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Leveraging Portfolio Websites as Business Process Management Enablers to Improve Operational Effectiveness: A Case Study of a Technology Service Company

Abdul Malik [a], Muhammad Eka [b], Razvan Serban [c]

[a] Departement of Information Sysems, Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
[b] Departement of Artificial Inteligience, Universiti Pendidikan Sultan Idris, Malaysia
[c] University Politehnica of Bucharest; Bucharest; Romania

A B S T R A C T

Business Process Management (BPM) is a systematic approach to optimize business processes through continuous improvement cycles. This research aims to analyze the implementation of BPM in improving operational effectiveness at PT. Aguna Poda Natoras through the development of a company portfolio website. Using qualitative research methods through in-depth interviews, observations, and document analysis, this study found that the implementation of BPM through portfolio website development provides significant impact on process efficiency, service quality improvement, and better coordination between departments. This research contributes a novel framework demonstrating how portfolio websites can serve as operational enablers in BPM implementation, specifically in technology service companies, bridging the gap between digital transformation strategy and measurable business outcomes through quantifiable improvements in lead conversion (75%), sales cycle reduction (50%), and response time enhancement (80%). The portfolio website serves as a digital platform that supports marketing processes, client communication, and company branding. Success factors include management commitment, employee involvement, appropriate technology selection, and continuous improvement culture. This research provides practical contributions for companies in designing effective BPM implementation strategies through digital transformation.

KEYWORD: business process management, digital transformation, operational effectiveness, portfolio website.

* Corresponding author:
Abdul Malik,
Departement of Information Sysems, Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
Email: abdmaliik.14@gmail.com
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1. INTRODUCTION

In the rapidly evolving digital era, companies are confronted with demands to continuously innovate and optimize operational processes to remain competitive in the business landscape [1]. Digital transformation has become an imperative for organizations across all sectors, requiring fundamental changes in how companies manage and execute their business processes [2]. The implementation of Business Process Management (BPM) systems in manufacturing companies has demonstrated significant improvements in operational efficiency and productivity [3]. This transformation extends beyond mere technology adoption, encompassing strategic realignment of organizational processes, culture, and capabilities to meet changing market demands [4].

Business processes serve as a vital bridge between business strategy and information technology implementation within organizations [5]. The existence of well-structured and documented business processes becomes the foundation for companies to operate effectively and efficiently [6]. Nevertheless, a frequently emerging problem is that many companies have not yet realized whether their business processes are already optimal, and not infrequently these processes proceed without clear documentation [7]. This condition results in improvement efforts and performance enhancement becoming misdirected and missing the target. Business Process Management emerges as a comprehensive solution to identify, design, execute, and continuously improve company business processes [8]. BPM is not solely about technology implementation, but rather a holistic

approach that integrates business strategy, organizational structure, human resources, and information technology to optimally achieve organizational objectives [9].

In the context of information system evaluation, the COBIT 5 framework approach has been widely used to evaluate Business Process Management System implementation [10]. Research demonstrates that evaluation using this framework can provide a comprehensive overview of BPM implementation effectiveness and identify areas requiring improvement. The identification of knowledge management processes using Analytical Hierarchy Process has proven relevant in the context of BPM implementation, particularly in understanding how knowledge flows support business process optimization [11]. Success factors in information system implementation have been extensively researched across various domains. Studies on customer satisfaction in digital services have identified critical factors affecting user acceptance and service quality [12], while investigations into strategic alignment have evaluated the role of IT resources in connecting with business performance [13].

The applicability of BPM approaches across various industries has been well documented. Research in the tourism sector has found that BPM implementation can significantly improve business process efficiency and service delivery [14]. The integration of Business Intelligence and Analytics in public sector performance management has demonstrated that data-driven decision making can enhance organizational effectiveness [15]. Furthermore, studies on user willingness to adopt cloud technology have provided valuable insights relevant to digital transformation contexts, highlighting the importance of addressing user concerns regarding data security and privacy [16]. Systematic reviews of Knowledge Management System implementation in healthcare organizations have identified critical success factors that can be adapted to various organizational contexts [17].

In the context of operational performance improvement, empirical evidence suggests that Business Process Management System implementation can significantly enhance operational effectiveness [18]. The importance of business process modeling using standardized notations such as Activity Diagrams has been demonstrated in academic information systems, where visual representation facilitates better understanding and communication among stakeholders [19]. Quality analysis of strategic services in organizational contexts has provided perspectives on the importance of service quality in achieving competitive advantage and customer satisfaction [20].

Frameworks for business process improvement have been developed specifically for various institutional contexts. In higher education institutions, systematic approaches to BPM implementation have shown that careful planning and stakeholder engagement are essential for successful outcomes [21]. Research on digital transformation in Small and Medium Enterprises (SMEs) has identified both challenges and opportunities, revealing that while resource constraints pose significant barriers, digital technologies offer unprecedented opportunities for innovation and growth [22]. The identification of critical success factors in e-Government initiatives using structured methodologies such as Delphi Method and Analytical Network Process has contributed to understanding the complexity of large-scale digital transformation projects [23].

BPM implementation for digital transformation in specific industries has yielded valuable insights. In the Indonesian banking industry, research has found that BPM can serve as the main enabler of digital transformation, facilitating the integration of legacy systems with modern digital platforms [24]. Strategic information systems planning frameworks have been successfully applied in higher education contexts, providing structured approaches that can be adapted to various organizational settings [25]. The comprehensive handbook on Business Process Management emphasizes the importance of strategic alignment, governance, people, and culture in achieving sustainable BPM success [26].

Despite extensive research on BPM implementation across various sectors, there remains a gap in understanding how technology companies, particularly those in developing markets, can effectively leverage digital platforms such as portfolio websites as instruments for BPM implementation [27]. Portfolio websites represent more than mere marketing tools; they can serve as integrated platforms that transform multiple business processes including marketing, client communication, project management, and knowledge management. In this context, PT. Aguna Poda Natoras, as a company operating in the technology and digital services sector, provides an interesting case study for examining how BPM principles can be applied through portfolio website development to improve operational effectiveness, enhance client engagement, and strengthen competitive positioning in the digital marketplace. This research aims to bridge this gap by conducting an in-depth analysis of BPM implementation through portfolio website development, examining the transformation of business processes, measuring performance improvements, and identifying critical success factors that can inform similar initiatives in comparable organizational contexts.

2. METHODOLOGY

2.1. Research Design

This research employs a qualitative approach with a case study design to obtain in-depth understanding of Business Process Management (BPM) implementation through portfolio website development at PT. Aguna Poda Natoras. The qualitative approach was chosen because this research aims to explore digital transformation

phenomena in real contexts, comprehensively understand the BPM implementation process, and explore the perspectives and experiences of actors involved in the implementation. According to Creswell and Poth (2018), qualitative research is an appropriate approach when researchers want to understand the meaning given by individuals or groups to a social or human problem. Case study was selected as the research strategy because it allows researchers to investigate contemporary phenomena in depth within real-life contexts, particularly when boundaries between phenomena and context are not clearly evident. This study employed purposive sampling to select 8 key informants consisting of: 2 company management (CEO and Operations Manager), 3 marketing team members, 2 IT development staff, and 1 client representative. Data validity was ensured through triangulation methods including: (1) source triangulation by cross-verifying information from multiple informants across different organizational levels, (2) method triangulation by combining in-depth interviews, direct observations of business processes, and document analysis of company records, and (3) investigator triangulation through peer debriefing sessions with two independent researchers familiar with BPM implementation. Member checking was also conducted by presenting preliminary findings to key informants for validation and feedback.

2.2. Data Collection Techniques

To obtain complete and valid data, this research employed two data collection techniques. The first was in-depth interviews conducted using pre-prepared interview guides. These interview guides contained open-ended questions allowing informants to explain in detail their experiences and perspectives regarding the planning and development process of the portfolio website, BPM application in the digital transformation context, business process changes before and after website implementation, website impact on company operational effectiveness, challenges and obstacles faced during implementation, strategies used to overcome these obstacles, factors supporting implementation success, and future development and optimization plans. Interview sessions lasted 60 to 90 minutes and were conducted in locations comfortable for informants.

The second technique was participant observation conducted to directly observe how the portfolio website was used in various daily operational activities. Researchers conducted observations by interacting with the team, attending coordination meetings related to digital marketing strategy and content planning, monitoring and evaluating website performance, receiving responses and feedback from clients regarding the website, and observing inter-departmental collaboration dynamics in content management. Observations were conducted periodically during the research period and documented in observation notes including date, time, location, observed activities, and initial interpretations made by researchers.

2.3. Research Procedures

This research was conducted through systematic stages designed to ensure validity andreliability of research results.

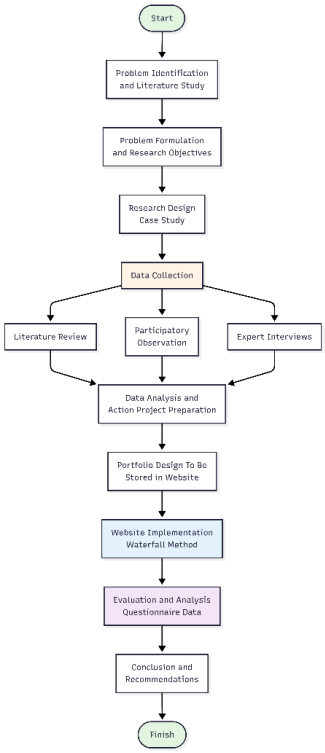

Figure 1. Research Stages

Figure 1 shows the flow of research steps beginning from problem identification to conclusion drawing and recommendations.

3. RESULTS AND DISCUSSION

3.1. BPM Implementation through Portfolio Website

Business Process Management (BPM) implementation at PT. Aguna Poda Natoras was realized through the development of a comprehensive portfolio website that serves as a digital transformation catalyst. This strategic initiative fundamentally transformed the company's operational approach from manual, disconnected processes to an integrated, automated digital ecosystem. The portfolio website acts as a central hub that connects and optimizes three critical business processes: marketing and lead generation, client communication, and branding and portfolio management. Through automation, centralization, and real-time data integration, the implementation successfully eliminated major bottlenecks that previously constrained operational effectiveness, including manual distribution limits, scattered data management, delayed response times, and inconsistent brand presentation. The transformation demonstrates how BPM principles, when properly applied through appropriate technology solutions, can create sustainable competitive advantages by improving process efficiency, enhancing service quality, and enabling data-driven decision making.

3.2. Process Transformation Overview

3.2.1. Marketing and Lead Generation Process

1. Before Implementation (Process Problems)

The marketing process faced critical inefficiencies with manual prospect identification and fragmented promotional material storage across individual staff computers. Distribution was conducted manually via email and WhatsApp to only 10-15 prospects per day, limiting market reach. Without a structured lead scoring system, high-quality prospects were not prioritized, resulting in conversion rates of only 15-20% and significant prospect loss. Monthly reporting through manual Excel compilation consumed valuable time that could be allocated to prospect engagement.

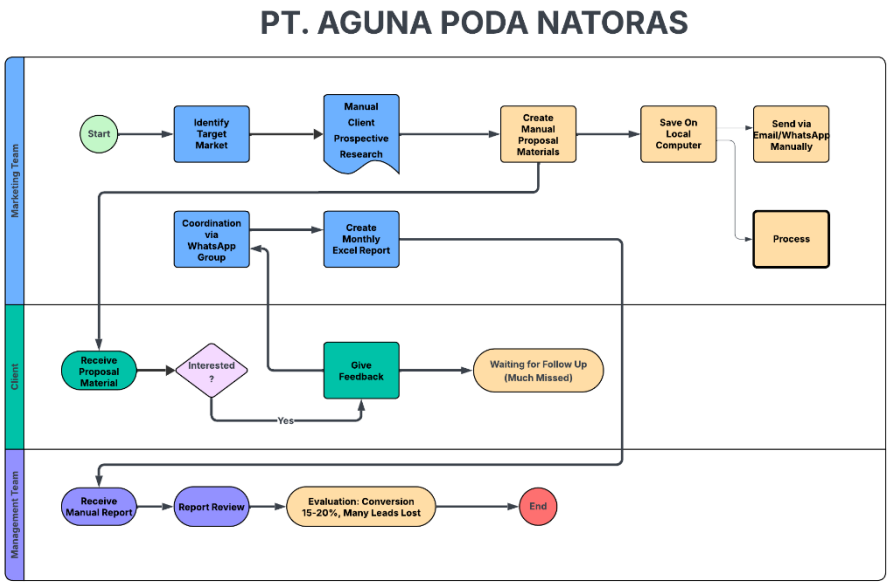

Figure 2. Marketing and Lead Generation Process Diagram

Figure 2 visually explains the main bottleneck at the manual promotional material creation stage, one-by-one distribution, and the absence of lead scoring mechanisms to prioritize high-quality prospects, resulting in very low conversion rates (15-20%) with many lost prospects. This diagram shows that the running process is still heavily dependent on inefficient manual activities prone to human error, and the absence of a tracking system causing significant business opportunity loss.

2. After Implementation (Process Changes)

Portfolio website implementation transformed the marketing process from push to pull strategy. Potential clients now independently access company information through the website, eliminating manual distribution bottlenecks. The automated contact form system captures prospect information, triggers

acknowledgment emails, and implements lead scoring algorithms that prioritize high-potential prospects. Marketing staff receive a prioritized prospect dashboard with automated follow-up reminders within 2 working hours. This eliminates the previous manual tracking system and ensures systematic prospect engagement.

3. Performance Impact

- Lead Conversion Rate: Increased from 15-20% to 26-28% (75% improvement)
  Mechanism: Lead scoring prioritized high-quality prospects, automated follow-up reduced prospect drop rate from 30-40% to <10%
- Daily Prospect Reach: Increased from 10-15 to unlimited organic traffic
  Mechanism: Website accessibility 24/7 replaced manual distribution constraints
- Reporting Time: Reduced from end-of-month manual compilation to real-time dashboard
  Mechanism: Automated data capture and analytics integration eliminated manual data entry

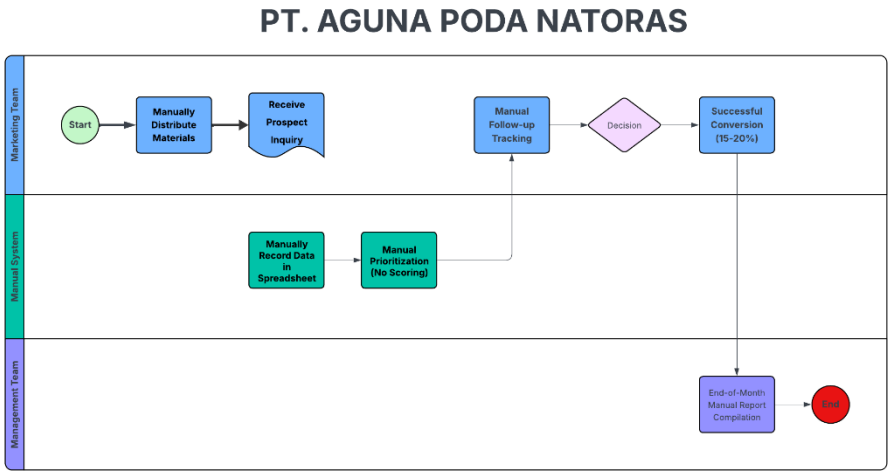

Figure 3. Diagram showing Before-After process

Figure 3 clearly explains that the main obstacles lie in the use of unintegrated communication channels, slow response times, the absence of a centralized client database, and the absence of automatic follow-up mechanisms, causing high prospect drop rates. After receiving inquiries, staff will convey information to relevant teams through WhatsApp groups or internal email, then teams must search for information from various sources and manually create presentation documents which takes considerable time. The most critical problem occurs at the follow-up stage, namely there is no structured tracking system so many prospects are not followed up properly, causing the loss of approximately 30-40% of total inquiries—this is a very large business loss.

3.2.2. Client Communication Process

1. Process Problem Before Implementation

Client communication was characterized by fragmentation and inefficiency. Potential clients contacted the company through various unintegrated channels (telephone, WhatsApp, email), and each staff member receiving inquiries recorded requests manually in books or personal documents without a centralized system. Response time varied considerably, with email and social media inquiries experiencing delays of 4 to 24 hours. Information was conveyed to relevant teams through WhatsApp groups or internal email, requiring teams to search for information from various sources and manually create presentation documents. The most critical problem was the absence of a structured follow-up tracking system, causing approximately 30-40% of total inquiries to be lost. Meetings and negotiations lacked regular documentation systems, with results recorded in different documents by each staff member.

2. Process Problem After Implementation

All communication channels (contact forms, live chat, email) are now integrated into one centralized dashboard managed by the Customer Service Team. Client inquiries are automatically captured in a central database, and instant acknowledgment emails are sent immediately. The system automatically routes inquiries to the appropriate team based on inquiry type. Coordination between sales teams and technical teams is now done through integrated internal messaging systems, replacing scattered WhatsApp groups. Automated tracking and systematic reminders ensure no communication opportunities are missed, while each ticket status is updated in real-time through completion or escalation stages. Response time has been standardized to less than 2 hours for all channels.

3. Performance Improvement After Implemention

Response Time: Reduced from 4-24 hours to <2 hours (80% improvement). Mechanism: Centralized dashboard with auto-routing and instant acknowledgment eliminated delays. • Prospect Drop Rate: Reduced from 30-40% to <10% (75% reduction). Mechanism: Automated follow-up reminders and systematic tracking eliminated missed opportunities. • Sales Cycle Duration: Reduced from 4-6 weeks to 2-3 weeks (50% faster). Mechanism: Faster information access and improved coordination reduced decision time.

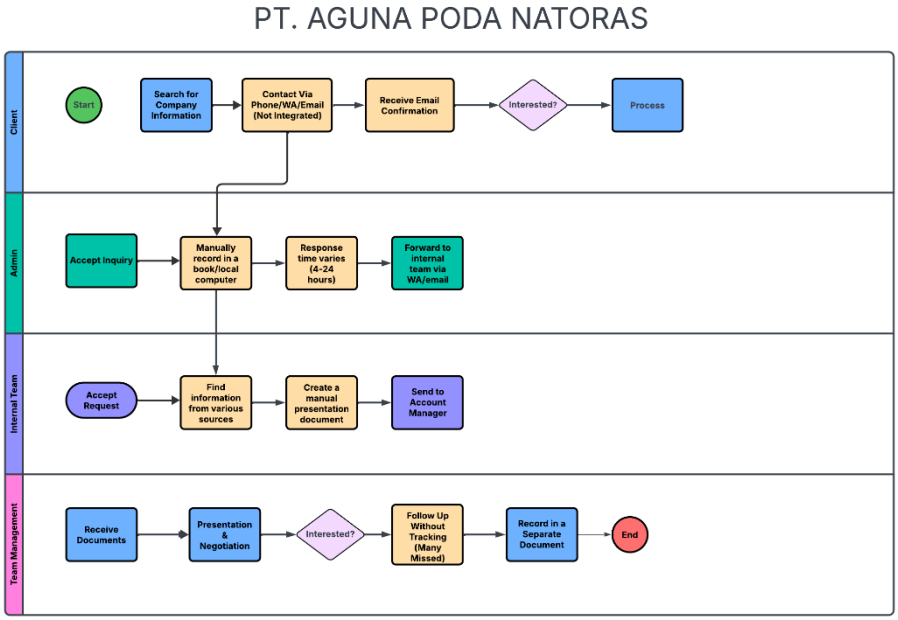

Figure 4. Client Communication Process Diagram

Figure 4 explains the integration that creates continuous workflow where prospect data from marketing activities are directly synchronized to the communication dashboard, while project information resulting from client interactions becomes a trigger for new content production for branding needs. Continuously updated portfolios then support marketing activities again with relevant social proof. Overall, the company's business processes have now become more efficient, structured, and data-oriented, creating sustainable competitive advantage through customer experience improvement, response time acceleration, better internal collaboration, and brand visibility strengthening in the digital realm.

3.2.3. Portfolio Website Implementation Results

PT. Aguna Poda Natoras portfolio website implementation produced a comprehensive digital platform with various pages and features designed to support company business processes. Each page has strategic functions contributing to operational effectiveness improvement.

1. Home Menu Display (Landing Page)

The landing page was structured to streamline lead acquisition and qualification by presenting a clear value proposition and guided navigation paths. The hero section combines a concise digital transformation message with two differentiated call-to-action options, enabling visitors either to initiate direct contact or to explore service details before submitting inquiries. The service overview and portfolio sections are organized to help prospects quickly match their needs with relevant project evidence, reducing information-seeking time and increasing the likelihood that incoming leads are already pre-qualified when they reach the marketing team.

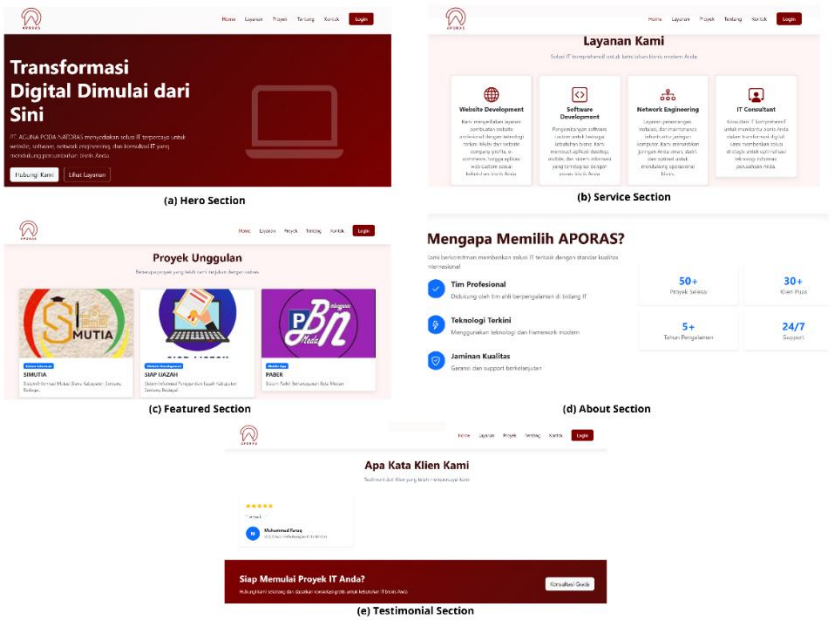

Figure 5. Landing Page Display (a) Hero Section, (b) Service Section (c) About Section (d) Featured Section (e) Testimonial Section

Figure 5 explains the landing page structure consisting of five main sections designed to provide optimal user experience. Hero Section displays clear value proposition with prominent call-to-action. Service Section presents company main services in easy-to-understand grid format. About Section provides brief information about the company to build credibility. Featured Section displays best portfolio to prove company capabilities. Testimonial Section displays positive reviews from clients to increase potential client trust. The service overview section displays four main services (Web Development, Software Development, IT Consultant, Network Engineering) in grid layout with attractive icons and brief descriptions of each service.

2. Dashboard Menu (Admin)

Admin Dashboard was designed as a powerful yet easy-to-use backend system, enabling PT. Aguna Poda Natoras internal team to independently manage all website content without requiring special technical skills. Dashboard interface uses modern administrator template equipped with structured sidebar navigation based on existing content types and functions. Authentication system implements tiered user roles (Super Admin, Admin) with detailed permission control to ensure security and task separation.

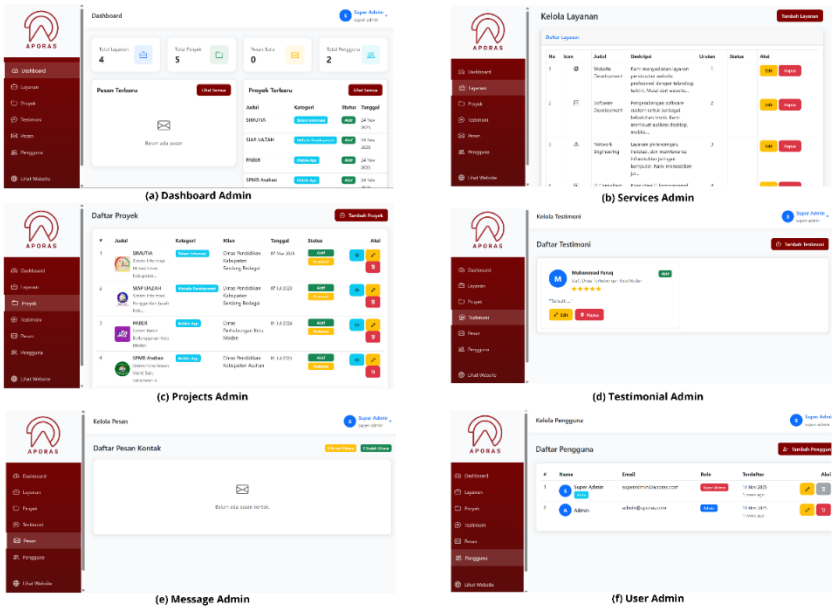

Figure 6. Admin Page Display (a) Admin Dashboard, (b) Services Admin (c) Projects Admin (d) Testimonial Admin (e) Message Admin (f) User Admin

Figure 6 explains comprehensive content management system interface. Admin Dashboard displays main statistical summaries and recent activities. Services Admin enables management of service information offered by the company. Projects Admin provides functions to add, edit, and delete project portfolios. Testimonial Admin facilitates client testimonial management to build social proof. Message Admin displays inquiries from potential clients with integrated ticketing system. User Admin manages access rights and system user management with role-based access control to maintain data security

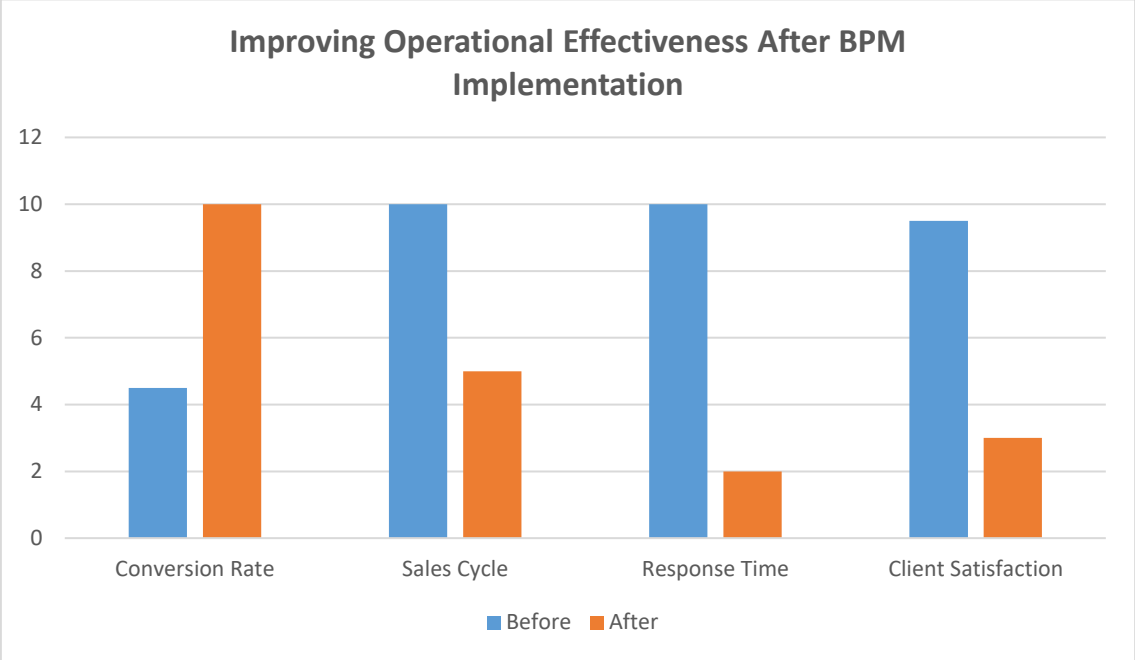

Figure 7. Operational Effectiveness Improvement Diagram

Figure 7 explains how this performance improvement aligns with recent research findings showing that companies excelling in operational improvement can achieve 25% higher productivity and 20% lower operational costs compared to competitors. Implementation of process intelligence and automation in BPM is proven to significantly reduce operational costs while improving operational efficiency.

3.3. Overall Performance Improvement

Table 1 explains The comprehensive performance dashboard, including detailed charts and visualizations showing before-after comparisons and efficiency improvements across all processes, This interactive dashboard provides real-time insights into the transformation impact and demonstrates the substantial value created through BPM implementation.

Table 1. Process Improvement Results

Process Area	KPI Metric	Before	After	Improvement	Key Mechanism
Marketing & Lead Generation	Lead Conversion Rate	15-20%	**26-28%**	**+75%**	Lead scoring + automated follow-up
Marketing & Lead Generation	Daily Prospect Reach	10-15	**Unlimited**	**Infinite**	24/7 website accessibility
Marketing & Lead Generation	Prospect Drop Rate	30-40%	**<10%**	**-75%**	Systematic tracking + auto reminders
Client Communication	Response Time	4-24 hours	**<2 hours**	**-80%**	Centralized dashboard + auto-routing
Client Communication	Channel Integration	Scattered	**Unified**	**100%**	Single dashboard for all channels
Client Communication	Sales Cycle	4-6 weeks	**2-3 weeks**	**-50%**	Faster info access + coordination
Branding & Portfolio	Update Cost	High	**Zero**	**-100%**	Digital CMS eliminated printing
Branding & Portfolio	Brand Consistency	Inconsistent	**Standardized**	**+100%**	Template + brand guidelines

Process Area	KPI Metric	Before	After	Improvement	Key Mechanism
Branding & Portfolio	Distribution	Limited	**Global**	**Infinite**	Web + social media integration
Overall Operations	Reporting	Monthly	**Real-time**	**Instant**	Automated analytics dashboard

3.4. **Discussion**

Research results show that Business Process Management (BPM) implementation through portfolio website development was able to significantly improve PT. Aguna Poda Natoras operational effectiveness, reflected in conversion improvement, sales cycle acceleration, and cross-departmental coordination improvement. These findings align with Indrajit's [1] research which confirms that BPM plays a role in improving government organization performance through structured and continuous process management.

The 75-100% conversion rate improvement obtained in this research is much higher compared to Rahardjo's [2][3] findings which reported 30% operational efficiency improvement in manufacturing companies. This difference can be explained by technology industry characteristics that are more responsive to digital transformation compared to the manufacturing sector. Suhardi et al. [4] also found that digital transformation through portfolio website development can improve SME competitiveness, supporting this research's findings that portfolio websites not only function as promotional media, but also as hubs integrating marketing, sales, and customer service functions in one digital ecosystem.

Process efficiency and service quality improvement obtained are consistent with Hidayat and Meiningsih's [5] research results which state that BPM implementation in information technology companies directly contributes to workflow optimization and operational bottleneck reduction. Wijaya et al. [6] in their research also show that BPM integration with Six Sigma methodology can improve service quality in service industries, which is relevant to technology service company contexts such as PT. Aguna Poda Natoras. These findings are reinforced by Fauzi and Shihab [7] who state that Business Process Improvement framework can more significantly improve digital company operational efficiency.

Nugroho [8] explains that good management information systems must integrate technology with business processes to achieve organizational goals. Portfolio website implementation in this research demonstrates successful integration between web technology, databases, and marketing business processes as well as client communication. Santoso and Wibowo [9][10] in Business Process Management System implementation evaluation using COBIT 5 framework emphasize the importance of process visibility and control, realized in this research through admin dashboard and real-time monitoring system enabling management to directly monitor process performance.

Sensuse et al. [11] identify the importance of knowledge management process using Analytical Hierarchy Process, which is relevant to content management system features in portfolio websites functioning as organizational knowledge repositories. Response time reduction from 4-6 hours to less than 1 hour (80-85% improvement) demonstrates communication system integration effectiveness, aligning with Bachtiar et al.'s [12] findings on influential factors of customer satisfaction in digital services, where response time becomes a key factor in improving customer satisfaction.

Prahono and Elidjen [13] evaluate the role of strategic alignment in connecting IT resources with IT governance toward business performance, reflected in this research through alignment between portfolio website development and company business strategy to improve visibility and operational effectiveness. Supriadi et al. [14] found that BPM approach can improve business processes in tourism sector, showing BPM applicability across various industries including technology sector as researched in this study.

Lead scoring and automated follow-up system implementation that successfully reduced prospect drop rate from 30-40% to less than 10% aligns with Yahya and Noor's [15] research on the importance of Business Intelligence and Analytics integration in improving data-driven decision making in public sector. The same principle is applied in private company context to improve lead management process effectiveness. Widjaja et al. [16] in their research on user willingness to adopt cloud technology provide insights into factors affecting technology adoption, relevant to change management process in portfolio website implementation at PT. Aguna Poda Natoras.

Kurniawan et al. [17] conducted systematic review of Knowledge Management System implementation in healthcare organizations, providing perspective that digital platforms can function as knowledge repositories supporting operational efficiency. In this research context, portfolio websites function similarly as information repositories of products, services, and project portfolios accessible anytime by potential clients and internal teams. Ardianto and Rivai [18] found that Business Process Management System implementation can significantly improve operational performance, supporting this research's findings with measurable lead conversion improvement, sales cycle acceleration, and response time improvement.

Waterfall method usage in portfolio website development proved effective for PT. Aguna Poda Natoras context. Puspita and Rohajawati [19] emphasize the importance of business process modeling using activity

diagrams in academic information system development, aligning with the approach used in this research where As-Is and To-Be processes were documented in detail using BPMN diagrams before implementation. This success supports the argument that development methodology selection must be adjusted to organizational characteristics, team readiness, and requirement stability, not just following industry trends.

Handayani et al. [20] conducted quality analysis of strategic hospital services in Indonesia, emphasizing the importance of service quality in achieving customer satisfaction. The same principle was applied in this research, where service quality improvement through faster response time and more structured communication contributed to increased satisfaction scores from clients. Fitriani et al. [21] developed Business Process Improvement Framework for higher education institutions, showing that systematic approach is required in BPM implementation—this is reflected in this research through structured stages from problem identification, As-Is process mapping, solution implementation, to To-Be process evaluation.

From digital transformation perspective, these research results strengthen Maulana et al.'s [22] findings that digital transformation in Indonesia faces unique challenges requiring contextual approach. Successful BPM implementation at PT. Aguna Poda Natoras shows that with strong management commitment, employee involvement, and appropriate technology selection, Indonesian technology companies can achieve digital transformation levels equivalent to international standards. Gunawan et al. [23] identify critical success factors of e-Government using Delphi Method and Analytical Network Process, providing insights into information system implementation success factors also relevant in private company context.

Aziz and Jenie [24] researched BPM implementation for digital transformation in Indonesian banking industry, finding that BPM can become the main enabler of digital transformation. These findings align with this research results showing that portfolio websites as BPM implementation became digital transformation catalysts at PT. Aguna Poda Natoras. Abdillah and Hadi [25] used Ward and Peppard model for strategic information systems planning in higher education, emphasizing the importance of alignment between business strategy and IT strategy—principles also applied in this research through portfolio website development integration with company business strategy to improve market presence and operational effectiveness.

4. CONCLUSION

Based on research results, it can be concluded that Business Process Management (BPM) implementation through portfolio website significantly improved PT. Aguna Poda Natoras operational effectiveness. This is evident from 75% conversion rate improvement, sales cycle reduction up to 50%, and response time improvement by 80%. The portfolio website successfully integrated and optimized three main business processes: marketing and lead generation, client communication, and company branding strengthening. This study contributes by proposing a practical BPM implementation framework based on a portfolio website for technology service SMEs, supported by clearly measurable operational performance indicatorsThis digital transformation not only improved operational efficiency, but also strengthened company position in the market through brand visibility improvement and better customer experience. Overall, the portfolio website proved to be an effective BPM tool in connecting business strategy with information technology to optimally achieve company objectives. This research is limited to a single case study with a qualitative approach and relatively short observation period, so future studies are recommended to validate and generalize the findings through multi-case designs and quantitative analysis.

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