

Chapter 8 – Planning for IT Systems

Information Technology planning – Is the process that uses the goals, strategies, objectives, processes, and information requirements of your organization as a foundation for identifying and selecting which IT system to develop and when to develop them. You document the results from this planning in the **information technology system plan** (IT system plan)

The System planning process involves 5 steps:

1. Aligning organizational goals and IT
 - ⇒ IT Fusion
 - ⇒ Competitive force Model
 - ⇒ Competitive intelligence
2. Identifying specific processes
 - ⇒ Value chain
3. Identifying specific information
 - ⇒ Information architecture
 - ⇒ Critical success factors
 - ⇒ Business Systems planning
4. Evaluating Information Technology systems
 - ⇒ Cost Benefit analysis
 - ⇒ Risk Analysis
 - ⇒ Capital Investment Analysis
5. Planning for what you can't live without
 - ⇒ Information unavailability curve & disaster recovery cost curve
 - ⇒ Information technology systems plan
 - What system to develop
 - When to develop those systems
 - Changes to existing systems
 - Contingency plans for disaster

Aligning Organizational goals and IT – Aligning business and technology goals within an organization. Senior IT manager should be invited to the organizational planning level, thus ensuring IT input when business plan is formulated.

Chief-Information Officer (CIO) is the strategic-level IT manager who directs all IT systems and personnel while communicating directly with the highest levels of the organization.

IT Fusion – Providing customer service with transparent technology (fusing together all parts of business with IT). Occurs when the information technology within your organization is indistinguishable from the business processes and the people who exploit the information technology.

Porter's Competitive Forces Model – A tool to formulate strategy by examining the environment in which your organization competes. There are 5 forces found in most industries.

- ⇒ Customer Force – generated by well-informed buyer, price sensitive buyer, and similar product/service alternatives
- ⇒ Substitute Force – generated by the existence of price-competitive product/service alternatives
- ⇒ Supplier Force – generated by suppliers with necessary, unique products/services and a concentrated supplier market.
- ⇒ New competition Force – generated by low barriers to market entry, nonproprietary products or raw materials, and little government regulation.
- ⇒ Current competition – generated by low brand identity, product/service similarity, slow industry growth, and industry overcapacity.

To use the model, you begin by determining the strength of each force and then look for opportunities to effect beneficial change. The opportunities for changing competitive forces with IT form the basis of a defensive competitive strategy. There are 3 basic strategies.

- ⇒ Low-Cost Producer – produces product or service at the industry's lowest cost to combat competition
- ⇒ Differentiation – produce a product because of its unique characteristics. This strategy reduces the customer and substitute force by reducing competitive alternatives for customers.
- ⇒ Focus – Targets a small market niche for its product or service.

Identifying a strategy simultaneously with the identification of a supporting IT system is recommended to facilitate the alignment of IT with the business.

Competitive Intelligence – Examining what your competition hopes to do and how IT systems support its business strategy. Gathering competitive intelligence provides many other benefits:

- ⇒ Helps anticipate change in customer market
- ⇒ Helps anticipate actions by your competitors
- ⇒ Alerts you on new or potential competitors
- ⇒ Learn from successes or failures of other organizations
- ⇒ Allow you to compare your business processes to others.

Competitive intelligence process consists of four steps:

1. **Planning** – Define the purpose, scope and timing of its competitive intelligence. Continuous competitive intelligence is called **competitive scanning**.
2. **Gathering** – You may gather intelligence directly from the source, called **primary intelligence** (rawest, most unaltered, best source) or you may gather information indirectly from a source other than the primary one called **secondary intelligence** (altered and/or has an opinion added to the primary intelligence)
3. **Analysis** – Apply the knowledge in your field to make sense of the intelligence that has been gathered
4. **Integration** – The analyzed competitive intelligence is integrated into the business and IT goals.

Both IT fusion and competitive intelligence helps your organization define how IT systems can support the organization. It fusion identifies areas for improvement and where business, people, and technology may not be well aligned. Competitive intelligence keeps you in touch with how your customers see the competitive market and focuses your efforts on areas that seem to be successful in the market.

Identifying Specific Processes

Identifying areas of opportunity or need within the business. The business processes are simply the groups of activities that you use to accomplish the organization's work.

Value added chain method – examines how your organization adds value to its products and services. You can see which business processes either add or reduce value for your customers.

Value chain – views the organization as a chain – or series of processes, each of which adds value to the product or service for the customer. The value chain is used to identify the top value-adding processes, as well as the top value-reducing processes. Both of these processes require IT support.

Identifying Specific Information

Three ways of identifying information needs are information architecture, critical success factors, and business systems planning

Information Architecture – describes what information your organization needs and which people within your organization need that information. The architecture should reflect the time, content, and form dimensions of information.

Critical success factor – Is a factor critical to organizational success. Identifying information requires to support CSF's identifies required IT systems. Workers identify a small number of critical success factors for their own area of responsibility.

Business systems planning – Identifies information requirements by documenting the relationships between business processes and information classes. Information classes refer to groupings of related information. The BSP method identifies information ownership and ownership ensures information integrity in those systems.

All of these methods help you identify information needs that require IT systems support.

How to evaluate Information Technology Systems?

There are three ways of evaluating IT systems for development (1) cost-benefit analysis (2) risk analysis (3) capital investment analysis

1. **Cost-Benefit Analysis** – is a process of evaluating IT systems for development by comparing system costs and system benefits.
 - ⇒ System costs can include cost estimates for system development, system operation and maintenance, system adoption at different times in the future, and organizational change requirement
 - ⇒ System Benefits may include **Tangible** benefits which are system benefits that can be monetarily quantified or **Intangible** benefits that cannot be monetarily quantified
2. **Risk Analysis Method – Information technology system risk** is the possibility that a system will not achieve the predicted benefits. It is the probability of success or failure. If system risk is high = good chance of failing to achieve the predicted benefits.
3. **Capital Investment Analysis** – Calculates a quantitative measure of IT system value. It is the most quantitative of the evaluation methods. (Payback method, cost-benefit ratio, Average return on investment etc.)

Contingency Planning

To examine the possibility of losing an IT system and formulating procedures to minimize the damage. Useful methods include information unavailability curve and disaster recovery curve.

- ⇒ Weather related disasters such as floods, hurricanes and blizzards
- ⇒ Earthquake disasters
- ⇒ Loss of system and information access
- ⇒ Technology failure.

Contingency planning – The process of examining the possibilities of losing an IT system and formulating procedures to minimize the damage.

Step 1: Discovering what's really important – identifying the functions and processes that are critical to your business's success. Once identified, you must identify the IT system that supports those functions.

Step 2: How much does it cost to have information unavailable? – Information unavailability cost curve is a depiction of the cost to the organization of the unavailability of information.

Step 3: Balancing cost unavailability with cost recovery – Disaster recovery cost curve is the organizations disaster recovery cost based on how quickly you wish to recover.

Selecting a disaster recovery plan involves comparing the information unavailability cost