
Chapter 7

Re-engineering

LEARNING OBJECTIVES

After reading this chapter, you will be able to understand:

- Business process re-engineering (BPR)
- IT-driven BPR and non-IT-driven BPR
- Characteristics of business processes
- Maturity levels of business processes
- Life cycle of BPR projects
- Life cycle of an IT-driven BPR project
- Mode of BPR projects

7.1 INTRODUCTION

Business process re-engineering (BPR) is fundamental rethinking and radical redesign of business processes to bring about dramatic improvements in performance measured in terms of cost, quality, service and speed.

The definition assumes that the business processes have the scope for improvement. There are various reasons why the existing business processes seem to become inefficient over a period of time. If we look at the market and the way it has changed, we realize that the customer focus has increased dramatically. The processes that were focused on mass production render themselves inefficient and inappropriate. The definition gives an impression that the scope of BPR is restricted to improving business processes only. While improving the processes, the structure of the organization may also need changes to support redesigned processes or to reveal new design possibilities for processes.

As a small evidence of an inefficient process, one can visit the Web site of Indian airlines and check their list of frequently asked questions (FAQ). The following question that happens to be question 2 in the FAQ and its answer are quoted here verbatim:

The two types of BPR of different kinds with an example are explained below.

1. **IT-driven BPR:** An IT-driven BPR project focuses on integrating IT with business processes. The objective is to integrate business processes using IT. The integration and availability of information would improve decision-making ability of employees as the data will be available in real time. The delays and lead time are reduced by integrating the processes using IT. ERP systems are organization-wide information systems that can potentially integrate all business processes of the organization. Hammer enumerates the following three principles for IT-driven BPR efforts.

- Subsume information-processing work into the real work that produces the information.
- Put the decision point where the work is performed and build control into the process. In other words, workers should be empowered to make the decision which implies that an organization should have workers who have knowledge of the organization and understand the role they play in the organization.
- Capture information once and at the source.

An order fulfillment for a manufacturing firm in West India used to take eight weeks which came down to eight days after they re-engineered their processes using IT. There are many cases in India parallel to MBL cases cited in Hammer and Champy. A leasing and financing company in South India brought down its application processing time to one day from seven days.

2. **Non-IT-driven BPR:** Certain situations may demand redesigning business processes of the organization. Consider a situation where customers are not happy and many complaints are lodged. A shortcut is to create a position and install staff to handle customer grievances. It is an expensive solution but the easiest one to implement. Another course of action is to first identify the causes of dissatisfaction and then take necessary measures. The analysis may reveal problems with the product or service itself that may require fundamental changes in the existing processes. The focus is on redesigning the business processes. IT may not be the driving force for re-engineering, it may be a facilitator or enabler of changes.

Indian firm manufactures consumer durable goods and markets them through door-to-door sales persons. These salesman book orders that are passed to the nearest godown through branch office. The goods are then delivered by installation and service team. The payment is collected by a salesman. A simple analysis makes the sequential nature of process clear. The customer has to deal with a salesman for placing their order, with an installation and service team and with a different salesman who comes to collect money. If there is a mismatch in the customer order and the goods, reconciliation would involve sales person, branch office and godown. The organization re-engineered its entire process. The branch office and its godown became single unit. The job profiles changed, salesman, installation guy and service man all merged into one sales executive who procured orders, delivered and installed the goods and collected payments. The sales executive were provided with hand-held computers which were used for order booking. In this case, the process has been radically changed, the job profile broadened and IT has become integral part of the business process.

- Organize around outcomes, not tasks. Combine several jobs into one.
- Have those who use the output of a process, perform the process. Work is performed where it makes the most sense.
- Treat geographically dispersed resources as though they were centralized.
- Link parallel activities instead of integrating their results. As a result, reconciliation is minimized.

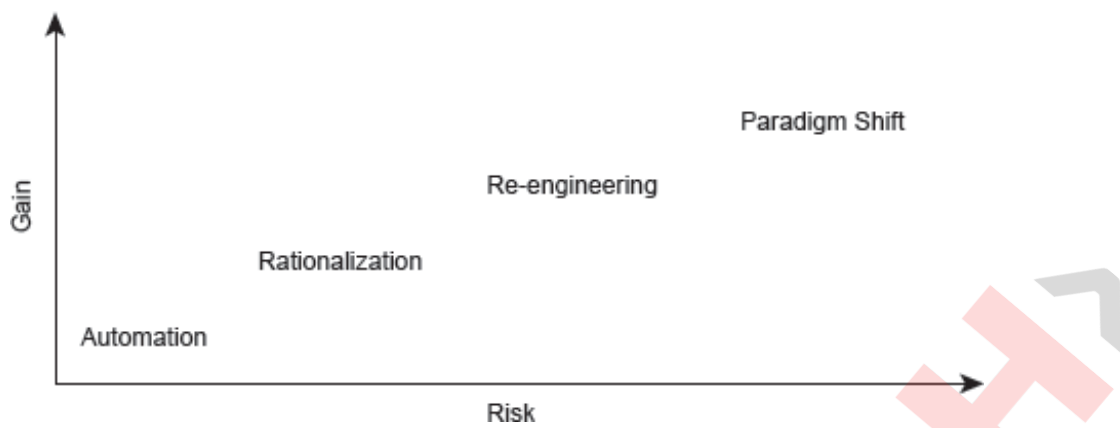


FIGURE 7.1 McFarlan Matrix Showing Four Different Activities Along with Associated Risk and Gain

BPR is considered a high-risk and a high-return activity. The McFarlan matrix as shown in [Figure 7.1](#) has four activities, the risk associated with the activity on the horizontal axis and returns on the vertical axis. Automation is considered a low-risk and a low-gain activity. Rationalization that requires analysis followed by changes to the processes under consideration would yield better returns but involves little more risk than rationalization. Re-engineering is a high-risk and a high-gain activity as we will see in this chapter. Paradigm shift would involve major changes in the business or technology domain and is beyond the scope of this book.

Before attempting BPR, it is important to understand the business processes of an organization. In the next sections, an attempt to understand characteristics of business processes is made. If a process is inefficient, automating it will not make it efficient. If the processes are not coherently working towards achieving the organizational goal, making each process efficient will also not help. A BPR effort is initiated to look at the organization from structural, behavioural and process perspective. In [Section 7.3](#), we will learn about life cycle of a BPR project. ERP-driven BPR projects do not treat BPR as a separate project. We will highlight characteristics of an ERP driven BPR project in [Section 7.4](#).

7.2 PROCESSES AND THEIR CHARACTERISTICS

Following characteristics will help us evaluate maturity of the business processes of an organization:

- A process requires a clearly defined owner who is responsible for its yield, cost, quality and schedule, and has authority to change or modify the process. However, it is not always easy to identify the owner of a process. Is department manager the business process owner (BPO) for the processes of his department? In a self-governing work group, who is BPO? We will need to, in any case, identify and establish BPO.
- Clearly defined boundaries of a process means that we can identify the beginning and end of a process. A well-managed process has clear boundaries. A process that modifies the data is referred to as transactional process and may not have clear boundaries.
- Capacity of a process is defined in terms of its output rate. Theoretical capacity of a process is usually more than its effective capacity. Factors such as equipment reliability, maintenance required and personnel factors including learning curve,

illness and absenteeism affect the output rate of a process.

- Documentation of a process is also important. The document may describe the process in terms of process flowchart, assembly drawing, the operational steps or any of the representation as discussed in Chapter 6. An organization may not have process documents or they may be obsolete. It is also possible that people at different level of hierarchy may have different view of the same process.
- **Control points:** A process must have control points established to manage the natural variations that occur in a process. The objective of the control points is to detect an unwanted change quickly and take corrective measures.
- **Effectiveness or ineffectiveness:** Ineffectiveness is easier to measure and generally used for measuring the effectiveness of a process. A process is ineffective if customers complain, output of the process has inconsistent quality or a corrective-action system is absent.
- **Efficiency:** It is defined as the ratio of the output and the input of a process. Inefficiency is easier to measure and identify. A process is inefficient if
 - Multiple off-line inspections are performed.
 - Redundant, unnecessary, non-value-added (rework/re-conciliation) activities are performed.
 - Supplier problems such as poor quality or late deliveries are reported.
 - Lot of corrective actions are performed such as rework and reconciliation.
 - The cost of value-added activities is excessive with respect to the competition.
- **Adaptability:** Adaptability is the ability of a process to adjust to the changes. A process is adaptable if the process can be changed to meet new requirements without significant modifications. An adaptable process may require some workflow change, personnel change or equipment change but the process remains largely intact.
- **Measurements:** A process must also be measurable through statistical measurement techniques. These measurements are to check various characteristics of the process and strive for continuous improvements. There are well-developed statistical techniques that can be employed to measure a process and its performance.
- Corrective actions are required to monitor and correct natural variation of a process, usually through internal feedback points. In a well-managed process, internal feedback points are established to monitor a process and take corrective action before sub-quality product is produced.

The above discussion is slightly oriented towards manufacturing processes. The service organizations and their processes have special features as described next.

7.2.1 Special Features of Processes of Service Organizations

A service organization is different from a manufacturing organization in many ways. For example, service is intangible. Service cannot be accumulated, since it is not an inventory item. Service industry is labour intensive, the role played by machines in manufacturing is

played by people in the service industry. A manufacturing process has clearly defined owner, boundaries, input and output; whereas a service process may not have a clearly defined owner or boundaries. It may not be possible to establish control points for a service process. The corrective actions are usually reactive. The performance of a service process is hard to measure. Degree of customer contact also varies from being almost no contact (life insurance application processing) to close contact (dental care).

The maturity of a business process can be judged by looking at its various characteristics.

7.2.2 Process Evaluation

Lot of research has been done to judge the maturity level of business processes. The maturity levels defined by IBM, largely for manufacturing processes are mentioned below. IBM defines the following five levels of a process.

Level 5: A process at Level 5 exhibit the following properties:

- No designated owner.
- No process management.
- Process may not be effective.

Level 4: A process is at Level 4 when it exhibits the following properties:

- Process owner is identified and designated.
- The process is defined and documented.
- Control points within the process are present.
- Customer–supplier relationship and requirements that are internal as well as external to the process are established.
- Measurements of effectiveness and efficiency are identified and put in place to assess the process. Data collection process is in place to identify deficiencies, defects, rework, excess cost redundancies and supplier problems.
- A feedback mechanism is established for continuous quality improvement.

Level 3: A process at Level 3 exhibits all characteristics of a Level 4 process and the following additional features.

- Process-effectiveness measures show evidence that customer requirements are being met.
- In addition, the measurements should clearly show scope for further improvement. These improvements are required to progress to Level 2. Improvements needed to achieve Level 2 are identified and a plan is available to achieve the same.

Level 2:

- Major improvements planned at Level 3 have occurred.
- Positive results have been realized in terms of increased efficiency and effectiveness.
- The processes are flexible so that they can adapt to meet future demands.
- Efficiency measures must show continuous reduction in resources per unit of work.
- The process must be competitive both in terms of effectiveness and efficiency with

respect to comparable process within the organization/industry.

Level 1:

- The process has been identified/benchmarked as a leader.
- The output must be primarily defect free.
- Minimum resources.
- Best of class, model process.

If the processes of an organization are not at Level 1 of maturity, it can re-engineer processes to make them Level 1. The objective of a non-IT-driven BPR project is broadly to improve business processes of the organization. Sometimes, an organization improves and evolves its business processes continuously but still the processes may become ineffective due to changes in the environment or introduction of a disruptive technology. BPR project may be initiated to get to Level 1 processes or to take a fresh look at the processes that in spite of being Level 1 seem to have become ineffective. One of the possibilities is misalignment between the business strategy of the organization and processes. The radical thinking or challenging the set ways of doing business becomes the keyword during a BPR project.

7.3 LIFE CYCLE OF A BPR PROJECT

BPR is a project that commences in phases and produces an output in each phase. A BPR project consists of the following stages:

- Establishing the vision and objectives, the scope and mode of BPR
- Business modelling
- Business analysis
- Redesign
- Business transformation and continuous improvement

7.3.1 Establishing Vision, Objectives, Scope and Mode of BPR

This step involves identifying opportunities and business processes to be re-engineered. It is important to understand that a business process is not a function. BPR does not start by focusing on functions. It starts off by focusing on business processes. A change in a business process may also require changes in the structure of the organization. But BPR does not start off focusing on structural changes. The focus of a BPR project is also not downsizing, though it may happen as a result of changed business processes. BPR does not redefine the mission of the organization. BPR also does not focus on isolated manufacturing processes. BPR project may focus on customer satisfaction and during investigation may discover issues related to manufacturing. Scope of BPR is defined by executives who perceive the business as an integrated whole. The scope could be one of the following in the increasing order of scope and risk:

- A department
- Multiple departments
- Entire organization

The scope of the BPR project will clearly identify the business process that will be analysed and re-engineered.

Questionnaires, existing documents and semi-formal interviews may be used to collect the required information. The following activities are performed in this phase:

- Create a BPR team. Orient the process owner for re-engineering the process.
- Define key processes and preliminary re-engineering opportunity. Identify and gather the performance data for the processes. Benchmark the performance of the processes with the best in the industry. Some of required information may be available in the public domain while some may have to be purchased from the consulting companies that publish various survey reports. Some of the qualitative objective of a BPR project are the following:
 - Reduce cycle time of one or more cycles such as reduce time to market, provide quicker response to the customer.
 - Improve effectiveness of a process, e.g. deliver higher quality.
 - Reduce cost of a business process.
 - Eliminate non-mission activities from a business process.
 - Eliminate non-value add activities from a business process.
 - Convert the organization into a learning organization.
 - Enhance organizational flexibility and adaptability to change.
 - Enable business growth.
 - Enhance productivity.
 - Enhance profitability.
 - Enhance customer satisfaction.
 - Enhance competitiveness of the organization.
- Identify the parameters that will be used to measure the performance of re-engineered processes. The parameters must be quantitative and measurable. Some of the parameters may seem qualitative but with some efforts these can also be indirectly measured. As an example, customer satisfaction seems to be a qualitative parameter. The quantitative parameters that can capture customer satisfaction are number of complaints, turnaround time for a customer request. A BPR project must define objective of a BPR project in quantitative terms instead of qualitative terms. A quantitative objective can be measured and judged. For instance, the present response time to customer is six days and a possible target could be to reduce it to four days. This objective is measurable and verifiable. On the other hand, an objective of improving the average response time may mean different thing to different people and is not verifiable.
- Every process has a customer either internal or external to the organization. Identify

the customers and the current mechanism for measuring customer satisfaction.

There are two possible modes of introducing changes: *radical* or *incremental*. The *incremental* mode aims to improve business processes in steps. The existing process is modelled and analysed for possible improvements. The improvements are introduced in steps causing minimum disruption. The risk is that the introduced change may not fit with the existing environment and may not sustain itself, eliminating non-value added activities. In the radical mode, the existing processes (also referred to as AS-IS processes) are ignored and the best practices are implemented. The impact on the organization may be to the extent that organizational structure is changed. The manpower is usually required to go through a training program.

7.3.2 Business Modelling

Some of the modelling techniques are learnt in [Chapter 6](#). BPR would require modelling business processes and other characteristics of the process depending on the objective of the BPR.

Out of all the modelling techniques which were discussed in [Chapter 6](#) and many more that exist in literature, one will have to choose appropriate modelling techniques. There are many integrated tools and environments for BPR projects. One may refer refer to Elzinga for a collection of articles on tools, integrated environments and methodologies.⁻¹⁰

If incremental mode is used, the existing processes and organizational structure will be modelled. If a radical mode is to be adapted, the focus is on to-be process or future business process and structure.

The incremental mode¹¹ is a bottom-up approach that advocates modelling the existing processes to gain understanding, and then streamlining them appropriately to meet the strategic objectives. The focus is on changing the AS-IS processes by identifying opportunities for improving them.

The radical mode originally prescribed in Hammer, Champy and Stanton¹²⁻¹⁴ is a top-down approach, which suggests that the BPR team should focus on determining how the strategic objectives of the organization can be met without letting its thinking be constrained by the existing process. The emphasis is on the to-be process.

7.3.3 Business Analysis

Analysis: The models are analysed to answer why and what-if questions. The challenge is for every existing process to understand the scope for efficiency and effectiveness. The objective is to develop future solutions. The analysis may focus on different aspects of the processes. We have listed 10 different characteristics of a process in [Section 7.2](#) that can be used for analysing a process. The analysis would provide insight into the process and lead to redesign of the process. There is an array of techniques that have been developed and used to analyse business processes. Articles by Glykas and Valiris¹⁵ and Mayer and DeWitte¹⁶ have explored analysis in detail. Some of these articles are case based where they explore BPR of a particular company. It is beyond the scope of this book to discuss various analysis techniques. One may refer to books on BPR by Elzinga, Gullledge and

Lee¹⁷ and Hammer and Champy¹⁸ for further details. The idea is to collect process metrics from the business models. These metrics give a thorough knowledge of the process and used for benchmarking against the best in the industry. Some of the examples are mentioned below and an attempt was not made to be exhaustive.

Equivalent salary analysis: The objective of this analysis is to find out cost per employee of an activity. A business process modelled and data on the salary of each person associated with the process is collected. The salary figure can be adjusted for people who may be part time employed on the process. Sum the total salary and divide it by total number of full time employees to get average salary of a person associated with the process. This figure can then be used to check if it is high against the industry standards. If it turns out to be high, one has to look for reasons. The reasons may be the following

- People are underutilized
- Process is inefficient
- Lack of automation
- People with higher skillset are employed.

On the other hand, if the average salary turns out to be low, it may indicate that the process is not considered important in the organization or skill level is low. In an example analysis,¹⁹ it was found that the average salary of an employee in IT department is much lower as compared to the industry standards. Equipped with this information, the BPR team investigated further to learn that the company has not paid attention to automation. A seemingly simple data such as average salary in IT department may provide important insight into the processes of the organization. The information that average salary is high or low for a particular process is useful information that must be complimented by process analysis before a solution is proposed. Cycle time of the process, control structure and value add of each function/activity may have to be done to redesign a process.²⁰

Activity analysis: The objective is to analyse value of an activity or a process to the customer and to the organization. If the focus is customer, it is called value-added analysis and if the focus is organizational goal, the analysis is referred to as mission/non-mission activity analysis. In either case, business model is created with all constituent processes and activities.

Business model should be clear to both—model creators and the BPR team. This is a difficult task because end-users and modellers use different terminology and their objective in modelling the organization may not be the same. However, if the model is not understood by the end-users, they will not be able to validate the model and it may not be true representation of the organization.

If in spite of best efforts of the model creators, the model does not pass the test of clarity²¹, the organization structure may have problems. Probably, the activities are being performed by an inappropriate department or are replicated unnecessarily.

Each process and activity is challenged with why it is being done? and what if we do away with it, or move to another department or outsource it.

If too many specific or specialized resources and activities are part of the model, one has to

question existence of specialized activities and resources. If an organization has too many specific resources, people in the organization with specific skillset will be required who may not be used for performing other tasks. Specific objects are the resources that cannot be reallocated as resources for performing other tasks. Specific skillset or specific resources may translate into less freedom to choose from the available manpower or may lead to vendor locking for specific resources.

In this section, few ways of analysing an organization have been discussed. The key idea is to get a handle on the organization, its components, its structure and its activities through modelling and then work towards improvement.

7.3.4 Redesign

Finally, the new processes are designed and deployed. IT may be used extensively to redesign the processes. The new business processes may also require changes in the structure of the organization. The new structure also has to design and details have to be worked out.

7.3.5 Business Transformation and Continuous Improvement

The changed business processes and structure are finally deployed. The measurements are done on a continuous basis to check the performance. BPR is a continuous process at least in terms of incremental changes that must be introduced on a regular basis.

7.4 LIFE CYCLE OF AN IT-DRIVEN BPR PROJECT

ERP-driven BPR focuses on re-engineering its processes by adapting the processes built into the ERP system. ERP system has the following three characteristics that make it a suitable candidate for a BPR project:²²

- Its scope
- Configurability
- Integrativeness

An ERP system can potentially cover all departments and their functions. It can be extended to cover the external agencies such as customers, suppliers and vendors. The scope of an ERP project decides the processes that will be covered during the ERP implementation. Will the processes improve and become world class or Level 1 as defined earlier? ERP vendors claim that they have incorporated world class processes in their software. One of the reasons for implementing an ERP is to improve business processes and their flexibility. Coming to configuration, it does two things:

- Define the business processes.
- Define the structure of the organization.

During the configuration, one of the options from various available options for a process are selected. These decisions are equivalent of redesigning and deploying the re-engineered business processes. A company looks for an ERP system that would require minimum changes to its existing processes. If a company has changed and evolved its business processes and structure to keep itself at Level 1, deployment of an ERP system would integrate the business in a seamless manner without requiring much change. If the

company has not evolved, ERP system would introduce many changes in its business processes and bring them to Level 1.

An ERP system has all the data in a single database. Not everyone can be given full rights (read, modify and create) to all the data. Who gets what access rights and to what data will have to be decided by the management. This decision indirectly creates the structure of the organization. The span and layers of management will get defined through the access rights.

An ERP-driven BPR project need not treat BPR as a separate project.

In the next section, some of the examples to get to the essence of re-engineering and its different flavours of it are explained.

7.5 RE-ENGINEERING EXAMPLES

MBL:²³ An insurance company processed an application using 30 discreet steps, involving 19 people which were spanned over five departments. The steps were performed in a sequential manner. Turnaround time for an application was average 15 days. As mentioned earlier, there are three options:

- Automation
- Rationalization
- Re-engineering

Automation would not help here as the total time spent on an application is 17 minutes that needs no further reduction. Automation would have been done via a workflow system. Number of steps would have remained the same and confusion for the customer would have been reduced a little. No rationalization is required either as there are no bottlenecks. The only option is to re-engineer. First option is to look at the industry to find a better process. It turns out that everyone in the industry was following the same approach. The sequential approach to doing jobs and narrow job definitions have their origin into mass manufacturing based on economies of scale as competitive strategy. The economic scenario changed and the focus is changed to customer. A radical new system that made a customer responsible for an application and customer was introduced. The job definitions changed dramatically as one would have to perform all the steps. The number of steps would reduce as some of the steps were to facilitate communication with the next person in the sequence. Expert systems and database system made the new system feasible. The structure of the insurance handling department would have changed dramatically.

It is possible that the company added, modified and refined their process on a continuous basis and it was a Level 1 process. But the environment changed and a new radical thinking only could have rendered the new process. A model of an AS-IS process would make the sequential nature of the process clear. But only the principles of re-engineering would have triggered the thinking in the right direction—why are we doing, what we are doing and what if we do away with a step and introduce new steps. This example brings out the essence of re-engineering. An existing process cannot evolve after a point and a radically different process is required.

Nestle:²⁴ The article focuses on management issues involved in an ERP project. But it

mentions at least one problem that the company was facing—not being able to consolidate its data across departments and sister organizations. The problem got solved by deploying an ERP system that puts all the data into one database and provides interface for accessing consolidated data. Nestle went no further than doing an ERP-driven BPR. ERP brought changes to its procurement process. Nestle implemented SAP and adapted their processes. The modelling of AS-IS processes was done only to select a closest fitting ERP solution. All the issues discussed in the case are related to managing an ERP project. The change management is also related to ERP project. BPR is not an independent project.

Ford-Mazda Case:²⁵ Mazda employed handful of people to handle their accounts payable. Their strategy was to place an order, receive goods only if it matches the order and then pay according to the order. This strategy is known as a two-way match. Ford used a three-way match where the goods received could differ from the order placed and then a three-way match among order placed, goods received and invoice received had to be done that also required reconciliation. Ford needed hundreds of people for accounts payable. Ford considered rationalization but they found Mazda's process to be Level 1 process in the industry and adapted it. This is a case of re-engineering where a reference process was available. There will be an impact on the procurement process and an indirect impact will be reduction in the headcount of people in accounts payable department. The suppliers will be impacted, they can supply only full order and exactly what has been ordered. Ford could afford to make this change in their policy towards their suppliers but a small manufacturer may not be in a similar position with respect to his suppliers.

Hansen Case:²⁶ Hansen is not the true name of the company. It is a manufacturing company whose production, sales and distribution is distributed over various geographical locations. The company decided to do a BPR project followed by an ERP project. The BPR team consisting of 16 members and a consultant, after a year of effort, suggested over 80 reorganizations. While these suggestions were being deployed, SAP R/3 implementation started. The suggestions made by BPR team were again analysed and adapted to work with SAP. The suggestions made by BPR team centred around integration and centralization. Main feature of SAP R/3 is also integration.

CONCLUSION

BPR and its life cycle are discussed in this chapter. BPR involves looking at the business process of an organization closely. In order to understand and attempt BPR, one needs to understand the characteristics of processes. [Section 7.2](#) talks about processes and their characteristics in detail. If processes of an organization are mature and well documented, it is easy to analyse them. However, if the processes are not documented, BPR becomes much more challenging. The processes of an organization are modelled using some standard techniques that were described in [Chapter 6](#). Models are then analysed for improvement by looking at them from different perspectives. BPR may be either ERP driven or non-ERP driven. ERP-driven BPR counts on the processes of ERP system for improvements in the business processes and integration. There are two different modes for introducing the changes identified during the analysis, namely radical and incremental. Based on the characteristics of the organization, one of the two modes is selected.

CASE STUDY

RetailS is a young organization and their processes are very simple. Their main objective was to automate the processes and there was no perceived need for re-engineering. We did look at purchase process of an organization that was known to take a considerable long time. It was checked with users of the process and found that a purchase after getting initiated could take upto three months before a purchase order is issued. The objective was to improve the process. It all started by studying the existing process and it was found that no manual or document are available for the process being followed. The process has been communicated from person to person in bits and pieces. A purchase involves five different units of the organization—accounts, budget, approving authority, audit and unit of the person who initiates the purchase. In the absence of formal documentation, roles and processes followed in a department are communicated to re-engineering team by their department heads, since no one was able to explain the full process. The team consolidated the information gathered and created the AS-IS process that is shown in Figure 7.2.

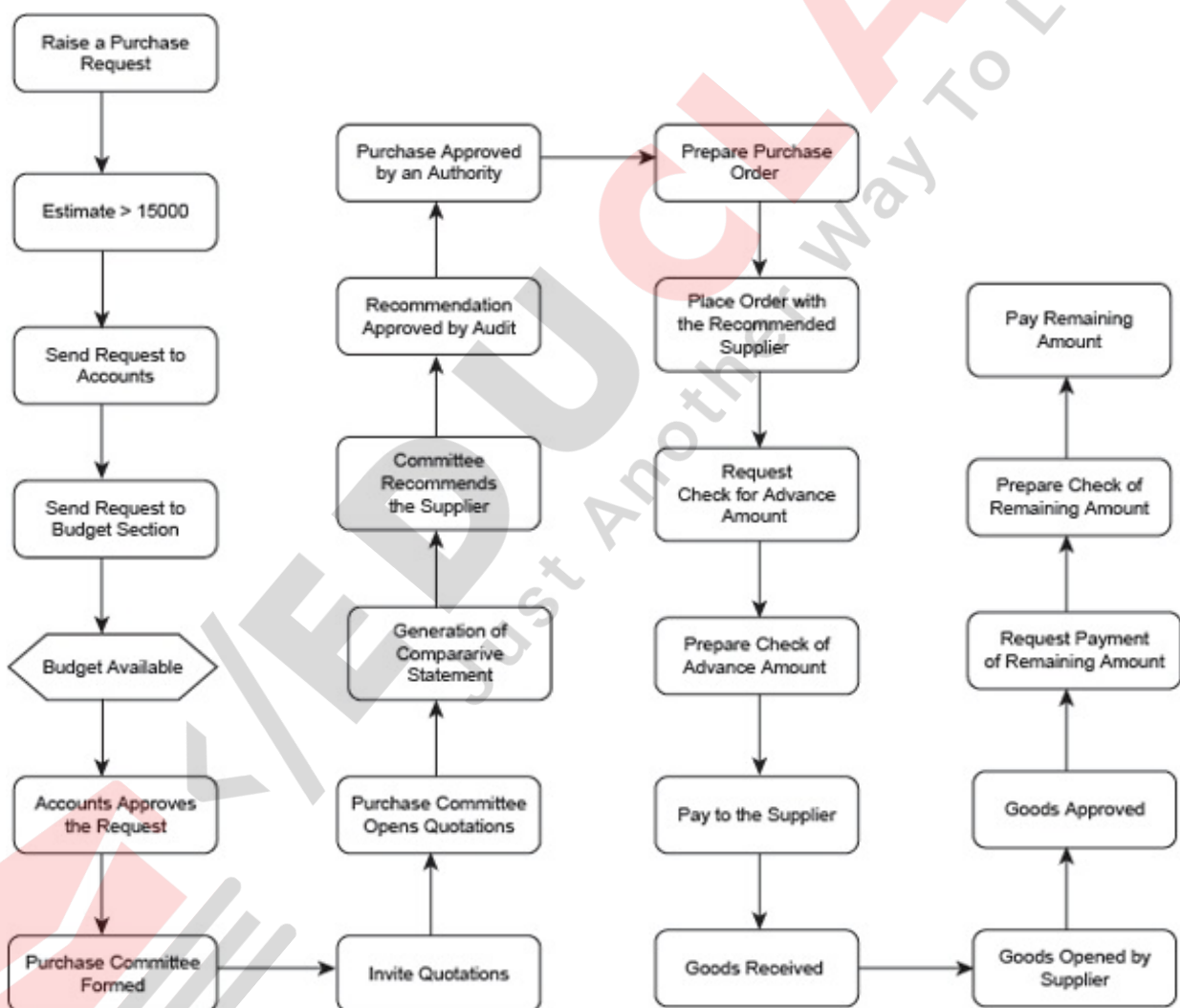


FIGURE 7.2 Purchase Process of an Organization That was Considered for Re-engineering

A careful look at the process revealed that the process has too many sequential steps. The process came into existence when the entire system was paper-file based and there was no automation. The organization itself was small and not too many purchases were done under the pressure of time. The scenario has now changed. There is lot of automation and data is accessible to all units involved in the purchase in real time. The team was told that

the steps are all necessary as they are approved by the audit at the organizational level as well as at the country level. The team focused on paralleling the process. The resultant process is shown in [Figure 7.3](#). The process has all the essentials steps but has now become parallel. As soon as the data required for a step becomes available, the step is carried out. The number of sequential steps have reduced from 24 to 15, a reduction of almost 36 per cent. This is an example of non-IT-driven re-engineering where IT has facilitated the new process. The data becomes available to concerned units because of IT.

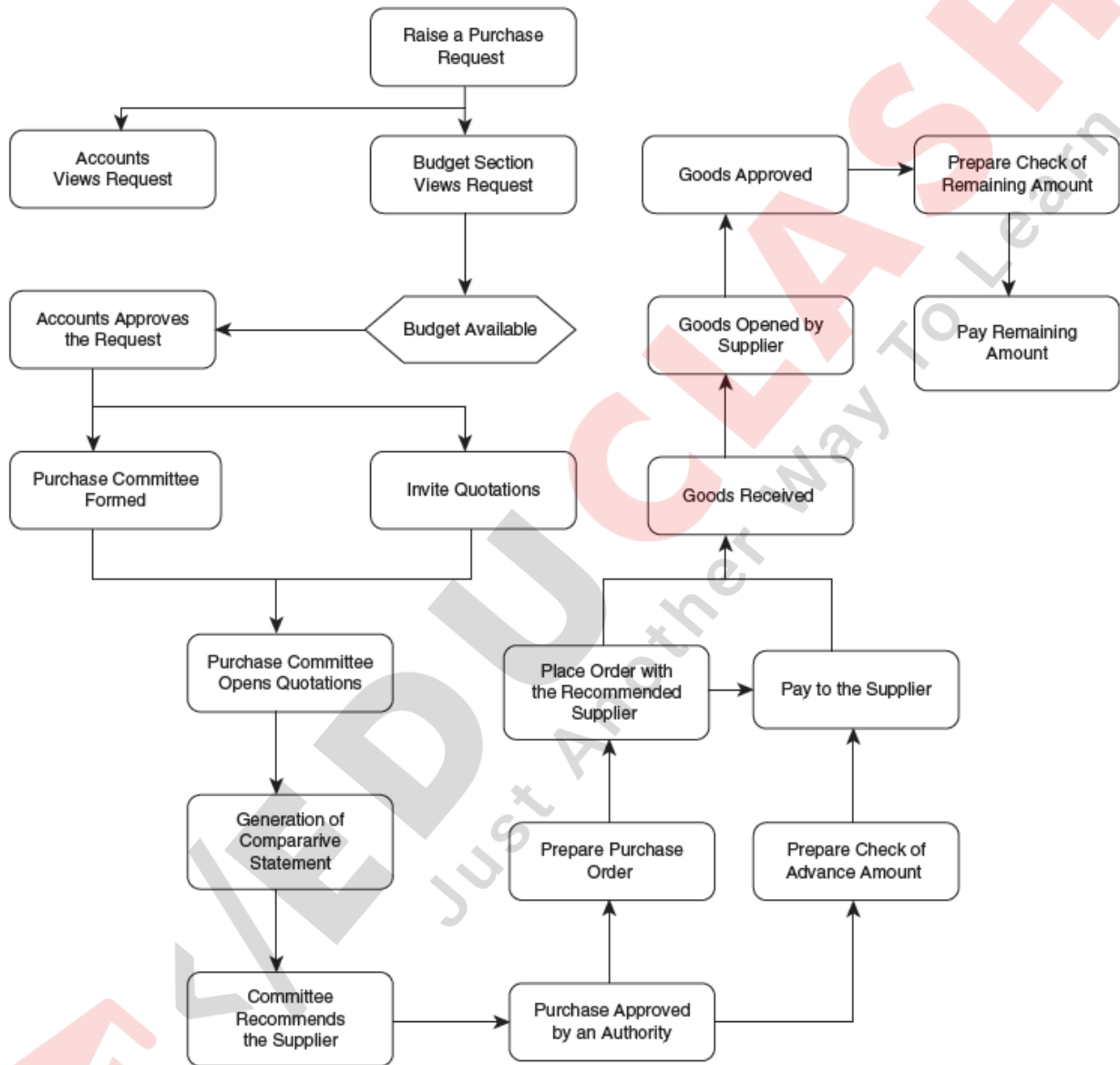


FIGURE 7.3 Purchase Process of an Organization after Re-engineering

EXERCISES

Check Your Understanding

1. What is the objective of business process re-engineering? Describe BPR and its life cycle.
2. Contrast and compare IT-driven and non-IT-driven business process re-engineering.
3. Describe characteristics of a process that are relevant for business process re-engineering.
4. Compare and contrast the characteristics of the processes at Level 1 and Level 5.

5. What are the principles for BPR efforts?

Apply Your Understanding

1. What is the relationship between process maturity levels and likely level of resistance discussed in Chapter 4 that will be offered by employees to a BPR project?
2. Pick a process that you think has problem or you have been a customer of the process and faced problems. Model the process and analyse it for problems. Also suggest an improved version.
3. Pick 5 to 10 activities that are performed in your organization. Analyse these activities for value addition to the organization.



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