Chapter 5

Business and IT Alignment

LEARNING OBJECTIVES

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

- The alignment between information technology and business in an organization
- The factors involved in alignment and their interconnection
- Different ways of approaching alignment
- Balanced score card (BSC), a tool that can be used for alignment

5.1 INTRODUCTION

The Information and Communication Technology (ICT) literature has demonstrated that the alignment between business and IT has a positive effect on business performance and effectiveness. In fact, this alignment may be the basis of a sustainable competitive advantage for organizations. The concept of alignment between IT and business strategy surfaced around 1980s. Till then, IT was primarily used as transaction processing systems for generating standard report (MIS) and to automate standard operating processes (SOP) of the organization. But as the IT evolved to become integral part of the processes, its impact on business increased. Due to globalization, most businesses have to compete in a borderless environment. Success in global market demands more flexible and agile business structures. In global economy, business and IT alliance has become more important than ever before.

If business strategy and IT strategy are not aligned, the following mishaps would result:

- No mechanism for investing in IT may be devised.
- IT would be looked at as a cost centre and not gain credibility.
- Difficulty in measuring contribution of IT to the business.
- Inability in communicating business strategy to IT employees.

Organizations that have successfully aligned IT and business strategies on an average pay 17 per cent less on IT per user than those who fail to align. To begin with, alignment requires a set of steps and procedures followed by a continuing process to stay aligned in spite of contingencies and inevitable changes in the organization, environment and technology. The two questions need to be answered:

- How to obtain a state of alignment?
- How to maintain a state of alignment over time?

It would be nice to have one uniform process/procedure that all organization can follow and

achieve alignment. But as it turns out that there is no such process or at least it has not emerged. The challenge is to identify procedures that work for an organization from various options that exist in literature. Alignment is required irrespective of country, industry, size and turnover of the organization, and business strategy.

The components which play role in the alignment are discussed Section 5.2. A framework for strategic alignment is presented in Section 5.3. The alignment process in the organization may be looked at as a project whose success depends on various factors. Balanced scorecard (BSC) is discussed in Section 5.5. BSC is a tool that can be used to measure the performance of the alignment project. This chapter is largely based on the work presented in Luftman, Brier, Henderson and Venkatraman.[10–13]

5.2 COMPONENTS OF ALIGNMENT

Our target is to align business and IT. Therefore, it is necessary to identify the components that constitute business and the ones that constitute IT. In literature, the following components have been identified for the purpose of alignment of business and IT:[14,15]

- Business strategy
- Organizational infrastructure and processes
- IT strategy
- IT infrastructure and processes

5.2.1 Business Strategy

Business strategy has following three components:

- **Business scope:** It include decisions that determine where the enterprise would compete. These choices define the types of products, niches, customers and geography that determine the reach or range of the enterprise. Business scope includes the competitive forces described by Porter which are buyers, suppliers, substitutes, potential entrants and existing competition.[16]
- **Distinctive competencies:** It includes focus on areas that determine how the enterprise will compete in delivering its products and services. These decisions determine those attributes of the strategy that create the capability of the enterprise to differentiate its products and services from competition. The strategy may be based on pricing, quality or superior marketing channel.
- **Business governance:** These choices include entering a market as a single entity through alliance, partnerships or outsourcing.

5.2.2 Organizational Infrastructure and Processes

- **Administrative structure:** It includes roles, responsibilities and authority structure of the enterprise. An organization may have functional units or product offering units. The decision-making process may be distributed or centralized. The management structure may consist of different number of layers. These choices establish the administrative structure within which the management and work processes operate.
- **Processes:** The manner in which key functions operate or flow is determined by the processes that are followed in the organization. The capacity of IT to integrate with processes, and restructure processes for improving their effectiveness and efficiency

depends on the characteristics of processes and work flows. The characteristics of processes are discussed in Chapter 4.

- **Skills:** Skill set consists of experience, competences, values and norms of the employees. The skill set must be appropriate for carrying out the business strategy of the organization.

5.2.3 IT Strategy

The IT strategy has to be defined in the same way in which business strategies are defined. The scope of IT and governance structure are important constituents of IT strategy. The scope defines critical and necessary information technology for the organization.

Analogous to skill set in the business strategy is the systemic competencies in IT strategy. Systemic competencies are defined in terms of characteristics of information technology such as information accessibility, reliability, response etc. There are various models such as full ownership, partnership, outsourcing etc. for IT governance. These choices are part of IT strategy.

5.2.4 IT Infrastructure and Processes

Similar to business processes, there are IT processes. These processes are followed for developing, acquiring and managing IT applications and architectures. The policies and priorities that are used to make choices of the hardware, software, applications and to put them together lead to IT infrastructure in the organization. To be able to create and maintain the IT infrastructure, skilled manpower is required. Experiences, competencies, commitments, values and norms of individuals working to deliver and maintain IT products and services constitute the skillset of IT employees.

All these components and their interactions are shown in Figure 5.1. The objective is to achieve a harmony between business strategy and information strategy through coherence between IT infrastructure and processes, and organization infrastructure and processes. The IT strategy must be aligned with business strategy to make best use of IT. Information technology can help in creating competitive and strategic advantage. These two roles of IT can be distinguished. In a scenario, where a business strategy is at start, then explores and exploits IT potential to shape/adapt business processes and organization structure, IT is used for strategic advantage. If the IT potential can be used to decide business strategy (new products, services and marketing opportunity), then IT is used for competitive advantage. The competitive advantage and strategic advantage that IT may provide soon become necessary. Few of examples are given in Table 5.1 from customer's perspective.

If an organization does not pioneer in identifying these opportunities, it will have to quickly deploy them to survive. The usage of IT then becomes defensive and the IT strategy is reactive rather than proactive. IT strategy—whether reactive or proactive—is always iterative and consequently alignment is also an iterative process.

5.3 STRATEGIC ALIGNMENT FRAMEWORK AND ITS APPLICATION TO STRATEGIC ALIGNMENT

The four components that participate in IT and business strategies alignment are shown in Figure 5.1. To initiate, it is assumed that either the business strategy is defined or the IT strategy is defined and stable.

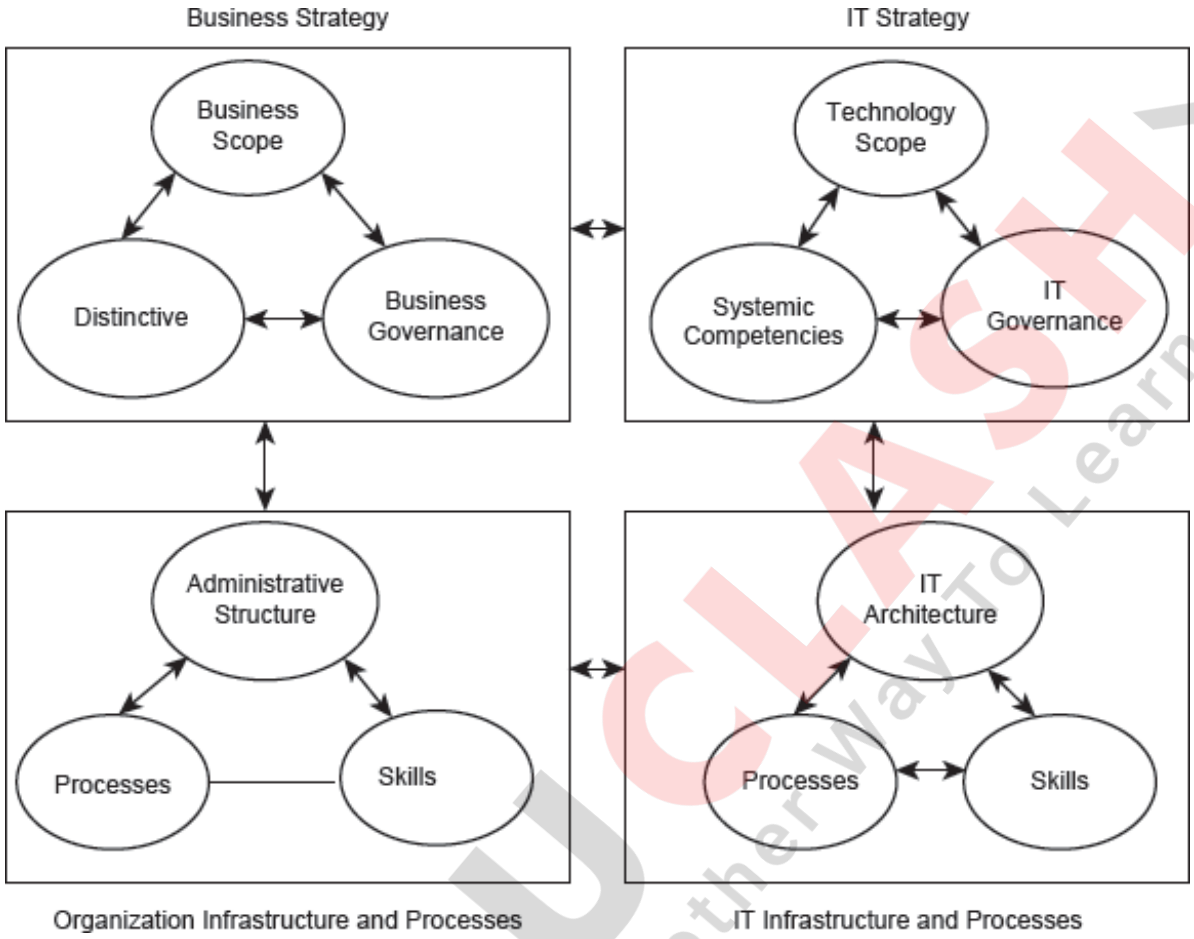


FIGURE 5.1 Strategic Alignment Framework[17, 18]

TABLE 5.1 Competitive and Strategic Advantages That have Become Necessity

Field	IT Advantage That Became a Necessity
Education	Online application form, online fee payment.
Bank	ATM, online banking, core banking.
Travel	Online reservations, real time status of trains, planes.
Manufacturing	Online customer interaction shift from make-to-stock to make-to-order shift from product to solution provider.
Market	Seller's to buyer's.

What is picked as stable will depend on the alignment perspective and various possible perspectives will be described in this section itself. What is picked as stable is referred to as anchor. Then a domain pivot is picked from the remaining three components. Domain pivot is the area that can be improved based on the anchor. Finally, an impact domain is

picked that is modified, adapted or re-engineered to align it with the pivot domain. The fourth component is left unmodified to provide stability to the alignment process. To summarize, there are three steps:

1. Select a anchor domain that acts as a catalyst or an enabler for the alignment.
2. Select a pivot domain that has problems or opportunities. Improve it.
3. Select an impacted domain that will be affected by the changes to the pivot domain. Reengineer it.

The selection of these three components would depend on the specific business and information technology issues faced by the organization. Let us say, an organization feels that it is not making best use of the potential of information technology. It identifies IT strategy as the anchor, then decides to adapt its business strategy to exploit the opportunities presented by its IT strategy. The modified business strategy may require changes in the business processes and organizational infrastructure. The alignment team then needs to plan and carry out these changes.

As mentioned earlier, alignment is a continuous process. After one alignment cycle is complete, changes in the component that was left untouched may be required that will start another alignment cycle. Depending on what the anchor, pivot and impact domains are, one is looking at alignment from the following different perspectives.[19]

- **Strategy execution**: The organization has a business strategy that has been articulated and serves as the anchor domain. Organizational infrastructure and processes are the pivot domains. The pivot domain may require changes to support execution of business strategy. Changes in the pivot domain may require support from IT infrastructure and processes. The impacted domain is IT infrastructure and processes. This is a very traditional top-down approach and fairly well understood. IT is more of a facilitator than driver for business strategy. Driver continues to be business strategy and the role of top management is to formulate business strategy. IT management facilitates implementation of business strategy by devising a supporting IT infrastructure and processes. IT infrastructure is treated as a cost centre. The methods used for evaluating IT are usually return on investment (ROI) which is not a very effective instrument for measuring performance of IT.[20] Strategy execution perspective fails to use full potential of IT.
- **Technology potential perspective**: Start with an articulated business strategy (anchor) and then explore and devise an IT strategy (pivot) that would best support the business strategy. Change IT infrastructure according to new/modified IT strategy. Implement the business strategy through appropriate IT strategy that may require transformation in IT infrastructure and processes. The driver or anchor is business strategy and the top management works closely with IT managers as technology visionaries and technology architects. Executives and business strategists would be able to exploit IT better if they are aware of its potential. It is not really a sequential process. If business and IT strategists work together, potential of IT can be better utilized and the organization can pioneer technology usage.
- **Competitive potential perspective**: One can base a business strategy on IT strategy. Start with an IT strategy based on emerging IT capabilities, and figure out the ways with which the IT strategy can influence or enable new business strategies

including new products/services for competitive advantage. These business strategies may need changes in organizational structure and processes (refer to Figure 5.2). The management tries to figure out opportunities to use IT creatively and for competitive advantage. The driver is IT strategy for framing business strategy.

- **Service level perspective**: This perspective focuses on building a world class IT service organization. Start with IT strategy and develop IT infrastructure to realize IT strategy. Redesign organizational infrastructure to make best use of the IT strategy and infrastructure. The role of top management is to set up the priorities, and the role of IT management is to provide leadership. The performance criterion is customer satisfaction. The IT department within the organization is looked upon as a service provider to the organization. The objective of the IT department is to provide world class services to its customers. For instance, BPCL[21] came up with a competitive strategy based on IT strategy. They decided to deploy an ERP system and the organization was restructured accordingly. The business strategy and processes were all based on the availability of the ERP system 24 × 7. The IT department has to provide world class services to the organization. The processes were re-engineered according to the ERP system.

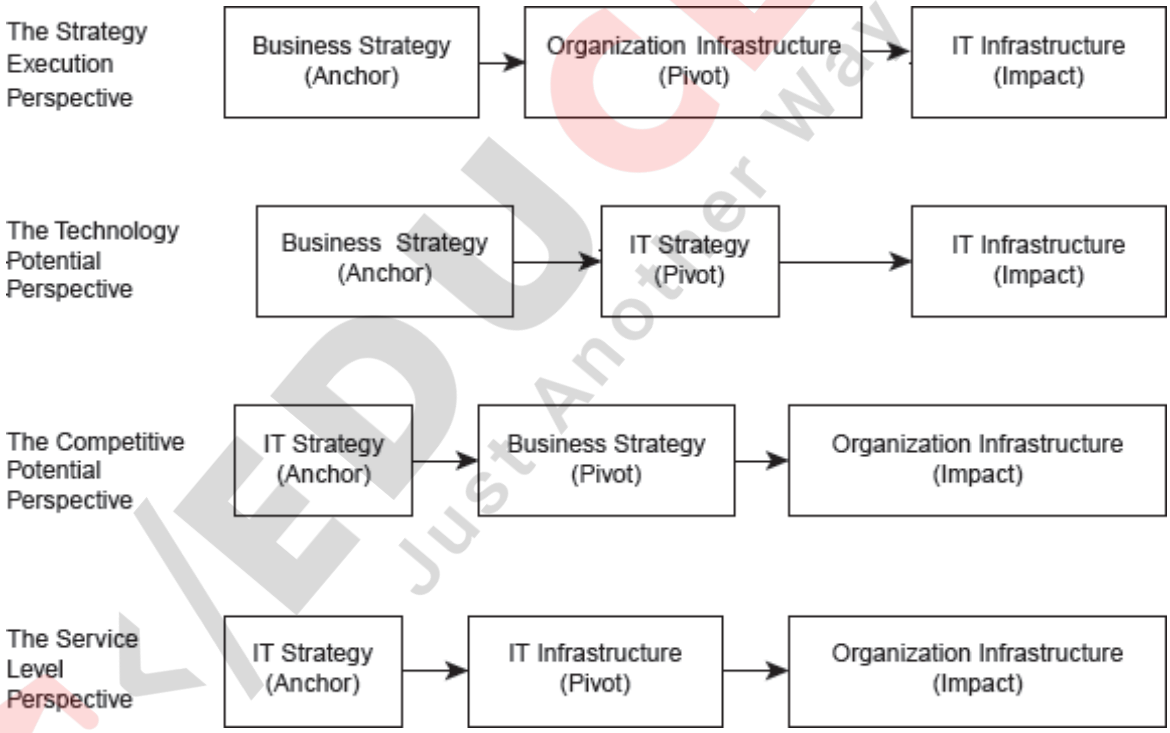


FIGURE 5.2 Four Different Perspectives for Business and IT Strategies Alignment

- There will be short-term goals such as respond to customer needs/requests through new applications/interface, and the long-term objectives to stay at the forefront of technology. The management has to set priorities to balance short-term and long-term priorities.

It is required to identify an anchor, a pivot and an impact domain. The anchor and one other component remains stable during the alignment process, and provide stability. Anchor is always either business strategy or IT strategy. The strategic level management needs to define and freeze at least one of the two. From the alignment framework, it is clear that the pivot domain is being aligned. Two external factors may cause a pivot domain to get misaligned—changes in the market place and changes in the information technology. The

pivot domain should contain issues external to the organization, where opportunities typically exist. For example, an organization uses strategy execution perspective and makes significant changes to its IT infrastructure and processes. It is not hard to see that these changes may call for a new IT strategy that in turn may impact/influence business strategy. A new cycle begins after the very first cycle completes or sometimes even before the first one completes. That brings us to the point made right in the beginning of this chapter that alignment is a continuous activity. The first cycle is the most difficult because an anchor has to be identified for which lot of information (implicit and explicit) will have to be extracted and collated, and various techniques will have to be deployed to introduce changes.

Some organization will find that they have been implicitly performing alignment. It is important to treat alignment as a planned and budgeted activity for which manpower and budget is allocated. Judging the alignment between IT and business is also a challenge.

5.4 ARE BUSINESS AND IT ALIGNED?[22]

Some degree of alignment may exist in each functional unit and the organization may perceive it as organization level alignment. IT and business both need to check if they are aligned with each other. The parameters that business strategist can use to check their alignment followed by the parameters that IT can use are listed below. Business strategist can use the following parameters to check if they are aligned with IT strategists:

- **Liaison with IT:** The level of communication between IT and business managers is an indicator of the alignment between the two. A formal channel that facilitates communication at regular frequency, say once a month is required to achieve the alignment. In addition, informal communication between IT head and other business heads must take place.
- **Perception of IT by business**: The IT could be treated as cost centre in the organization indicating poor alignment between the business and IT. Next higher level of treatment to the IT is when it is utilized for efficiency. If IT enhances efficiency of whatever business is doing, IT will be aligned better than when it is treated as a cost centre. The best possibility is that IT is treated as a partner in business and IT is perceived as a partner for creating value. Business processes may be designed keeping IT capabilities in the focus. If IT is treated as a partner, the corporate strategy document clearly lays out the objectives of IT department. The perception of IT has been going through a change since last 50 years as IT evolved. A successful IT track record tends to improve perception of business managers.[23]
- **Inclusion of IT in formal business planning:** If IT is not invited to business strategy meeting or is invited as an observer, there is poor alignment between the two. If IT is included in all meetings as partner, better alignment exists.
- **IT metrics aligned with business metrics:** Every organization uses a set of metrics to judge its performance. If IT uses the same metrics, chances are that IT and business are better aligned than if both use different metrics.

IT strategist can check if their strategy is aligned with business strategy using the following parameters:

- **Liaison with business**: IT will have its strategy planning meetings and other regular

meetings. For an alignment to exist between IT and business, business head should participate in key IT meetings. Some informal communication channels must exist between IT and business.

- **Perception of business by IT**: IT people should understand business domain and language, share their vision and understand the business strategy. IT must understand their role in the business. If IT understands its role in the overall business, chances are IT and business will be better aligned.
- **Formal IT planning**: IT head and IT department must work with CEO and business strategists to gain their confidence and attain the level of business partners. IT planning should not be done in isolation. The business heads must be involved.
- **Standards and benchmarking**: One of the common complaints of business and IT is the lack of understanding of each others domain. Since it is the IT that is a new thing and evolving, it is logical for IT to work towards defining standards and use them to facilitate interaction within and with business team. Capability maturity models (CMM levels that has level 5 as highest that) and unified modelling language (UML) strives to follow same standards and procedures across organization. It has become easy for companies across the globe who follow these standards to coordinate and work together with business.
- **Innovation partners of the IT systems**: If IT works with internal customers and partners towards providing innovative solution then IT and business are better aligned. If IT avoids innovation or works towards achieving only efficiency, the alignment is limited.
- **Business metrics is aligned with IT metrics**: If IT management utilizes the same evaluation metrics as the business, then the two are well aligned. This is similar to discussion of business strategist's perspective section.

The objective of IT in the 1960s was to provide operational efficiency but now IT plays a strategic role in the organization. The IT, and business executives and strategists must work together to use IT as a strategic weapon. The balanced scorecard that has been used as a tool for implementing and sustaining alignment between IT and business is discussed in the next section.

5.5 BALANCED SCORECARD: AN ALIGNMENT TOOL

Balanced scorecard[24] (BSC) has been used as a tool or framework for implementing and sustaining the alignment between IT and business strategies. The BSC evaluates the alignment from four different perspectives.

A BSC has four perspectives to translate business strategy of an organization into objectives. Figure 5.3 shows these four perspectives and their interactions. These four perspectives are:

- **Financial perspective**: It is one of the oldest and widely used perspectives. This perspective captures financial objectives and performance of the organization.
- **Customer's perspective**: Customer's perspective reflects customer's perception of the services and products of the organization. The management must know if their organization is satisfying the customer's requirements.
- **Operational perspective:** Operational perspective or internal business process

perspective is for evaluating/assessing business processes of the organization.

- **Learning and innovation perspective:** The fourth perspective, learning and innovation, is for assessing the readiness for future. Does the organization innovate itself enough to be able to remain in synchronization with the external changes and meet external challenges?

The management can use this tool to translate the strategy into objectives and initiatives to achieve the objective for all four perspectives. The management would need quantitative measures (and possibly some qualitative ones) and corresponding targets. The BSC would be different for individuals. A manager's BSC would be different from that of an employee in operations. The objectives, measures, targets and initiatives will all be different.

The relationship[26] between IT and business can be explicitly expressed through a cascade of balanced scorecards (Figure 5.4). If business strategy is the driver for IT strategy (strategy execution perspective), the flow will be as shown in Figure 5.4(a) and if IT strategy is the driver for business strategy (competitive advantage perspective), the flow will be as shown in Figure 5.4(b). Cascading works as an alignment instrument between business strategy and IT strategy. A BSC similar to the one shown in Figure 5.3 may be created for translating business strategy to objectives and initiatives. CIO, CEO and their teams can work together to figure out the contribution of IT to the initiatives. The initiatives may be consolidated from all four perspectives which are financial, customer, operational perspective, and learning and innovation. The consolidated view would give direction to IT strategy that is converted to objectives and initiatives using a BSC similar to one shown in Figure 5.5. The financial perspective is mapped to corporate contribution. Customers of IT are functional units of the organization. CIO could create two more BSC—one for managing development/new projects and another one for the operational ones incorporating direct financial perspective, processes used for IT development projects, etc. These score cards should contain quantitative objectives, initiatives, measures and targets. Some organizations use BSC for individuals as well with their objectives based on their role, measures and targets. It is important to use the information from BSC for further improvement.

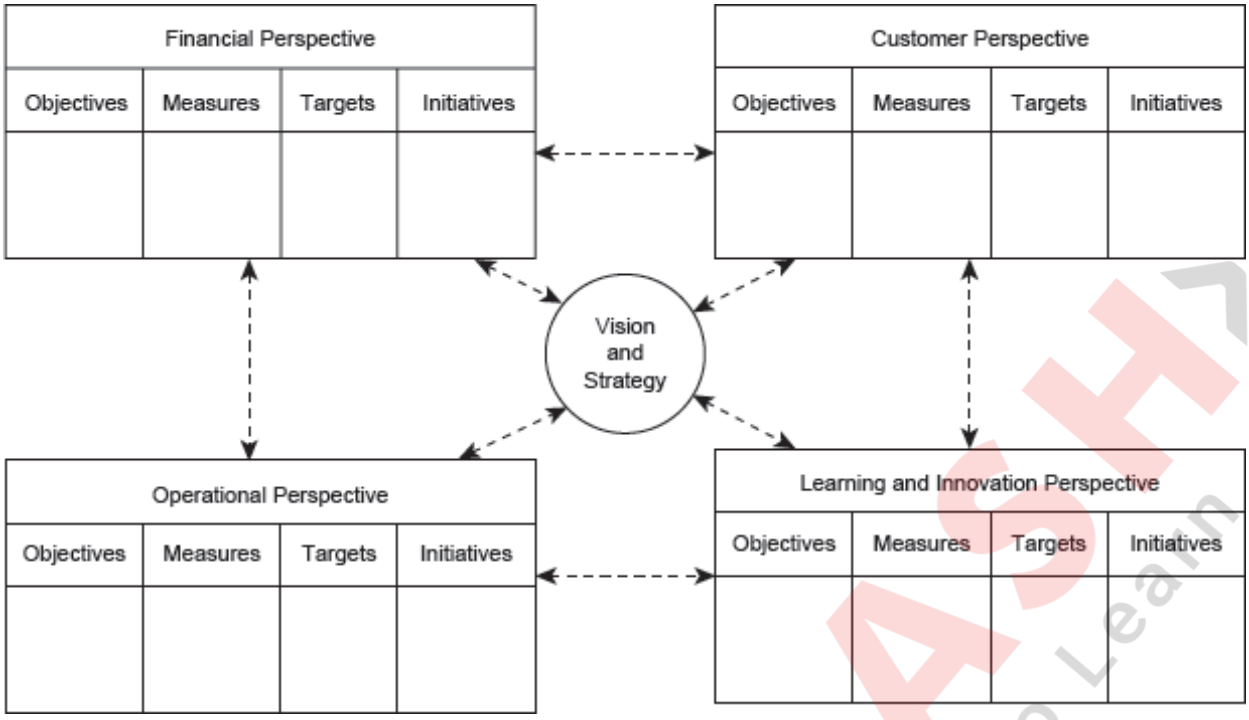
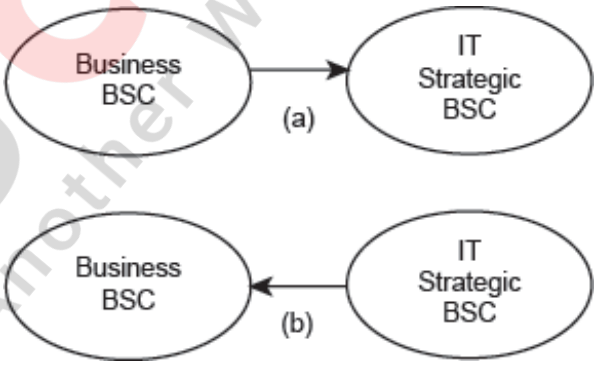


FIGURE 5.3 Balanced Scorecard Consisting of Four Perspectives for Translating and Strategy into Objectives[25]

FIGURE 5.4 IT Balanced Scorecard Derived from Business Strategy Balanced Scorecard and Vice Versa



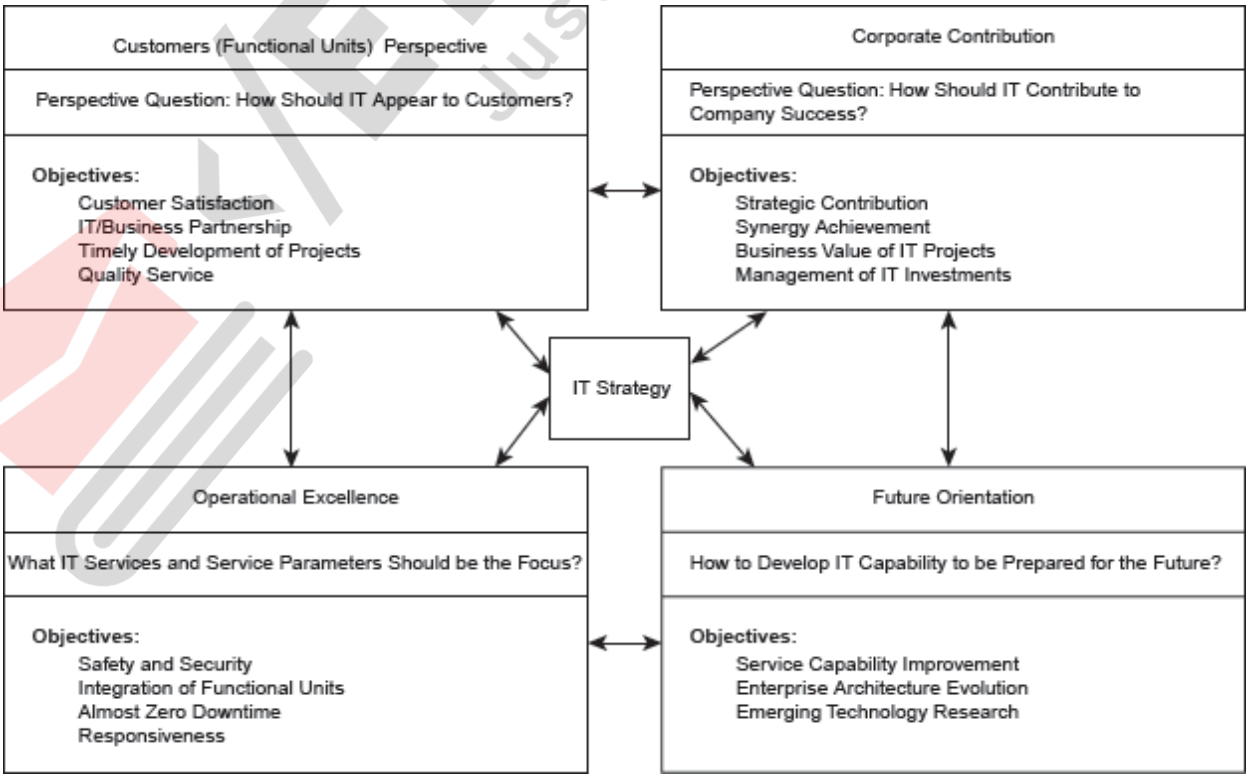


FIGURE 5.5 IT Balanced Scorecard Derived from Business Strategy Balance Scorecard Consisting of Four IT Perspectives

These score cards are influenced by the ones that are available in the literature.[27, 28] An organization would have to create their score cards. The use of BSC for performance measurement of an ERP project and ERP system is discussed in Chapter 9.

BSC offers two unique benefits[29] to the alignment process. Business and IT management can use the same language for discussing performance measurements enabling both parties to understand the capability and limitations of IT. Information technology can be managed using an integrated planning and evaluation cycle as other business processes. BSC helps the departments to look beyond their own departments and in communicating the company's goals and strategies. The corporate BSC is set up for basic corporate planning and then every business division plan including the IT plan becomes part the BSC. IT develops its own score card, using the measures based on the corporate scorecard. Automatically, reflection and linkage gets created between IT, and corporate vision and strategy. IT can align its cost structure, service levels and capital investments according to business scenario.

The leadership and culture of the organization play an important role in achieving organizational level alignment.

The following are some of the parameters that work as enablers[30] for achieving alignment:

- Senior executive support for IT
- IT involvement in strategy development
- Mutual understanding between business and IT
- Business and IT partnership
- IT demonstrates leadership

CONCLUSION

IT and business must be aligned. The factors that play role in alignment are IT strategy, business strategy, IT infrastructure and processes, and organizational infrastructure and business strategy. These four components interact with each other. There are four different ways of approaching alignment depending on the maturity level of the organization, namely —strategy execution, technology potential perspective, competitive potential perspective and service level perspective. Success of the alignment effort depends on multiple factors such as support of the top management and understanding between CIO (and his department) and CEO. Balanced score card (BSC) is a tool that can be used for alignment. The first alignment cycle is the most difficult one because the team is new and the team challenges the established strategy, processes and structure. The cycles one after the other must be carried out to make sure that business and IT stay aligned. The frequency and efforts required may be guided by the expected changes and returns.

EXERCISES

Check Your Understanding

1. Define business and IT alignment. What are various components of the alignment?

2. Alignment is not a state, but a journey. Do you agree with this statement? Justify your answer.
3. Describe strategic alignment framework and its components.
4. Describe balanced score card and how it can be applied to achieve business and IT alignment.

Apply Your Understanding

1. You picked an organization to work with in Chapter 1. Analyse your organization for the level of alignment. What parameters did you use to check the alignment?
2. If your organization is not aligned to your satisfaction, suggest the perspective they should use and start an alignment effort. Clearly identify anchor, pivot and impact domain. Justify your choice.
3. Create a balanced score card for a manager in business and for an IT manager of your organization.