

Modernizing Business Correspondence Systems: Key Steps for Building Scalable and Efficient Software with BPR

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Abstract: *Business Process Reengineering (BPR) is a systematic approach to improving an organization's underlying processes and structures by rethinking existing procedures and workflows. This scholarly article explores the application of BPR in the modernization of legacy forms, focusing on how organizations can efficiently transition from outdated, paper - based forms to streamlined, digital processes. Through BPR, businesses can enhance efficiency, reduce costs, and improve service delivery, thereby achieving significant operational improvements. The paper outlines key steps for implementing BPR in form modernization and presents theoretical and empirical insights supported by academic literature.*

Keywords: BPR, Business Process Reengineering, Legacy Forms, Digital Transformation, Process Improvement, Workflow Automation, Cost Reduction, Traceability

1. Introduction

Legacy forms are a staple in many organizations, serving critical administrative and operational functions. However, these forms often become outdated, leading to inefficiencies and increased operational costs. Modernizing these forms through Business Process Reengineering (BPR) offers a pathway to transform business operations fundamentally [1].

This approach not only supports the digitization of forms but also reimagines the processes associated with these forms to enhance organizational performance and responsiveness.

Steps in Applying BPR for Modernizing Legacy Forms

Applying Business Process Reengineering (BPR) to modernize legacy forms involves a strategic approach to redesigning workflows and systems to increase efficiency and integrate new technologies [3, 4, 7 - 9].

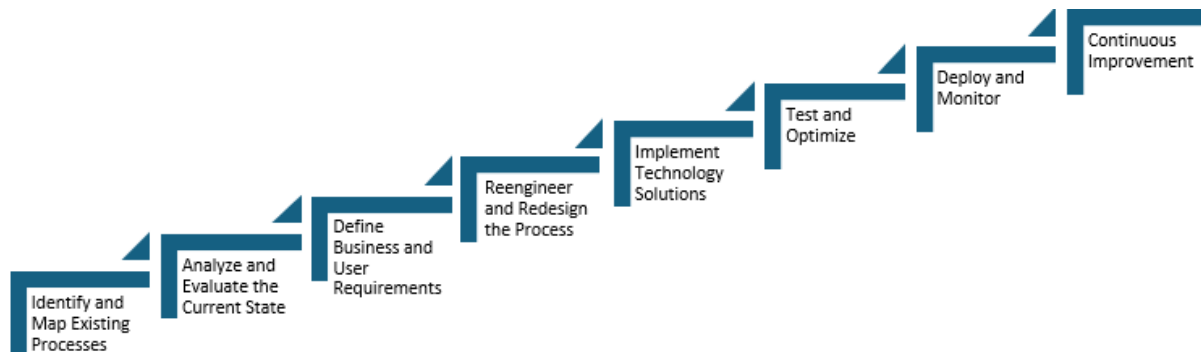


Figure 1: Steps in applying BPR to modernize business correspondence systems

1. Identify and Map Existing Processes

The first step in BPR is to thoroughly understand and document the current form - related processes. This involves identifying all steps, actors, inputs, and outputs in the processing of forms. Techniques such as flowcharting or process mapping can be used to visualize these processes, making it easier to pinpoint inefficiencies, redundancies, or bottlenecks.

2. Analyze and Evaluate the Current State

Once the existing processes are mapped, they should be analyzed to assess their effectiveness and efficiency. Key metrics to consider include processing times, error rates, costs involved, and user satisfaction levels. This analysis helps in identifying the parts of the process that are most in need of redesign.

3. Define Business and User Requirements

Understanding the needs and expectations of both the business and the end - users of the forms is crucial. Engage with stakeholders through interviews, surveys, and workshops to gather detailed requirements. This step ensures that the redesigned process aligns with broader business goals and enhances the user experience.

4. Reengineer and Redesign the Process

Using the insights gained from the previous steps, reengineer the form processes. This may involve:

- Eliminating unnecessary steps that do not add value.
- Integrating digital technologies such as automated data capture, electronic signatures, and online form submission capabilities to reduce manual handling and improve accuracy.
- Redesigning workflow to ensure that form processes are logical, streamlined, and aligned with the needs of users and the business. This might include changing the order

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of operations, consolidating tasks, or introducing parallel processing where appropriate.

5. Implement Technology Solutions

Select and implement technology solutions that support the new, reengineered process. This might involve deploying new form management software, integrating with other business systems (like CRM or ERP), or developing custom applications to handle specific requirements such as dynamic form generation or complex data validations.

6. Test and Optimize

Before fully deploying the redesigned forms and processes, conduct thorough testing to ensure everything works as intended. This should include both technical testing to catch bugs and user acceptance testing to ensure the process meets user needs. Based on feedback, make necessary adjustments to optimize the process.

7. Deploy and Monitor

Roll out the new processes and monitor their performance closely. Set up key performance indicators (KPIs) such as completion times, error rates, and user satisfaction to evaluate the effectiveness of the new processes. Use these metrics to continuously refine and improve the process.

8. Continuous Improvement

BPR is not a one - time task but an ongoing effort of continuous improvement. Regularly revisit and reevaluate the processes to adapt to new business conditions, technologies, and user expectations.

2. Case Study: Modernization of Unemployment Benefit Forms in the Public Sector

Background

A state's Department faced substantial challenges with its outdated system for managing unemployment benefits. The system, reliant on paper - based forms and manual processing, was inefficient and struggled to handle spikes in claims, particularly noticeable during economic downturns and crises such as the COVID - 19 pandemic [6].

Challenge

The primary issues with the existing system included:

- *High Processing Times:* Manual entry and processing led to delays in benefit disbursement.
- *Error - Prone Operations:* The reliance on manual operations increased the risk of errors in application processing.
- *Poor Scalability:* The system was unable to efficiently handle surges in claims, leading to backlogs.
- *Limited Accessibility:* Claimants had difficulty accessing and submitting forms, impacting user satisfaction negatively.

Objectives

The modernization initiative aimed to streamline the application process for unemployment benefits, reduce processing times, decrease error rates, and improve accessibility and claimant satisfaction. A key goal was also

to create a system capable of scaling effectively during peak demand periods.

Solution

The project involved a strategic overhaul using Business Process Reengineering (BPR) to shift from a legacy system to a digital - first approach:

- *Digital Form Submission:* Transitioned to an online platform allowing digital submission of unemployment claims.
- *Automated Processing:* Integrated automated data validation and processing to reduce errors and accelerate workflows.
- *Enhanced Integration:* Connected the new system with other state and federal databases for real - time data verification and updates.
- *User - Friendly Design:* Implemented a simplified, intuitive user interface to improve accessibility and ease of use.

Implementation

- The new system was developed and rolled out in phases, beginning with the most critical functionalities to address immediate needs.
- Comprehensive training and support were provided to both employees and claimants to facilitate a smooth transition to the new digital platform.

3. Results

- *Reduced Processing Time:* The average processing time for claims was halved, significantly speeding up benefit disbursement.
- *Increased System Capacity:* The new system could handle a larger volume of claims simultaneously, effectively managing spikes during economic crises.
- *Improved Accuracy:* Automated checks and data validation reduced the error rate by over 40%.
- *Enhanced Claimant Experience:* The easier access and faster processing substantially improved claimant satisfaction ratings.

Benefits of digitizing business correspondence forms with BPR

By implementing BPR in the digitization of business correspondence forms, companies can not only achieve greater operational efficiency but also enhance their adaptability to future technological advancements and market changes [2]. Here are some of the key advantages:

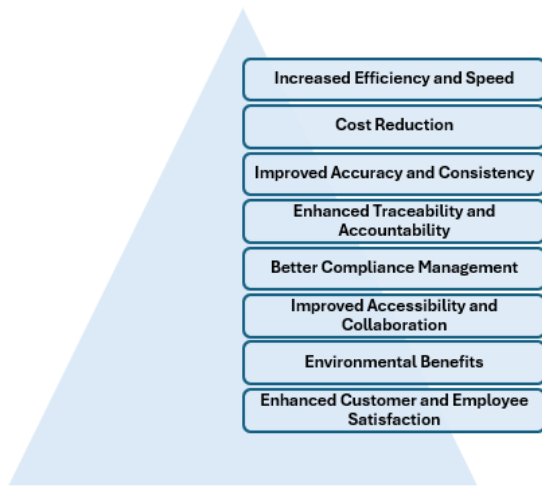


Figure 2: Benefits of digitizing business correspondence forms with BPR

- 1) **Increased Efficiency and Speed:** BPR streamlines processes by eliminating unnecessary steps and integrating digital tools. For business correspondence, this means faster drafting, approval, and dispatch processes, as automated workflows replace manual handling. The use of digital forms reduces the time spent on creating, processing, and managing documents [5].
- 2) **Cost Reduction:** Digitizing correspondence forms reduces the need for physical materials such as paper, ink, and postage. It also cuts down the costs associated with storing physical documents. Over time, these savings can be substantial, especially for organizations that deal with a high volume of correspondence.
- 3) **Improved Accuracy and Consistency:** Digital forms can be standardized and include automatic data validation checks to ensure that all necessary fields are filled correctly. This reduces the likelihood of errors and improves the consistency of the information being sent and received.
- 4) **Enhanced Traceability and Accountability:** Digital systems allow for better tracking of who created, modified, or approved a correspondence form. Audit trails built into these systems enhance transparency and accountability, crucial for compliance and security purposes.
- 5) **Better Compliance Management:** Digital forms can be updated quickly to comply with new regulations. Automated workflows ensure that all correspondence follows legal and regulatory standards, reducing the risk of compliance issues.
- 6) **Improved Accessibility and Collaboration:** Digitizing correspondence allows documents to be accessed remotely by authorized personnel, facilitating easier collaboration, especially across different locations. Changes and approvals can be managed more efficiently, without the need for physical document handovers.
- 7) **Environmental Benefits:** Reducing the use of paper and physical resources contributes to an organization's sustainability efforts. Digital transformation in business processes, including correspondence, supports broader environmental goals by minimizing waste and carbon footprint.
- 8) **Enhanced Customer and Employee Satisfaction:** Faster processing and response times lead to higher

satisfaction levels among customers and stakeholders. For employees, the reduced manual handling and streamlined processes can lead to a more satisfying and less cumbersome work experience.

4. Conclusion

Modernizing legacy forms through BPR is not merely about transferring existing documents into a digital format but rethinking and refining the processes that these forms facilitate. This transformation allows organizations to achieve higher efficiency, better compliance, and improved user experiences. Successful implementation of BPR in form modernization requires careful planning, stakeholder engagement, and ongoing evaluation to adapt to changing organizational needs and technological developments.

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