UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

Subregional Capacity Building Workshop on Business Process Re-engineering (BPR) for Trade Facilitation

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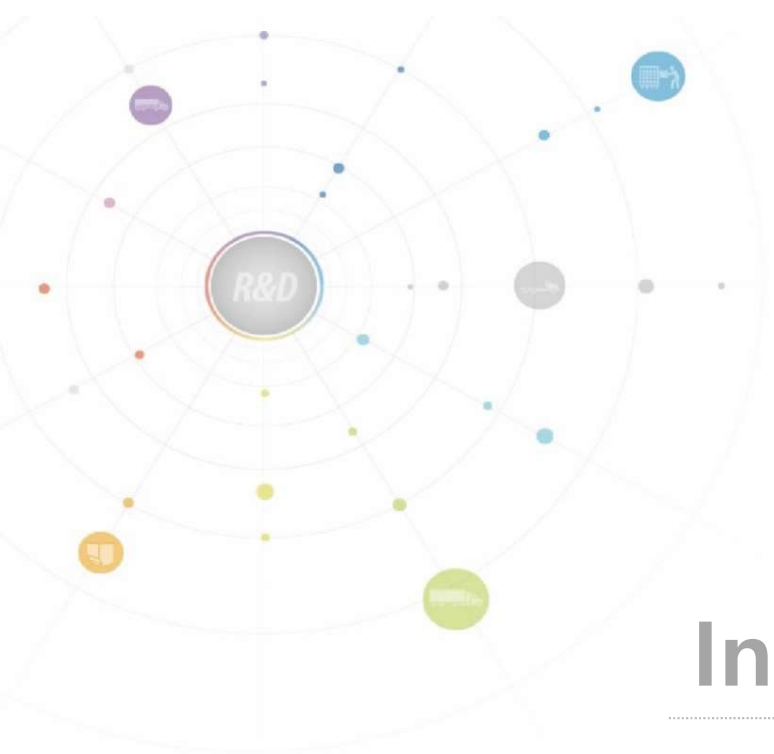


Introduction of BPR

BPR

- business management strategy
  - the analysis of business processes within an organization
  - the practice of rethinking and redesigning work
- Goal of BPR
  - the analysis and design of workflows and business processes within an organization
  - Improve customer service and reduce operational costs
  - Improve organization’s competitiveness

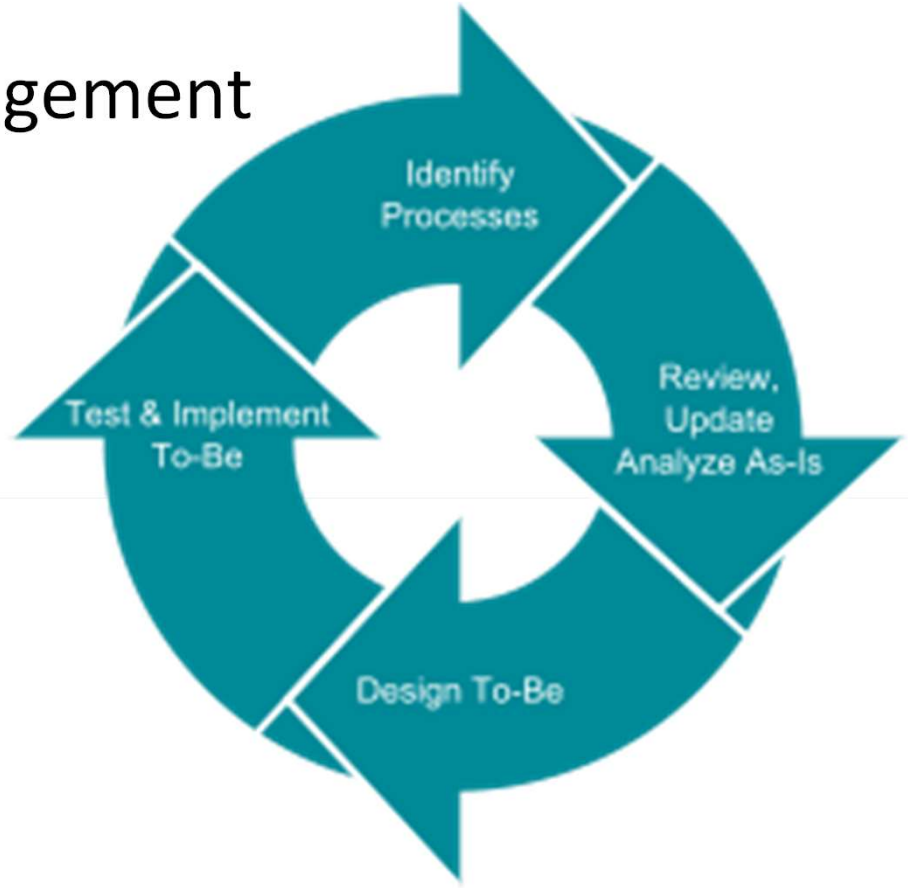
BPR defined by Gartner

- Business process re-engineering (BPR) is defined as an integrated set of management policies, project management procedures, and modeling, analysis, design and testing techniques for; analyzing existing business processes and systems; designing new processes and systems; testing, simulating and prototyping new designs prior to implementation; and managing the implementation process.

What is BPR(Business Process Re-engineering)?

- business process redesign
- business transformation,
- or business process change management

- BPR Cycle



Source : https://en.wikipedia.org/wiki/Business_process_reengineering

What is Re-Engineering?

- Hammer and Champy (1993)
  - the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary modern measures of performance, such as cost, quality, service, and speed

What is Re-Engineering?

- Hammer and Champy (1993)
  - Radical : Means going to the root of the things and not about improving what already exists
  - Rethinking : It is the total rethinking. Beginning with proverbial clean slate and reinventing how you would do your work

What is Re-Engineering?

- Thomas H. Davenport (1993)
  - encompasses the envisioning of new work strategies, the actual process design activity, and the implementation of the change in all its complex technological, human, and organizational dimensions

Why try to conduct BPR?

- A new form of organizational management is needed in response to rapid changes in the business environment
- Introduce new advanced technology to improve work efficiency
- Eliminate the duplicate or unnecessary work flow
- Meets various user requirements
- Ensure Just-in-Time process considering cost and quality management

Why try to conduct BPR?

- Fundamental
- Radical
- Customer's Perspective
- Process based
  - Group of related tasks that together create a value for a customer

BPR

- Define objectives, goals, scopes, and etc.
  - the organization's mission, strategic goals
  - Who are out customers
- Capture user requirements : in terms of the wants and needs of its customers
- Analyze workflow within or between enterprise to decide how best to do it
- TO-BE modeling by redesigning work process to optimize end-to-end process
- Execution plan including, update, maintenance, etc.

Elements of BPR

Principles of BPR

- Identify all the processes in an organization and prioritize them in order of redesign urgency
- Integrate information processing work into the real work
- Centralized of dispersed resources
- Link parallel activities in the workflow
- Capture information once and at the source

Source: Michael Hammer, "Reengineering Work: Don't Automate, Obliterate," Harvard Business Review, July-August, 1990, pp. 104-112.

Role of IT in BPR

- With shared information, making information available at many places
- Expert systems, allowing generalists to perform specialist tasks
- Telecommunication networks, allowing organizations to be centralized and decentralized at the same time
- Decision-support tools, allowing decision-making to be a part of everybody's job
- Wireless data communication and portable computers, allowing field personnel to work office independent
- Interactive videodisk, to get in immediate contact with potential buyers
- Automatic identification and tracking, allowing things to tell where they are, instead of requiring to be found
- High performance computing, allowing on-the-fly planning and revisioning

Role of IT in BPR

BPR

Parallel work processing

- Consolidation of tasks
- Concurrent execution of parallel tasks
- Share information from the entire process across multiple departments

IT

Information sharing

- Supports the sharing of information that occurs between each business process and the business performing organization
- By introducing new technology or integrating with the legacy systems

IT as enabler

BPR

- Develop the business vision and process objective
- Identify the processes to be redesigned
- Understand and measure the existing processes
- Identify IT levers
- Design and build a prototype of the new process

Factors for success of BPR

Factors that is important to BPR

- BPR team composition.
- Business needs analysis.
- Adequate IT infrastructure.
- Effective [change management]
- Ongoing continuous improvement

Factors that is important to BPR

- BPR efforts
  - organizational structures, management systems,
  - employee responsibilities and performance measurements,
  - incentive systems, skills development, and the use of IT
- can result in improved quality, customer service, and competitiveness, as well as reductions in cost or cycle time

Enterprise Resource Participation

- Direct effect on processes, technology, job roles through BPR
- Needs strong leadership to control all affected departments within the organization
- enterprise commitment : top management sponsorship, bottom-up buy-in from process users, dedicated BPR team, and budget
- Recognition of top management : need for change, understanding of BPR, and plan how to achieve it
- Strong, consistent, and continuous involvement of all departmental levels within the organization

Team Composition

- The determinants of an effective BPR team
  - competency of the members of the team, their motivation,
  - their credibility within the organization and their creativity,
  - team empowerment, training of members in process mapping and brainstorming techniques,
  - effective team leadership,
  - proper organization of the team,
  - complementary skills among team members, adequate size, interchangeable accountability, clarity of work approach, and specificity of goals

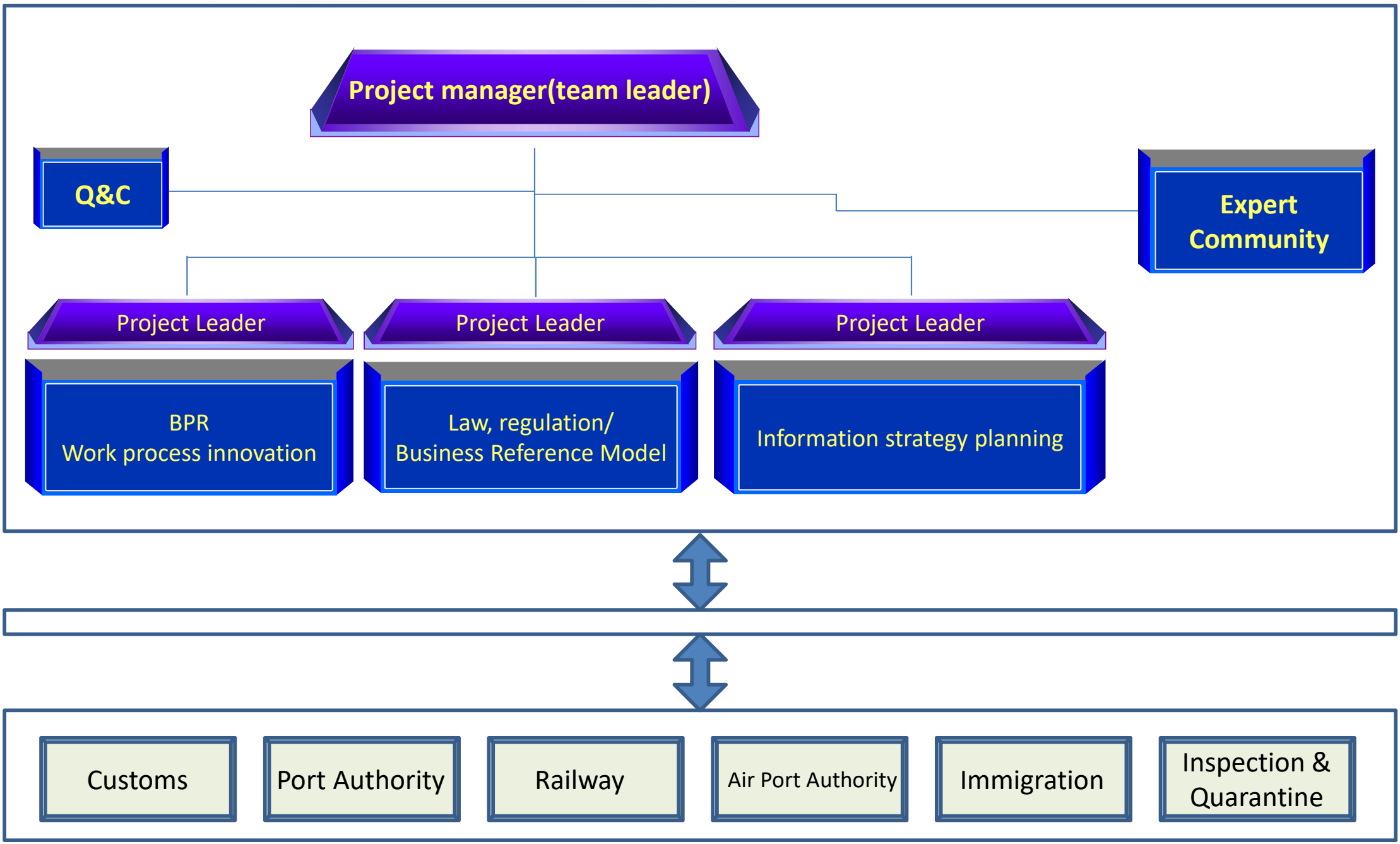
Team Composition

- Characteristics of team member
  - Members who do not know the process at all.
  - Members who know the process inside-out.
  - Customers, if possible.
  - Members representing affected departments.
  - One or two members of the best, brightest, passionate, and committed technology experts.
  - Members from outside of the organization

Team Composition

- The efforts of the team must be focused on identifying breakthrough opportunities and designing new work steps or processes that will create quantum gains and competitive advantage

Team Composition (example)



Team member role

- **Project Manager (Team Leader)**
  - a senior executive who has envisioned and authorized the overall reengineering effort
  - The team leader is responsible for appointing the process owner.

Team member role

- **Team Member - Process Owner**
  - a senior-level manager in charge of a specific business process.
  - The process owner is responsible for assembling a team to reengineer the process he or she oversees.

Team member role

- **BPR Team (Reengineering Team)**
  - a group that is composed of insiders whose work involves the process being reengineered and outsiders whose jobs will not be affected by changes in process.
  - The reengineering team is responsible for analyzing the existing process and overseeing its redesign

Team member role

- **Expert Committee - Steering Committee**
  - a group of senior managers who have championed the concept of reengineering within the organization and set specific goals for improving performance.
  - The steering committee, which is led by the Team Leader, is responsible for arbitrating disputes and helping process owners make decisions about competing priorities.

Team member role

- **Reengineering Czar**
  - an individual who is responsible for the day-to-day coordination of all ongoing reengineering activities.
  - The czar's responsibility is to be a facilitator and develop the techniques and tools the organization will use to reengineer workflow.

Business Needs Analysis

- Discussion with process owners and stakeholders, regarding the need and strategy for BPR
- Build common consensus : vision, goals, and define objectives of BPR
- Conceptualize the business process for the organization
- build a business process model
- Will eliminate or modify unnecessary or unrealistic processes on TO-BE modeling stage

Business Needs Analysis

- Developing a business vision and process objectives
  - SWOT analysis : understanding of organizational strengths, weaknesses, opportunities, threats
  - awareness and knowledge about innovative activities undertaken by competitors and other organizations

Factors of IT Infrastructure

- Effective alignment of IT infrastructure and BPR strategy,
- building an effective IT infrastructure,
- adequate IT infrastructure investment decision,
- adequate measurement of IT infrastructure effectiveness,
- proper information systems (IS) integration,
- effective reengineering of legacy IS,
- increasing IT function competency, and
- effective use of software tools are the most important factors that contribute to the success of BPR projects

Effective change management

- the discipline of managing change as a process
  - Convey an understanding of the necessity for change
  - organizations do not change unless people change
- Organizational culture is a determining factor in successful BPR implementation
- Don’t focus on computer technology and process redesign
  - Recognize importance of the human element in implementing BPR

Ongoing continuous improvement

- BPR is an ongoing process and improvement strategy
- Conduct performance measurements
- Testing before deploying
- Conduct Quality Control and Management
- Receive a proactive feedback from customer
- Planning risk assessment and management

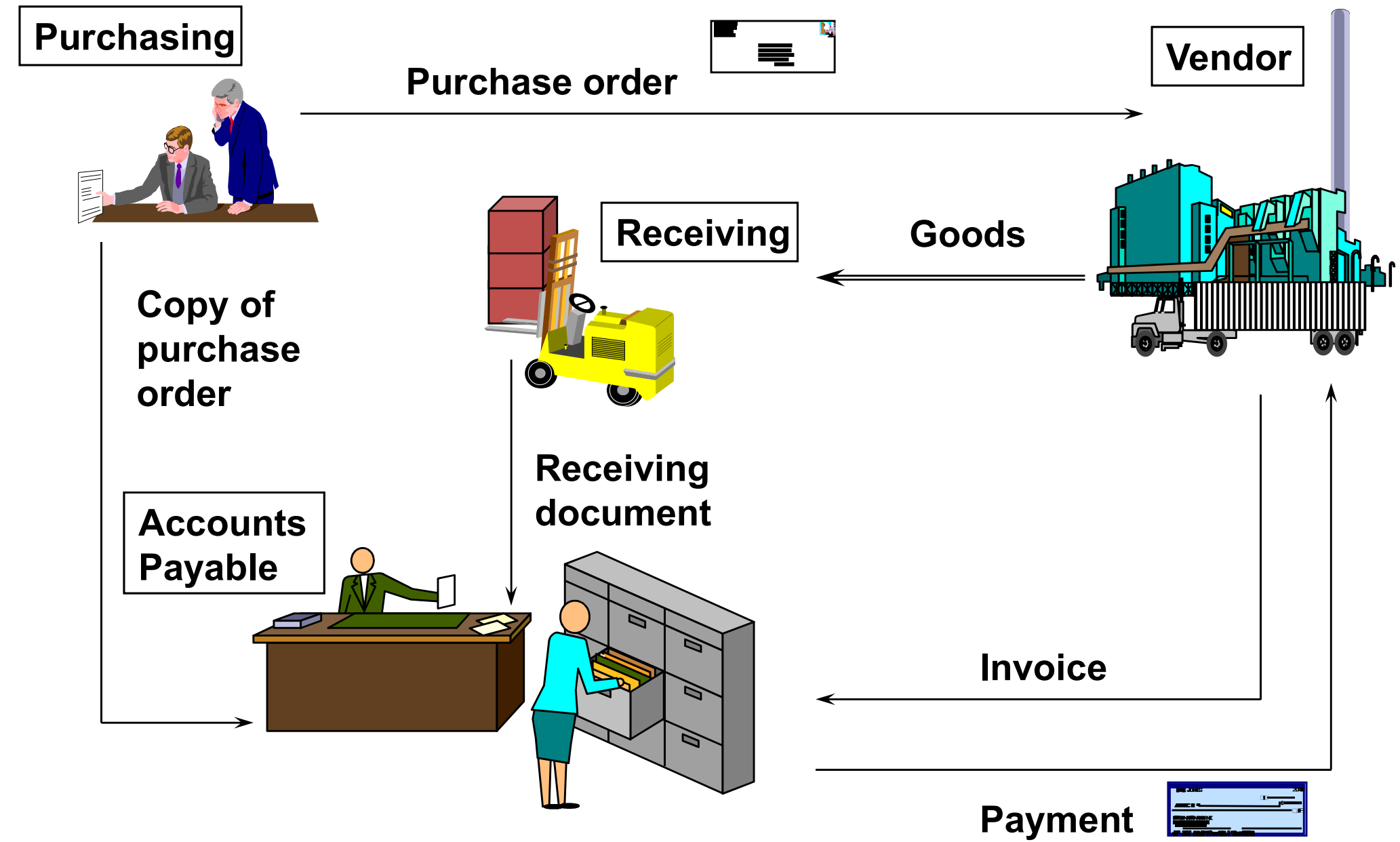
Future of BPR

- BPR is regarded as a framework for digital transformation
- A recent emphasis in business on digital transformation as a way to gain competitive advantage
  - Will introduce the advanced technology for preparing the 4th industrial revolution
  - Internet of Things (IoT) and advances in artificial intelligence (AI) have spurred many companies to
  - radically rethink their workflows and make technology-driven changes
- Will be part and parcel of most business transformation and enterprise resource planning initiatives.

Case Study of BPR

1. Ford accounts payable process

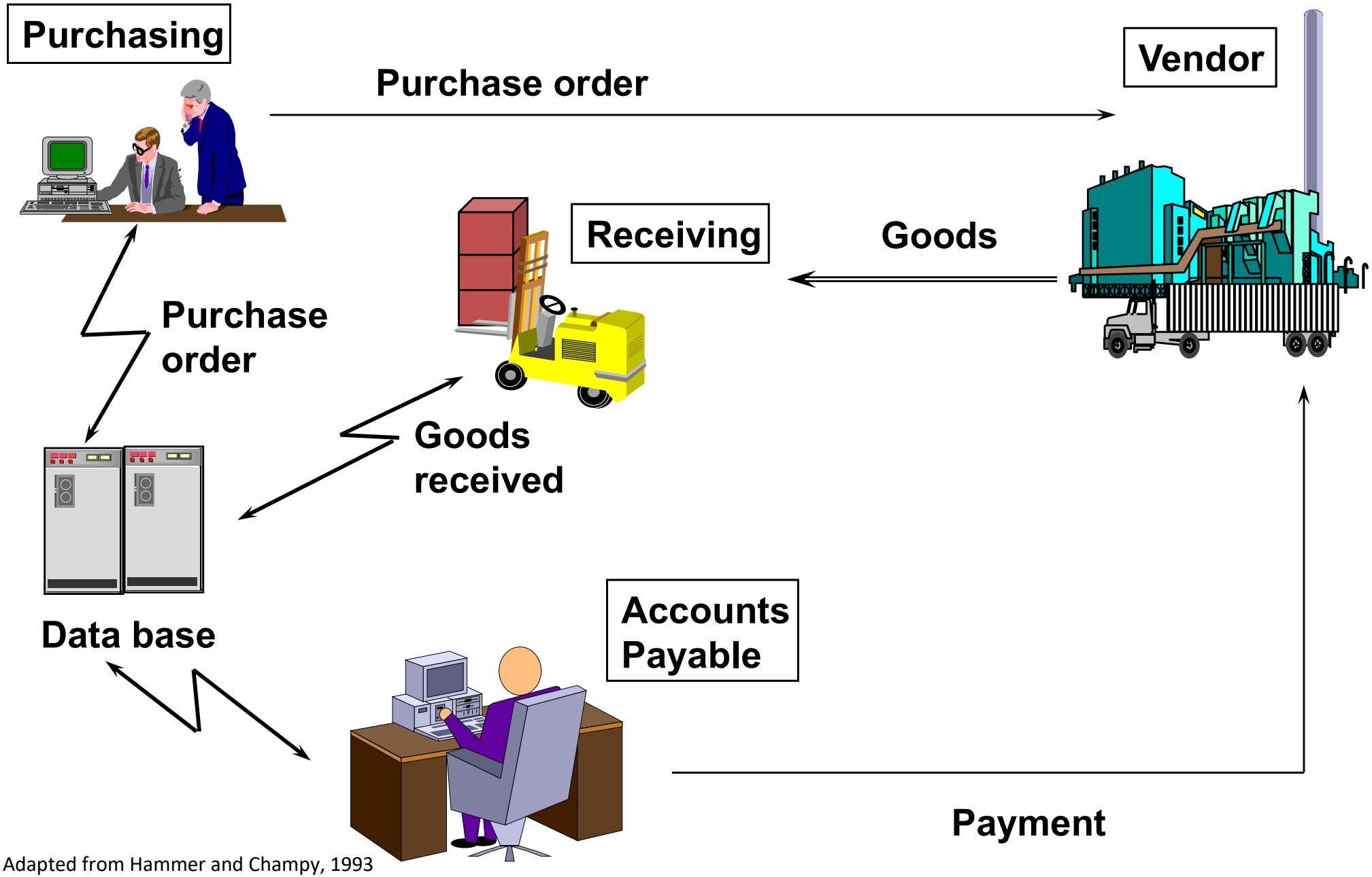
AS-IS



*Source: Adapted from Hammer and Champy, 1993

1. Ford accounts payable process

TO-BE



*Source: Adapted from Hammer and Champy, 1993

1. Ford accounts payable process

Before

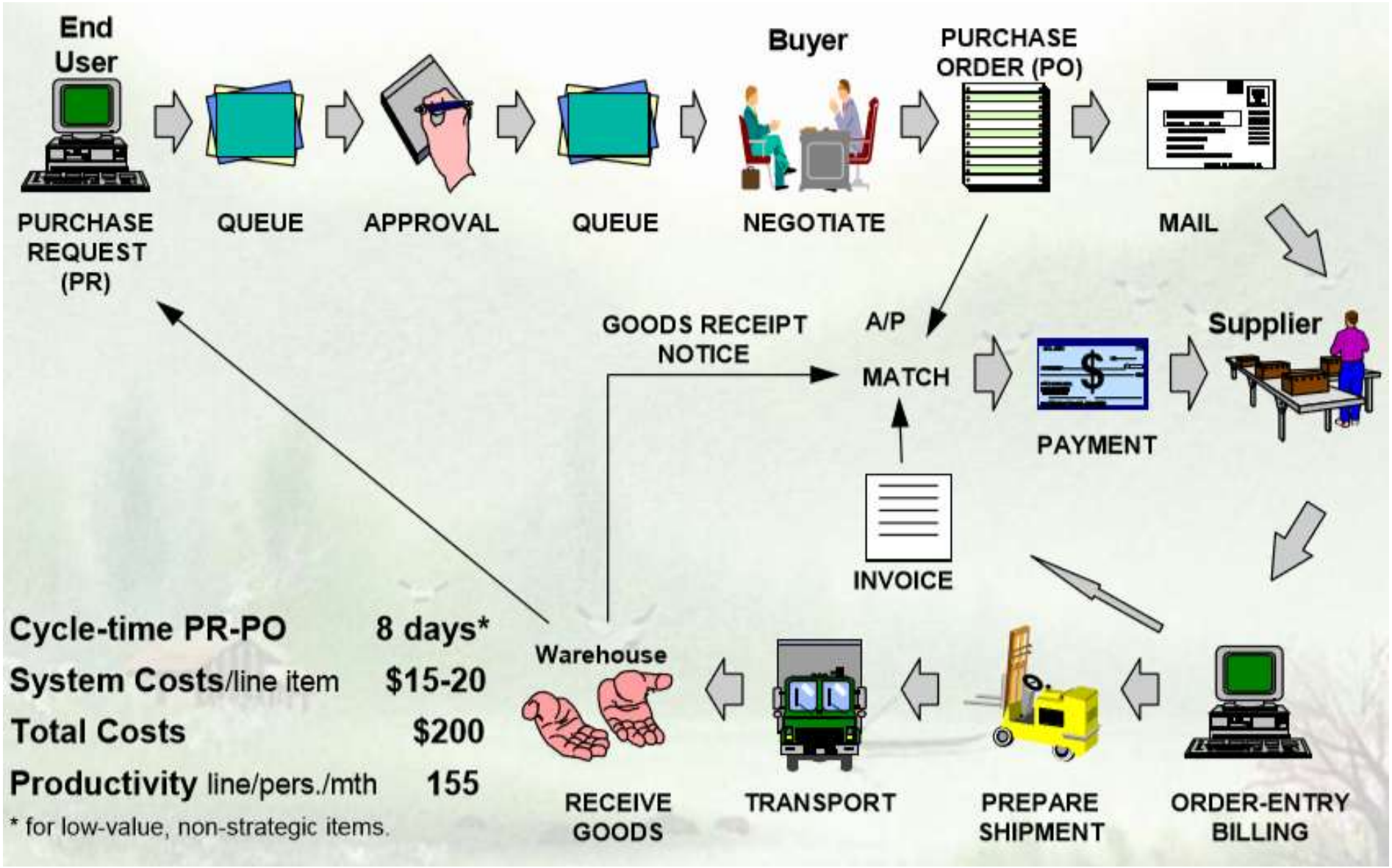
- More than 500 accounts payable clerks matched purchase order, receivin g documents, and invoic es and then issued paym ent.
- slow and cumbersome
- Mismatches

After

- Reengineering “procurement”
- Improvement of Accounts Process by redesign
- Invoices are eliminated
- computerized matching
- Improvement of accuracy

2. Texas Instruments (France): Procurement Process

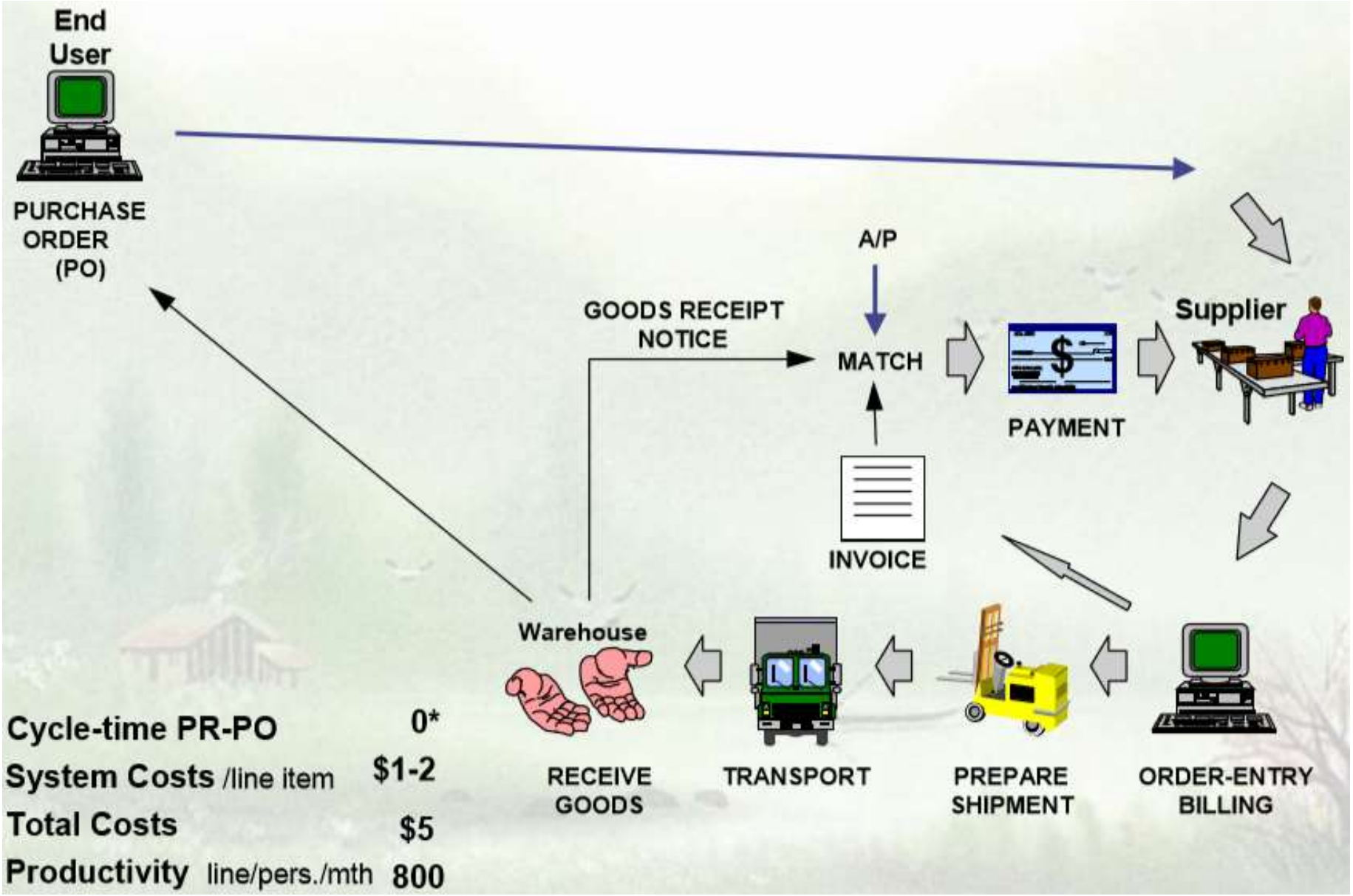
AS-IS



Source: Adapted from Texas Instruments (France) internal documents. January, 1996.

2. Texas Instruments (France): Procurement Process

TO-BE



Source: Adapted from Texas Instruments (France) internal documents. January, 1996.

2. Texas Instruments (France): Procurement Process

- Cost reduction 40 times
- Productivity more than 5 times
- Zero stock
- IT based distributed system
- Improve efficiency, effectiveness, competitive advantage

Source: Adapted from Texas Instruments (France) internal documents. January, 1996.

AS-IS

Sales man

Receive Loan application

Inquiry customer credit

Takes 6 or 14 days

Modify standard loan agreement

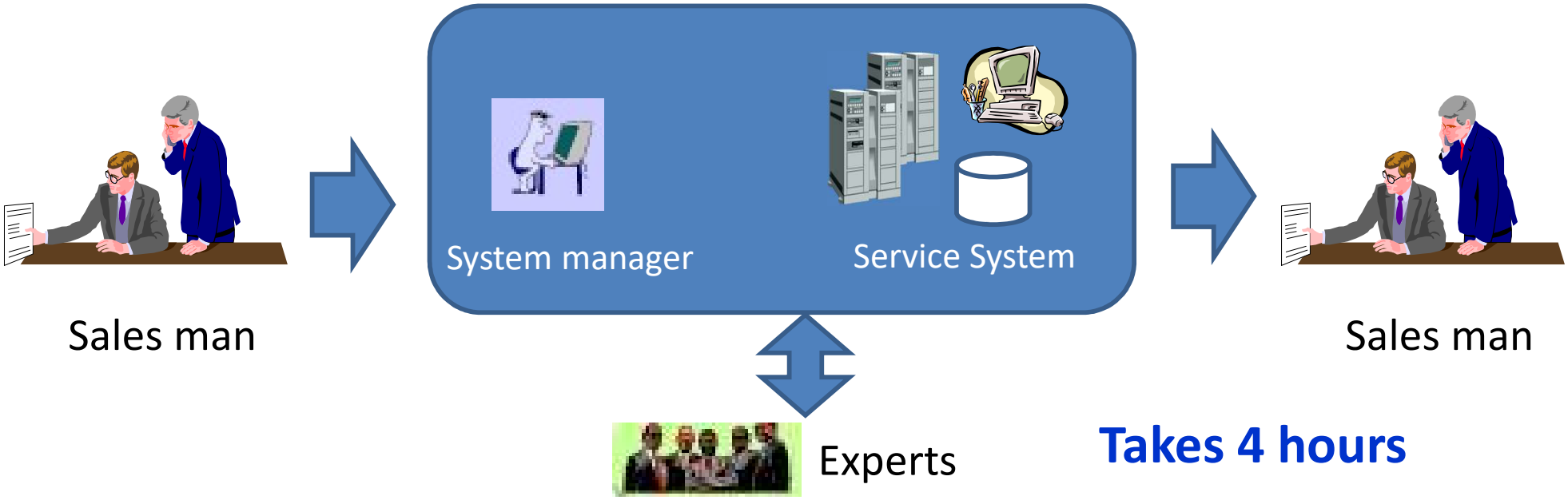
Determine interest rate

Write Quotation

Increase customer complaints and decrease the number of customers due to long processing time

Source: IBM

TO-BE



Takes 4 hours

- *Decrease processing time*
- *Decrease human resource*
- *Increase work efficiency (around 100 times)*

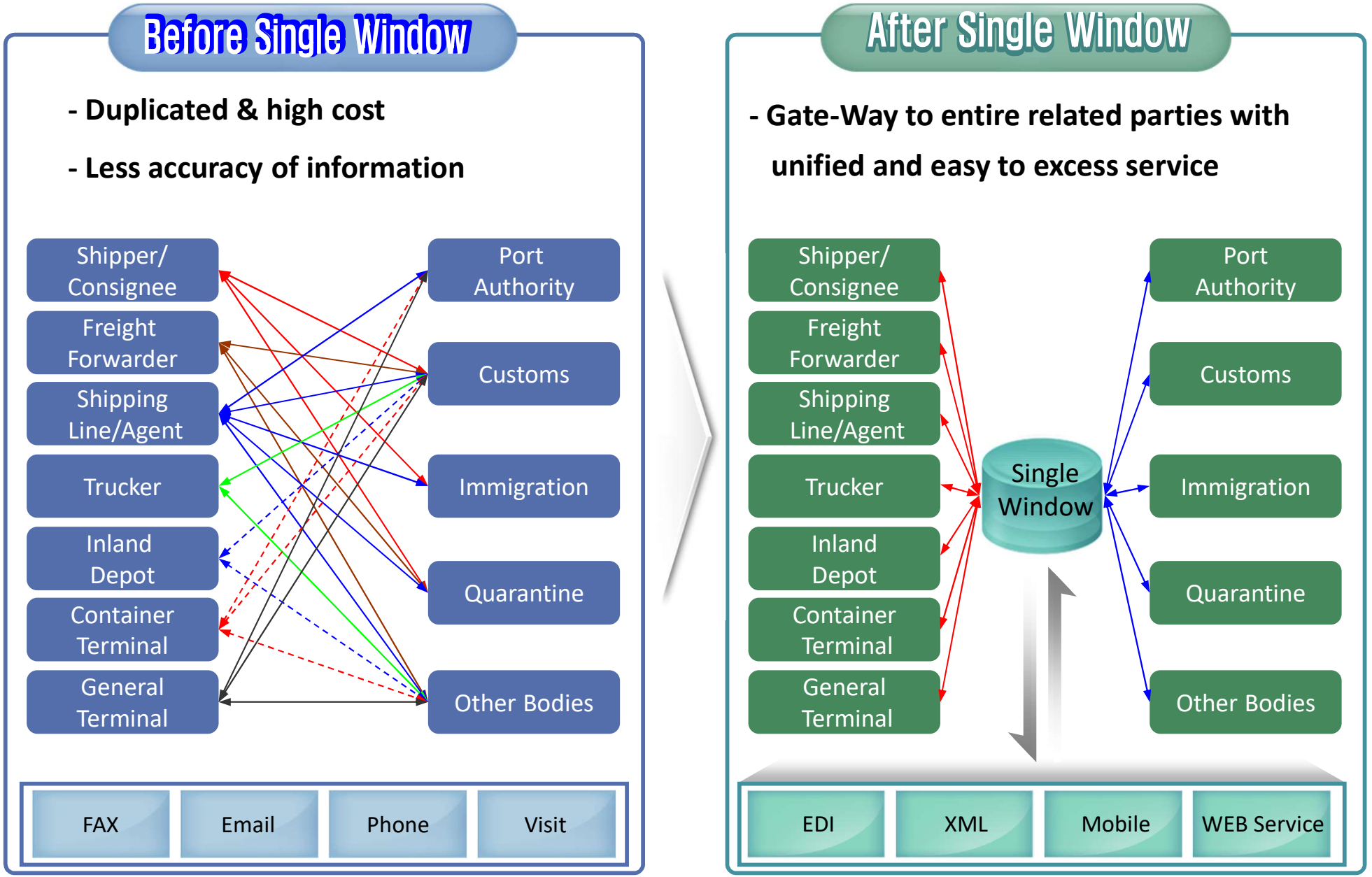
Source: IBM

3. IBM Credit Corporation

- Decrease human resource
  - The four specialists were replaced by a generalist with computer system
- Decrease processing time (turnaround time)
  - 6 or 14 days to 4-hours
- a hundred fold improvement in productivity

Source: Adapted from Texas Instruments (France) internal documents. January, 1996.

NSW



Source : Korean Single Window

The expected effects after NSW

Source : Korean Single Window

4. Korean Single Entry Point by NSW

- **Minimization of Legacy system modification**
- **Maximization of Resource reusability**
  - Eliminate the user's duplicated input
  - Maximize the data reusability
- **Build-up of National Competitive Power**
  - Maximizing of economical effect
- **Interoperability Increment between countries**
- **ROK cut down $13 million of operation costs after Single Window Service at 2004.**

Source : Korean Single Window

Q&A

감사합니다

Thank you