



TECHNOLOGY MANAGEMENT

Module 1



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Objectives

1. [Technology](#)

2. [IT Alignment](#)

- **Benefits of IT Alignment**
- **Stages of IT Alignment**
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1. Technology

Technology is the use of scientific knowledge for practical purposes or applications, whether in industry or in our everyday lives. So, basically, whenever we use our scientific knowledge to achieve some specific purpose, we're using technology.

Technology usually involves a specific piece of equipment, but that equipment can be incredibly simple or dazzlingly complex. It can be anything from the discovery of the wheel, all the way up to computers and MP3 players.

The various components of technology are:

Hardware: The physical structure and logical layout of the equipment or machinery that is to be used to carry out the required tasks.

Software: The knowledge of how to use the hardware in order to carry out the required tasks.

Brain ware: The reasons for using the technology in a particular way, which is referred as Know-Why.

Know-How: The learned or acquired knowledge of or technical skill regarding how to do things well. Know-how may be a result of experience, transfer of knowledge, or hands on practice. People acquire technical know-how by receiving formal or informal education or training or by working closely with an expert in a certain field. Know-how can also be acquired through a recognized method of technology transfer.

2. IT alignment

IT alignment refers to the coordination of an IT strategy with the goals, strategies, and processes used to meet an organization's mission.

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For example, an organization may use a database rather than a slow and often inaccurate paper calendar, to quickly access client records and schedule new appointments. This creates efficiencies for the staff, allowing them to serve more people. Taking this example a step further, the same staff could be trained, so as to interpret the client records and scheduling data and use it to make decisions, such as which classes should be offered more often or which classes should be dropped. This information could then be shared internally across functions and possibly with collaborating organizations. The organization could create a website that allows clients to access their own data and schedule their own appointments any time, day or night. Thus, with IT alignment, technology is not only allowing staff members to work faster, but also helping the organization serve more people and serve them better.

Benefits of IT Alignment

Avoid Common Legal and Financial Troubles

Technology that is aligned with an administrative goals of an organization can help to prevent fraud within the organization, provide more accurate reporting information for funders and government agencies, and prevent the theft of stakeholder or client data such as sensitive health information or credit card numbers. Although fraud and theft are rare, they do happen. According to a New York Times article, the Association of Certified Fraud Examiners reports that all organizations (for-profit and non-profit) loss, on average, 6 percent of their revenue to fraud each year. In 2006, that amounted to \$40 billion in the non-profit sector. Beyond the monetary loss, any non-profit that loses money or data will have to face public and possibly legal scrutiny, costing the organization's valuable time and harming its reputation. At a time when public confidence in the non-profit sector continues to drop, you can't afford to give your stakeholders another reason to doubt your ability to effectively steward their contributions.

Streamline Operations to Create Efficiencies

Aligning technology with the operations goals help non-profit leaders to better understand how an organization completes work and accomplishes day-to-day tasks. It is possible to eliminate unnecessary or redundant procedures and minimize the staff time spent on data entry and systems maintenance. It is able to identify possibilities for enhancing services or program delivery, highlight new opportunities to serve your community, and gain a better understanding of how your organization is functioning on the whole. A common operations problem that technology alignment can help address at nonprofits is double data entry. Every week, thousands of nonprofits around the country spend countless extra hours first entering donations into their donor database, only to have the finance staff enter the same data into the accounting software. Not only does this waste time, but the data from the two systems rarely

match, and donor information is often miss-entered in one or both locations. Technology aligned with the operational goal of reducing double data entry can help nonprofits avoid this common problem and create more time for staff to perform mission-related work.

Improve Effectiveness

When technology is aligned with the administrative and operational goals of your organization, a savings of time and money, or improved efficiencies are observed. When technology is part of the overall organizational strategic planning process, improved effectiveness can be seen, that the types of benefits that let you not only do more, but also do it better. When technology is included in your organization's strategic planning, it is possible to find that you are able to tie technology to your program goals as well, creating a direct link between technology and your mission. A great example of this connection comes from the legal services community. Legal services agencies provide legal expertise in everything from divorce to eviction to taxes for underserved communities across the country. Many legal services agencies work with populations of migratory workers, located in remote rural areas of the states they serve. Often the lawyers have to travel by car for hours to reach their clients. Before the recent advances in technology, inevitably, during an interview, the client would pose a question that required further research. The lawyer would need to get back in her car, travel back to her office, and go online to access her legal database and find the answer. More often than not, by the time the lawyer was able to make the rounds to that part of the state again, her client would be gone. It was a waste of time for both parties, and a lost opportunity to help someone in need.

Stages of IT Alignment

Every organization can align IT with their mission for more impact. The first part of the task is to know where you are now so you can plan where you're going. Ask any non-profit, large or small, what challenges they face with technology and you're likely to hear many scenarios that will fall into one of the following five stages:

i. Chaotic

Chaotic organizations are struggling to keep up with a failing infrastructure, by spending all their time fixing old equipment. As new staff joins the organization, member expectations change, communities grow, compliance issues arise, disaster strikes, and so on, these organizations just aren't ready. These organizations spend all the time creating, work-around, repairing old equipment, duplicating tasks, and missing chances to be more effective.

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ii. Reactive

Reactive organizations have basic systems in place to keep workstations running, printers printing, and software updated. They budget for immediate needs, but do not plan for long-term growth or big ideas. They put fires out when they happen, rather than anticipating fires and protecting themselves.

iii. Proactive

Proactive organizations always provide a stable infrastructure, solid operations software, and a good set of policies and practices. However, they are also watching how their systems are used and planned for future needs. In this stage, though, organizations are still using technology primarily to build efficiencies. They are not using technology to strategically meet the mission of the organization, and IT staffs are generally not involved in leadership meetings.

iv. Service

Service organizations are not only anticipating and meeting the needs of staff at an organization, but they are also involved in the strategic planning, helping to craft the future of the organization and how technology can support that work, both inside the organization and through public-facing technologies.

v. Value

Value organizations recognize IT as an investment in mission, dedicating a percentage of each fiscal budget to technology. Existing technologies are routinely evaluated for mission and revenue impact, and new technologies are experimented with and evaluated for future use. IT systems supply critical business metrics to the organization.

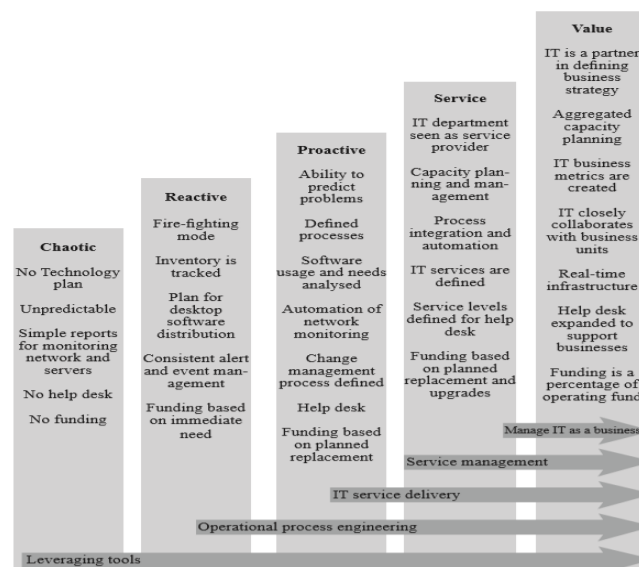


Figure 1. The Five Stages of IT Alignment

Leveraging tools

Leveraging tools means an organization uses specific technology devices to help build systems that will support and expand business processes. In other words, you need to have hardware and software in good working order so that your staff can get their work done. As an organization implements and learns to leverage new technologies to meet specific business needs, they can achieve a new level of maturity. Here, are examples of leveraging tools at each stage:

Chaotic: Back-up software and automated methods to monitor the network and servers are used.

Reactive: A simple trouble-ticket system, basic IT inventory, desktop software distribution, and real-time network monitoring are provided.

Proactive: A service or help desk for problem management is implemented, along with the beginning of a change-management system; software usage analysis; and server capacity, application availability, and response time measurement systems.

Service: A change-management database, capacity-planning tools, and a what-if analysis—based on the measurement systems implemented in the Proactive stage—are employed.

Value: IT portfolio management (systemic method to manage total infrastructure) is realized; business service management uses revenue impact analysis (tying IT services directly to changes in revenue); and business metrics are supplied via IT systems, IT governance, and legal discovery.

Operational process engineering

This process includes the analysis, design, implementation, and maintenance of technology systems to support the operational needs of the business. Here are examples of operational process engineering at each stage:

Chaotic: Does not exist at this level.

Reactive: A simple inventory tracking of technology assets is implemented.

Proactive: Configuration management for PCs and servers and full IT asset management for hardware and software are employed.

Service: Service levels for technology support, capacity of what-if management, and business process alignment are defined.

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Value: Business process automation (improving operations through systems) and aggregated IT capacity planning (based on all branch locations) are enacted.

IT service delivery

IT service delivery involves supplying staff, members, and volunteers with the services needed or demanded and ensuring a consistent, unified experience for all staff. Here are examples of IT service delivery at each stage:

Chaotic: Does not exist at this level.

Reactive: Does not exist at this level.

Proactive: IT staff are made available to assist business, support levels begin to be defined, and a central IT command center for IT service delivery is established.

Service: IT staff begin to focus on the importance of relationships with staff and customers. IT service delivery managers may become part of the leadership team.

Value: The IT director participates actively in the executive decision making process. IT is viewed as a partner for defining strategy.

Service management

Service Management Organizations focused on service management manage business IT systems so they are centered on the customers' perceptions and needs as they relate to the business. Here are examples of service management at each stage:

Chaotic: Does not exist at this level.

Reactive: Does not exist at this level.

Proactive: Does not exist at this level.

Service: Members of the IT team monitor and manage all IT service delivery, use capacity planning to determine future needs, and focus service management on strategic goals.

Value: IT staff function as liaisons to branches and business units in support of strategic business goals.

Managing IT as a business

This is the stage at which business metrics and IT metrics are linked to uncover new opportunities, and IT becomes a strategic partner in the discovery and implementation of new, IT-enabled business processes.

Here are examples of managing IT as a business at each stage:

Chaotic: Does not exist at this level.

Reactive: Does not exist at this level.

Proactive: Does not exist at this level.

Service: An IT fund may emerge. Some projects are tied to business needs. Methods are established for reviewing projects at an early stage.

Value: An established IT fund provides long-term funding for IT and IT business processes, all IT projects are subjected to a cost-benefit analysis, and quality-of-service analytics ensure availability of business systems.

Implementing IT alignment

Now that we have established the different stages of IT alignment, let's address some steps for moving your organization from one stage to another and look at these steps in the context of both large and small organizations. Although, there is no precise blueprint that will work in every situation, there are five basic steps to developing IT alignment in your own organization:

1. Know where you are.
2. Define your destination.
3. Build the buy-in.
4. Make it happen.
5. Repeat.

3. Management of Technology Change

Introducing or adopting a new technology in an organization necessitates change—change in a process, change in the status quo, and often change in a job description. Whether it's a new website, a different phone system, moving from index cards to a donor database, or implementing a case management system, technology implementations can create anxiety and require a learning curve that needs to be managed before, during, and after the introduction of that technology.

Creating Condition for Ongoing Change

Continuous incremental change enables an organization to be flexible, allowing it to respond to its environment. If a culture of continuous adaptation is adopted by the organization, it can position itself to be proactive rather than merely reacting to changes in its environment, thereby positioning the organization to deliver better services more efficiently, improve donor communications, and facilitate board and management access to information. Creating and maintaining a flexible and adaptive organization is a gradual process. Non-profit leaders can start to create a culture that is comfortable with continuous change by taking these actions:

Challenging assumptions and encouraging questions:

Constantly questioning the status quo helps to identify opportunities for small changes. Challenging assumptions doesn't mean that the status quo isn't working or that it is wrong. It simply encourages thinking about the "why" behind a process or a system. When the answer is "Because it's always been this way," there is an opportunity to question whether a given system or process is serving the organization's needs and to potentially get ahead of a needed change, rather than waiting for a crisis to necessitate change in that system or process.

Encouraging experimentation:

As people in the organization are questioning assumptions, they also should be encouraged to experiment. Creating a culture that supports experimentation, which tolerates failure will encourage people in the organization to continually strive to find new and better ways to do things. This type of experimentation can also help organizations get ahead of changes rather than initiating change as a reaction to a crisis.

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Resisting complacency:

Organizations that remain complacent, rather than keeping a vigilant eye on their environments as well as on evolving technologies, are more likely to be faced with a large, disruptive change. Leaders should take advantage of times when the organization is doing well to encourage people to look for problems and opportunities both inside and outside the organization.

Decentralizing decision making:

To create a culture of change, leaders should encourage ownership of decisions throughout the organization, rather than centralizing all decision making at the top of the organization. This type of empowerment of people within the organization is equally beneficial during a change initiative and when creating a culture of continuous change.