

Assessing the Maturity of Business-Information Technology Alignment

Jerry Luftman

The importance of effective

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tween the infor-

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nology func-

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and the busi-

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well understood

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sess alignment

and how to im-

prove it. This

issue describes

an approach for

evaluating busi-

ness-IT align-

ment maturity

and enablers

for its achieve-

ment

Director

Larry Gastwirt

Business-IT Alignment refers to the applica-

tion of Information Technology (IT) in an ap-

propriate and timely way, in harmony with

business strategies, goals and needs. This

still remains a fundamental concern of busi-

ness executives. This definition of alignment

addresses:

• how IT is aligned with the business

• how the business should or could be

aligned with IT

Mature alignment evolves into a relationship

where the IT function and other business

functions adapt their strategies together.

When discussing business-IT alignment,

terms like harmony, linkage, fusion, and inte-

gration are frequently used synonymously

with the term alignment. Also, it does not

matter whether one considers business-IT

alignment or IT-business alignment; the ob-

jective is to ensure that the organizational

strategies adapt harmoniously.

Firms find it difficult or impossible to harness

the power of information technology (IT) for

their long-term benefits, even though there is

worldwide evidence that IT has the power to

transform whole industries and markets.

Important questions that need to be ad-

ressed include the following:

• How can organizations achieve align-

ment?

• How can organizations assess align-

ment?

• How can organizations improve align-

ment?

• How can organizations achieve mature

alignment?

The purpose of this paper is to present an

approach for assessing the maturity of a

firm's business-IT alignment. Until now, none

was available. The assessment approach

described in this paper provides a compre-

hensive vehicle for organizations to evaluate

business-IT alignment with regard to where

they are and what they can do to improve the

alignment. The maturity assessment applies

the author's previous research that identified

enablers/inhibitors to achieving alignment,

and the author's experience applying the

methodology that leverages the most impor-

tant enablers and inhibitors as building

blocks for the evaluation. The maturity as-

essment is also based on the popular work

done by the Software Engineering Institute.

Alignment addresses both

• doing the right things (effectiveness)

• and doing things right (efficiency).

Alignment's importance has been well known

and well documented since the late 1970's.

Over the years, it has persisted among the

top-ranked concerns of business executives.

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I. BUSINESS STRATEGY

1. **Business Scope** – Includes the markets, products, services, groups of customers/clients, and locations where an enterprise competes as well as the competitors and potential competitors that affect the business environment.

2. **Distinctive Competencies** – The critical success factors and core competencies that provide a firm with a potential competitive edge. This includes brand, research, manufacturing and product development, cost and pricing structure, and sales and distribution channels.

3. **Business Governance** – How companies set the relationship between management, stockholders, and the board of directors. Also included are how the company is affected by government regulations, and how the firm manages its relationships and alliances with strategic partners.

II. ORGANIZATION INFRASTRUCTURE & PROCESSES

4. **Administrative Structure** – The way the firm organizes its businesses. Examples include central, decentralized, matrix, horizontal, vertical, geographic, federal, and functional.

5. **Processes** - How the firm's business activities (the work performed by employees) operate or flow. Major issues include value added activities and process improvement.

6. **Skills** – H/R considerations such as how to hire/fire, motivate, train/educate, and culture.

III. IT STRATEGY

7. **Technology Scope** - The important information applications and technologies.

8. **Systemic Competencies** - Those capabilities (e.g., access to information that is important to the creation/achievement of a company's strategies) that distinguishes the IT services.

9. **IT Governance** - How the authority for resources, risk, conflict resolution, and responsibility for IT is shared among business partners, IT management, and service providers. Project selection and prioritization issues are included here.

IV. IT INFRASTRUCTURE AND PROCESSES

10. **Architecture** - The technology priorities, policies, and choices that allow applications, software, networks, hardware, and data management to be integrated into a cohesive platform.

11. **Processes** - Those practices and activities carried out to develop and maintain applications and manage IT infrastructure.

12. **Skills** – IT human resource considerations such as how to hire/fire, motivate, train/educate, and culture.

Strategic Alignment Figure 1.

In recent years, a great deal of research and analysis focused on the linkages between Business and IT (the role of partnerships between IT and business management and the need to understand the transformation of business strategies resulting from the competitive use of IT.) Much of this research, however, was conceptual. Empirical studies of alignment examined a single industry and/or firm. Conclusions from such empirical studies are potentially biased and may not be applicable to other industries. It was the lack of consistent results across industries, across functional position, and across time that was the impetus for defining a vehicle for assessing IT.

The components of the strategic alignment model are shown in Figure 1. The relationships that exist among the twelve components of this model further define business-IT alignment. The components of this model, in concert with the enablers/inhibitors research, form the building blocks for the strategic alignment maturity assessment method. Aligning

For years, firms have been channeling billions of dollars into technology in an attempt to successfully incorporate technology into their processes and long-term plans. Many of these efforts have failed despite overwhelming evidence of IT's ability to transform both individual firms and entire industries. Frustrated executives have asked for help to improve their understanding and to improve alignment, given this seemingly difficult interrelationship. This is especially true as executives realize that every organization is in the business of information.

The strategic alignment model, first used by Henderson and Venkatraman, was applied throughout the five-year research project that identified the enablers/inhibitors to alignment. Their research suggested that the major reason for the current dissatisfaction with the level of integration between business and IT, and possibly the absence of value derived from IT investments, lies in the lack of understanding of the strategic choices that bind business and IT.

these components focuses on the activities that management performs to achieve cohesive goals across IT and other functional organizations (e.g., finance, marketing, H/R, manufacturing). Therefore, alignment addresses both how IT is in harmony with the business, and how the business should, or could be in harmony with IT. Alignment maturity evolves into a relationship where the function of IT and other business functions adapt their strategies together. Achieving alignment is evolutionary and dynamic. IT requires strong support from senior management, good working relationships, strong leadership, appropriate prioritization, trust, and effective communication, as well as a thorough understanding of the business and technical environments. Achieving and sustaining alignment demands focus on maximizing the enablers and minimizing the inhibitors that affect the integration of IT and business.

The strategic alignment maturity assessment provides organizations with a vehicle to evaluate these activities. Knowing the maturity of its strategic choices and alignment practices make it possible for a firm to see where it stands and how it can improve. Once the maturity is understood, the assessment method provides the organization with a roadmap that can identify opportunities for enhancing the harmonious relationship of business and IT. The alignment of information technology and business strategy to leverage the capabilities of IT and to transform the business has increased in importance over the past few years, as firms strive for competitive advantage in a diverse and changing marketplace.

Several frameworks have been proposed to assess the strategic issues regarding the role of IT as a competitive weapon. They have not, however, yielded empirical evidence, nor have they provided a roadmap to assess and enhance alignment. There have also been numerous studies that focus on business process redesign and engineering as a way to achieve competitive advantage with IT. This advantage comes from the appropriate application of IT as a driver or enabler of business strategy.

IT investment has been increasing for years and IT managers are looking for ways to manage this vital resource IT successfully and to integrate it into the organization's strategies. As a result, IT managers need to be knowledgeable about how the new IT technology

gies can be integrated into the business (in addition to the integration among the different technologies and architectures).

- privy to senior management's tactical and strategic plans.
- present when corporate strategies are discussed, and
- able to delineate/understand the strengths and weaknesses of the technologies in question and understand their the corporate-wide implications.

As previously discussed, there are known enablers and inhibitors that help and hinder alignment. Executives experience them daily. Anecdotal publications have described them. Research underway since 1992 has identified them and established benchmark exemplar organizations. The research data shows that the six most important enablers and inhibitors, in rank order, are those shown in Table 1.

Strategic Alignment Maturity Assessment

The model involves the following five levels of strategic alignment maturity:

1. Initial/Ad Hoc Process
2. Committed Process
3. Established Focused Process
4. Improved/Managed Process
5. Optimized Process

Each of the five levels of alignment maturity focuses, in turn, on a set of six criteria based on practice validated with an evaluation of 25 Fortune 500 companies. The six IT-business alignment criteria are described in the following section of this paper. These six criteria are:

1. Communications Maturity
2. Competency/Value Measurement Maturity
3. Governance Maturity
4. Partnership Maturity
5. Scope & Architecture Maturity
6. Skills Maturity

The procedure for assessing maturity is as follows:

1. Each of the criteria is assessed individually by a team of IT and business unit executives to determine the firm's level of strategic maturity for this criterion. In other words, each of the six criteria is found to be at either level 1, level two, level three, level four, or level five.
2. The evaluation team converges on a single assessment level for each of the six criteria. The discussion that ensue are extremely valuable in understanding both the current state of the organization-

ENABLERS		INHIBITORS	
1	Senior executive support for IT	1	IT/business lack close relationships
2	IT involved in strategy development	2	IT does not prioritize well
3	IT understands the business	3	IT fails to meet commitments
4	Business - IT partnership	4	IT does not understand business
5	Well-prioritized IT projects	5	Senior executives do not support IT
6	IT demonstrates leadership	6	IT management lacks leadership

Table 1.

tion's alignment maturity and how the organization can best proceed to improve maturity.

3. The evaluation team, after assessing each of the six criteria from level one to five, uses the results to converge on an overall assessment level of the maturity for the firm. They apply the next higher level of maturity as a roadmap to identify what they should do next.

This section describes each of the six criteria (illustrated in Figure 2) that are evaluated in deriving the level of strategic alignment maturity. Examples taken from actual assessment summaries illustrate the kinds of insights that can be identified.

1. Communications

Effective exchange of ideas and a clear understanding of what it takes to ensure successful strategies are high on the list of enablers to alignment. Too often there is little business awareness on the part of IT or little IT appreciation on the part of the business. Given the dynamic environment in which most organizations find themselves, ensuring ongoing knowledge sharing across organizations is paramount.

Many firms choose to draw on liaisons to facilitate this knowledge sharing. The key word here is facilitate. Often the author has seen facilitators whose role is to serve as the sole conduit of interaction among the different organizations. This approach tends to stifle rather than foster effective communications. Rigid protocols that impede discussions and the sharing of ideas should be avoided.

For example, a large aerospace company assessed its communications alignment maturity at level 2. Business-IT understanding is sporadic. The relationship between IT and the business function could be improved. Improving communication should focus on how to create the understanding of IT as a strategic business partner by the businesses it supports rather than simply as

a service provider. The firm's CIO made the comment that there is "no constructive partnership". However, in an interview with the firm's Director of Engineering & Infrastructure, he stated that he views his organization as a "strategic business partner". One way to improve communications and, more important, understanding would be to establish effective business function/IT liaisons that facilitate sharing of knowledge and ideas.

In a second case, a large utility company's communication alignment maturity places it at a level 2-. Communications are not open until circumstances force the business to identify specific needs. There is a lack of trust and openness between some business units and their IT teams. IT business partners tend to be bottlenecks in meeting commitments. It's poor performance in previous years left scars that have not healed.

2. Competency/Value Measurements

Too many IT organizations cannot demonstrate their value to the business in terms that the business understands. Frequently business and IT metrics of value differ. A balanced "dashboard" that demonstrates the value of IT in terms of contribution to the business is needed.

Service levels that assess IT's commitments to the business often help. However, the service levels have to be expressed in terms that the business understands and accepts. The service levels should be tied to criteria (see subsection 4, Partnership, below) that clearly define the rewards and penalties for surpassing or missing the objectives.

Frequently organizations devote significant resources to measuring performance factors. However, they spend much less of their resources on taking action based on these measurements. For example, an organization that requires an ROI before a project begins, but that does not review how well objectives were met after the project was deployed, provides little to the or-



organization. It is important to assess these criteria to understand (1) the factors that lead to missing the criteria and (2) what can be learned to improve the environment continuously.

Figure 2.

Established metrics evaluate the extent of service provided to the business functions. These metrics go beyond basic service availability and help desk responsiveness, evaluating such issues as end-user satisfaction and application development effectiveness. The metrics are consolidated onto an overall dashboard. However, because no formal feedback mechanisms are in place to react to a metric, the dashboard cannot be considered to be managed.

3. Governance

Ensuring that the appropriate business and IT participants formally discuss and review the priorities and allocation of IT resources is among the most important enablers of alignment. This decision-making authority needs to be clearly defined. For example, IT governance in a large aerospace company is tactical at the core business level and not con-

For example, a large aerospace company assessed its competency/value measurement maturity to be at a level 2. IT operates as a cost center. IT metrics are focused at the functional level, and Service Level Agreements (SLAs) are technical in nature. One area that could help to improve maturity would be to add more business-related metrics to SLAs to help form more of a partnership between IT and the business units. Periodic formal assessments and reviews in support of continuous improvement would also be beneficial.

A large software development company assessed its competency/value measurement maturity at level 3.

sistent across the enterprise. For this reason, they re-ported a level 2 maturity assessment. IT can be charac-terized as reactive to CEO direction. Developing an inte-grated enterprise-wide strategic business plan for IT would facilitate better partnering within the firm and would lay the groundwork for external partnerships with customers and suppliers.

A large communications manufacturing company as-sessed its governance maturity at a level falling between 1 and 2. IT does little strategic planning because it oper-ates as a cost center and, therefore, cost reduction is a key objective. In addition, priorities are reactive to busi-ness needs as business managers request services.

A large computing services company assessed their gov-ernance maturity at a level 1+. A strategic planning com-mittee meets twice a year. The committee consists of corporate top management with regional representation. Topics or results are not discussed nor published to all employees. The reporting structure is federated with the CIO reporting to a COO. IT investments are traditionally made to support operations and maintenance. Regional or corporate sponsors are involved with some projects. Prioritization is occasionally responsive.

4. Partnership

The relationship that exists between the business and IT organizations is another criterion that ranks high among the enablers. Giving the IT function the opportunity to have an equal role in defining business strategies is obvi-ously important. However, how each organization per-ceives the contribution of the other, the trust that devel-ops among the participants, ensuring appropriate busi-ness sponsors and champions of IT endeavors, and the sharing of risks and rewards are all major contributors to mature alignment. This partnership should evolve to a point where IT both enables AND drives changes to both business processes and strategies. Naturally, this de-mands having a good business design where the CIO and CEO share a clearly defined vision.

For example, a large software development company as-sessed their partnership maturity at a level of 2. The IT function is mainly an enabler for the company. IT does not have a seat at the business table, either with the en-terprise or with the business function that is making a de-cision. In the majority of cases, there are no shared risks because only the business will fail. Indications are that the partnership criterion will rise from a level 2 to 3 as top management sees IT as an asset, and because of the very high enforcement of standards at the company. Partnership for a large communications manufacturing company was assessed at level 1. IT is perceived as a

cost of being in the communications business. Little value is placed on the IT function. IT is perceived only as help desk support and network maintenance.

For a large utility company, partnership maturity was assessed at a level of 1+. IT charges back all ex-penses to the business. Most business executives see IT as a cost of doing business. There is height-ened awareness that IT can be a critical enabler to success, but there is minimal acceptance of IT as a partner.

Partnership for a large computing services company was assessed at level 2. Since the business execu-tives pursued e-commerce, IT is seen as a business process enabler as demonstrated by the Web devel-opment. Unfortunately, the business now assigns IT with the risks of the project. Most IT projects have an IT sponsor.

5. Scope and Architecture

Information technology maturity in this area is a func-tion of the extent to which IT is able to:

- go beyond the back office and the front office of the organization
- assume a role supporting a flexible infrastructure that is transparent to all business partners and customers
- evaluate and apply emerging technologies effec-tively
- enable or drive business processes and strategies as a true standard
- provide solutions customizable to customer needs

Scope and Architecture was assessed at a level of 2+ at a large software development company moving to level 3. ERP systems are installed and all projects are monitored at an enterprise level. Standards are inte-grated across the organization and enterprise archi-tecture is integrated. It is only in the area of inter-enterprise that there is no formal integration.

A large financial services company assessed their scope and architecture at level 1. Although standards are defined, there is no formal integration across the enterprise. At best, only functional integration exists.

6. Skills

Skills include all of the human resource considerations for the organization. Going beyond the traditional con-siderations such as training, salary, performance feed-back, and career opportunities, are factors that include the organization's cultural and social environment. Is the organization ready for change in this dynamic en-

Environment? Do individuals feel personally responsible for business innovation? Can individuals and organizations learn quickly from their experience? Does the organization leverage innovative ideas and the spirit of entrepreneurship? These are some of the important conditions of mature organizations.

For example, a large aerospace company assesses their skills maturity at a level 2. A definite command and control management style exists within IT and the business. Power resides within certain operating companies. Diverse business cultures abound. Getting to a non-political, trusting environment between the business and IT, where risks are shared and innovation and entrepreneurship thrive, is essential to achieve improvements in each of the other maturity tenets.

Skills maturity at a large computing services company is assessed at a level of 1. Career crossover is not encouraged outside of top management. Innovation is dependent on the business unit, but in general is frowned upon. Management style is dependent on the business unit, but is usually command and control. Training is encouraged but left up to the individual employee.

Strategic Alignment as a Process

The approach applied to attain and sustain business-IT alignment focuses on understanding the alignment maturity, and on maximizing alignment enablers and minimizing inhibitors. The process includes the following six steps:

Step 1. Set the goals and establish a team. Ensure that there is an executive business sponsor and champion for the assessment. Next, assign a team of both business and IT leaders. Obtaining appropriate representation from the major business functional organizations (e.g., Marketing, Finance, R&D, Engineering) is critical to the success of the assessment. The purpose of the team is to evaluate the maturity of the business-IT alignment. Once the maturity level is understood, the team is expected to define opportunities for enhancing the harmonious relationship of business and IT. Assessments range from three to twelve half-day sessions. The time demanded depends on the number of participants, the degree of consensus required, and the detail of the recommendations to carry out.

Step 2. Understand the business-IT linkage. The Strategic Alignment Maturity Assessment is an important tool in understanding the business-IT linkage. The team evaluates each of the six criteria. A trained facilitator can be valuable in guiding the important discussions.

Step 3. Analyze and prioritize gaps. Recognize that the different opinions raised by the participants are indicative of the alignment opportunities that exist. Once understood, the group needs to converge on a maturity level. The team must remember that the purpose of this step is to understand the activities necessary to improve the business-IT linkage. The gaps between where the organization is today and where the team believes it needs to be need to be prioritized. Apply the next higher level of maturity as a roadmap to identify what can be done next.

Step 4. Specify the actions (project management). Naturally, knowing where the organization is with regard to alignment maturity will drive what specific actions are appropriate to enhance IT-business alignment. Assign specific remedial tasks with clearly defined deliverables, ownership, timeframe, resources, risks, and measurements to each of the prioritized gaps.

Step 5. Choose and evaluate success criteria. This step necessitates revisiting the goals and regularly discussing the measurement criteria identified to evaluate the implementation of the project plans. The review of the measurements should serve as a learning vehicle to understand how and why the objectives are or are not being met.

Step 6. Sustain alignment. Some problems just won't go away. Why are so many of the inhibitors IT related? Obtaining IT-business alignment is a difficult task. To sustain the benefit from IT, an "alignment behavior" must be developed and cultivated. The criteria described to assess alignment maturity provides characteristics of organizations that link IT and business strategies. By adopting these behaviors, companies can increase their potential for a more mature alignment and improve their ability to gain business value from investments in IT. Hence, the continued focus on understanding the alignment maturity for an organization and taking the necessary action to improve the IT-business harmony is key.

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