Science*, *2*(1). https://doi.org/10.29313/bcsies.v2i1.2447

Mubarok, A. M., & Handriyantini, E. (2021). *Perancangan Aplikasi Online Course Menggunakan API Midtrans Sebagai Payment Gateway Berbasis Android*.

Nugrah Leksono Putri Handayani & Poppy Fitrijanti Soeparan. (2022). Peran Sistem Pembayaran Digital Dalam Revitalisasi UMKM. *Transformasi: Journal of Economics and Business Management*, *1*(3), 20–32. https://doi.org/10.56444/transformasi.v1i3.425

Primadineska, R. W. (2021). Pengaruh Penggunaan Sistem Pembayaran Digital terhadap Perilaku Beralih di Era Pandemi COVID-19. *Telaah Bisnis*, *21*(2), 89. https://doi.org/10.35917/tb.v21i2.215

Radyanto, M. R., & Hayati, E. N. (2021). SISTEM PERBAIKAN BERKELANJUTAN UMKM TERDAMPAK PANDEMI COVID-19 DENGAN MENERAPKAN REKAYASA ULANG PROSES BISNIS. *PROFISIENSI: Jurnal Program Studi Teknik Industri*, *9*(2), 298–311. https://doi.org/10.33373/profis.v9i2.3665

Rahayu, E. F., Fandhika, F., & Santoso, S. (2021). Aplikasi Kasir Digital dan Perhitungan Pembayaran Pajak Penghasilan UMKM Berbasis Android. *ICIT Journal*, *7*(1), 42–52. https://doi.org/10.33050/icit.v7i1.1445

Ridho Awang Sudrajat & Enny Aryanny. (2023). Perancangan Sistem Informasi Manajemen Toko (Point Of Sales) Berbasis Website di UMKM Hijab Nafisa. *Jurnal Manajemen Riset Inovasi*, *1*(2), 179–197. https://doi.org/10.55606/mri.v1i2.1071

Santiari, D. M., Sukarsa, I. M., & Sudana, A. A. K. O. (2021). Analisis Inovasi Proses Bisnis Terintegrasi Pada Sebuah Kabupaten Di Indonesia. *JITTER : Jurnal Ilmiah Teknologi dan Komputer*, *2*(3), 585. https://doi.org/10.24843/JTRTI.2021.v02.i03.p18

Setyaningsih, S., Nadhiroh, N. K., & Dewi, R. S. (2021). Analisis Proses Bisnis Pengemasan Semen Menggunakan 7 Tools dan 11 Improvements Patterns. *SISTEMASI*, *10*(1), 212. https://doi.org/10.32520/stmsi.v10i1.1167

Sumari, A. D. W., Musthafa, M. B., & Putra, D. R. H. (2020). Perbandingan Kinerja Metode-Metode Prediksi pada Transaksi Dompet Digital di Masa Pandemi. *Vol .*, *4*.

Sundah, P. M., Adeline, C., & Purba, H. (2021). Digitalisasi UMKM sebagai Langkah Mewujudkan Pemulihan dan Resiliensi Pelaku Usaha di Masa Pandemi. *Prosiding Konferensi Nasional Pengabdian Kepada Masyarakat dan Corporate Social Responsibility (PKM-CSR)*, *4*, 1202–1206. https://doi.org/10.37695/pkmcsr.v4i0.1228

Wijaya, E., & Susilawati, R. (2022). Pengaruh Persepsi Risiko dan Kepercayaan (Trust) pada Adopsi Layanan Fintech (Studi Kasus pada Layanan Pembayaran Digital Gopay). *Indonesian Accounting Literacy Journal*, *2*(1), 202–209. https://doi.org/10.35313/ialj.v2i1.3355

Yudadharma, M. V., & Suharso, W. (2025). BUSINESS PROCESS REENGINEERING PADA CV PUTRA SANTOSO UNTUK MENINGKATKAN KINERJA BISNIS PERUSAHAAN. *JIPI (Jurnal Ilmiah Penelitian dan Pembelajaran Informatika)*, *10*(1), 123–136. https://doi.org/10.29100/jipi.v10i1.5781

Yudhistira, B., & Suharso, W. (2025). *Rekayasa Ulang Proses Pengembalian Produk Pada CV. Berkah Menggunakan Notasi BPMN*. *14*(1).

Zakki, A. K. A., & Suharso, W. (2025). Analisis Efisiensi Proses Penerimaan Order Dan Pengadaan Bahan Baku Dengan Efisiensi Throughput. *JIKO (Jurnal Informatika dan Komputer)*, *9*(2), 295. https://doi.org/10.26798/jiko.v9i2.1652