

Week 2

Analyzing the **Business Case**

- What is a **business case**?
- How do we **evaluate** whether an IT project would help?
- How to perform **preliminary investigations**?

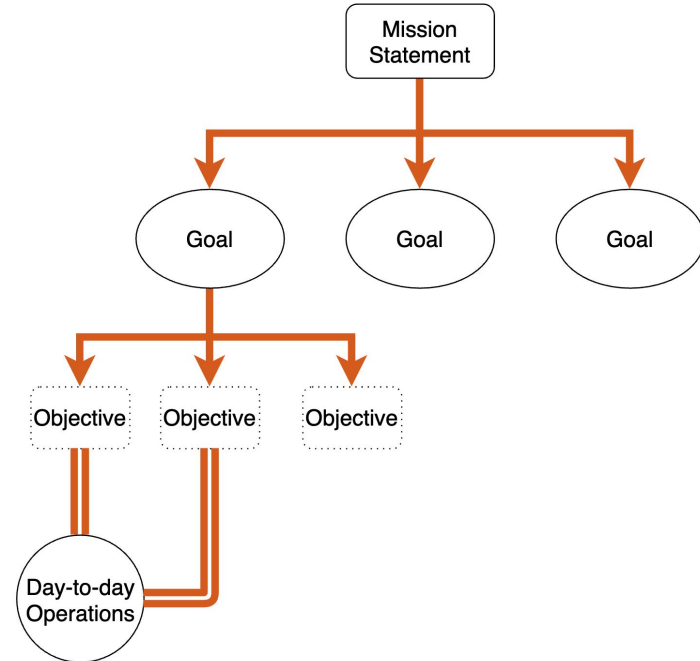
Introduction

- **Business case:** Justification for a proposal
 - Requires consideration of the organization's:
 - Overall mission
 - Objectives
 - IT needs
- Systems development process
 - **Systems request**
 - **Preliminary investigation**
 - Findings are submitted to management

Strategic Planning

- The process of identifying **long-term** organizational goals, strategies, and resources
- Starts with a **mission statement**
 - Must reflect the firm's vision, purpose, and values
- **Critical success factor:** High-priority objective

Strategic Planning Overview



SWOT Analysis

- **S**trengths, **w**eaknesses, **o**pportunities, and **t**hreats
- Examines a firm's technical, human, and financial resources in regards to a specific goal (e.g. expanding web-based online operations)
- The goal of a SWOT analysis is to avoid seeking goals that are unrealistic, unprofitable, or unachievable

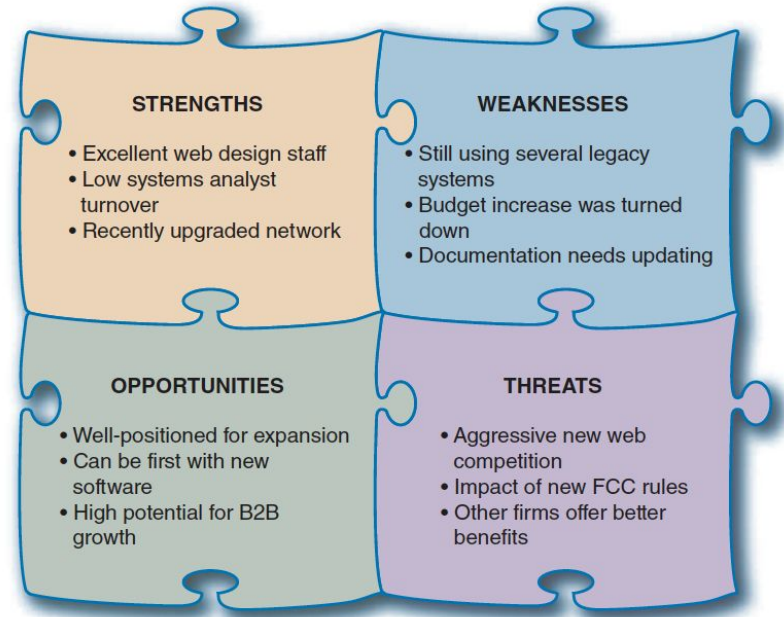


FIGURE 2-1 A SWOT analysis might produce results similar to those shown here.

SWOT Example

SWOT analysis could focus on a product, project, and operating division, the entire company, or the mission statement itself!

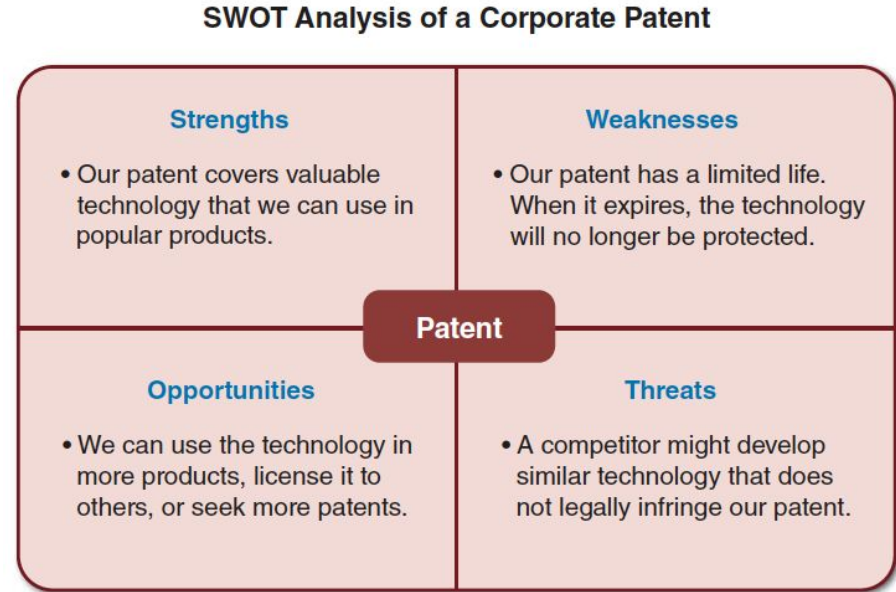


FIGURE 2-2 This SWOT analysis example focuses on a specific asset: a company patent.

There is no standard approach to strategic planning. Mission statements produce goals that can be analyzed using SWOT to make sure they are **achievable** and consistent with real-world conditions.

The Role of the IT Department

- Careful **planning** can help assure that:
 - The project supports overall business strategy and operational needs
 - The project scope is well-defined and clearly stated
 - The project goals are realistic, and tied to specific statements, assumptions, constraints, factors, and other inputs
- Management and IT should be closely linked during the planning process.
- Today, systems development is much more team-oriented
 - Some companies still see the IT department as a gatekeeper, responsible for **screening and evaluating** systems requests
 - Larger firms may use an evaluation team or systems review committee

Strategic Planning Tools

- Many organizations still rely on IT people to suggest tools for strategic planning.
- Various tools
 - Traditional text-based tools: e.g. MS Word
 - Spreadsheets
 - CASE tools: e.g. [Road Mapping Software](#)
 - Techniques: mind maps, balanced scoreboards, gap analysis

What Is a Business Case?

- A business case should:
 - Be **comprehensive** and **easy to understand**
 - **Describe** the project clearly, provide the **justification** to proceed, and **estimate** the project's financial impact
- Questions answered by a business case
 - **Why** are we doing this project?
 - How much will it **cost** and **how long** will it take?
 - Are there any **risks** involved?
 - How will we measure **success**?
 - What **alternatives** exist?

Information Systems Projects

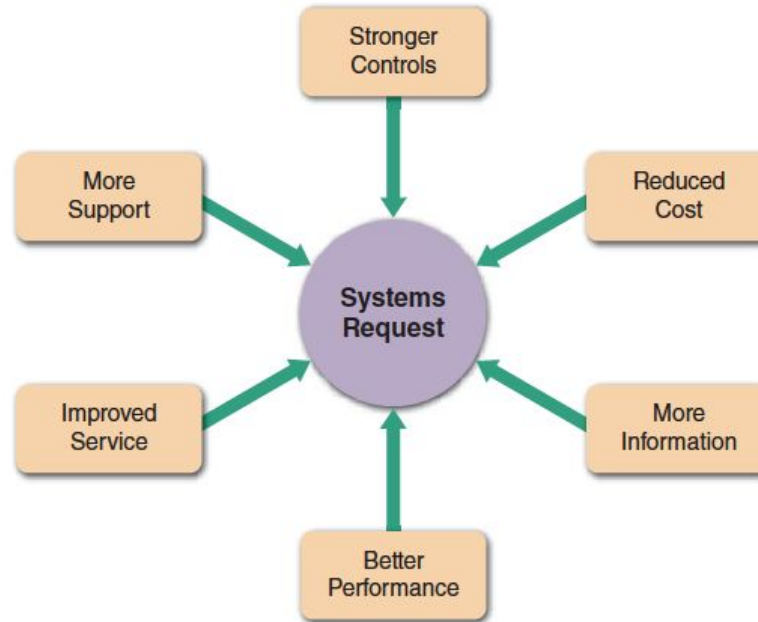


FIGURE 2-4 Six main reasons for systems requests.

Internal & External Factors

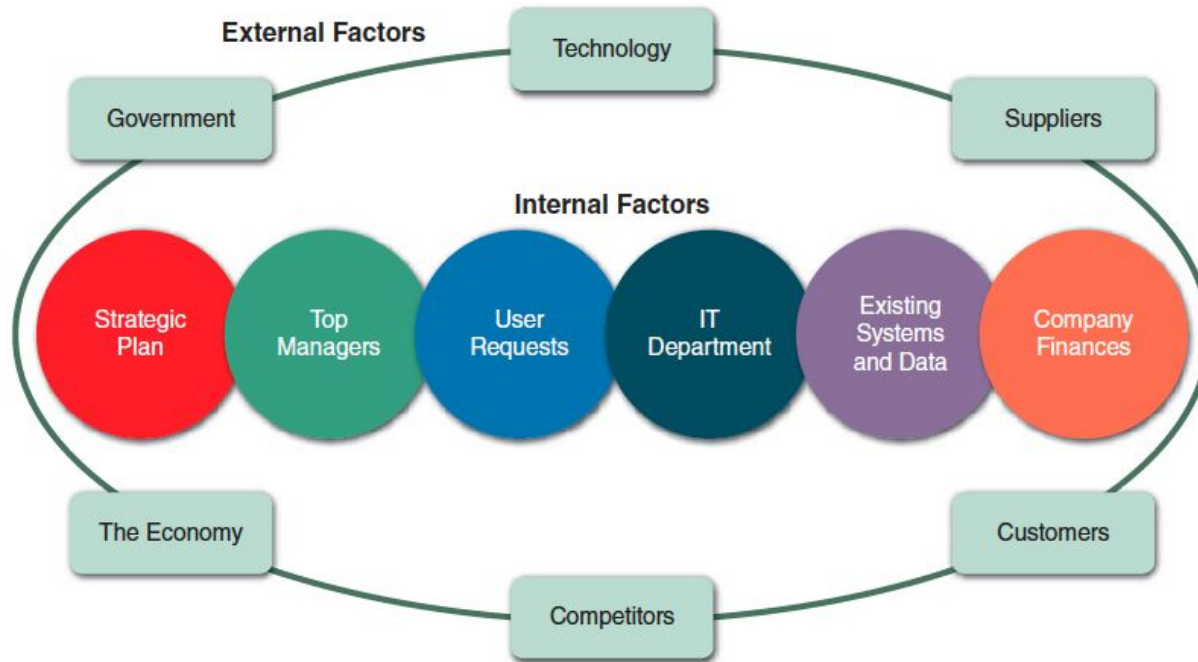


FIGURE 2-6 Internal and external factors that affect IT projects.

Evaluation of Systems Requests

- Systems requests are evaluated by a **systems review committee** or a **computer resources committee**
- **Systems Request Forms**
 - Streamline the request process
 - Ensure consistency
 - Easy to understand
 - Include clear instructions
 - Indicate the required supporting documents
 - Submitted electronically

System Request Form Example

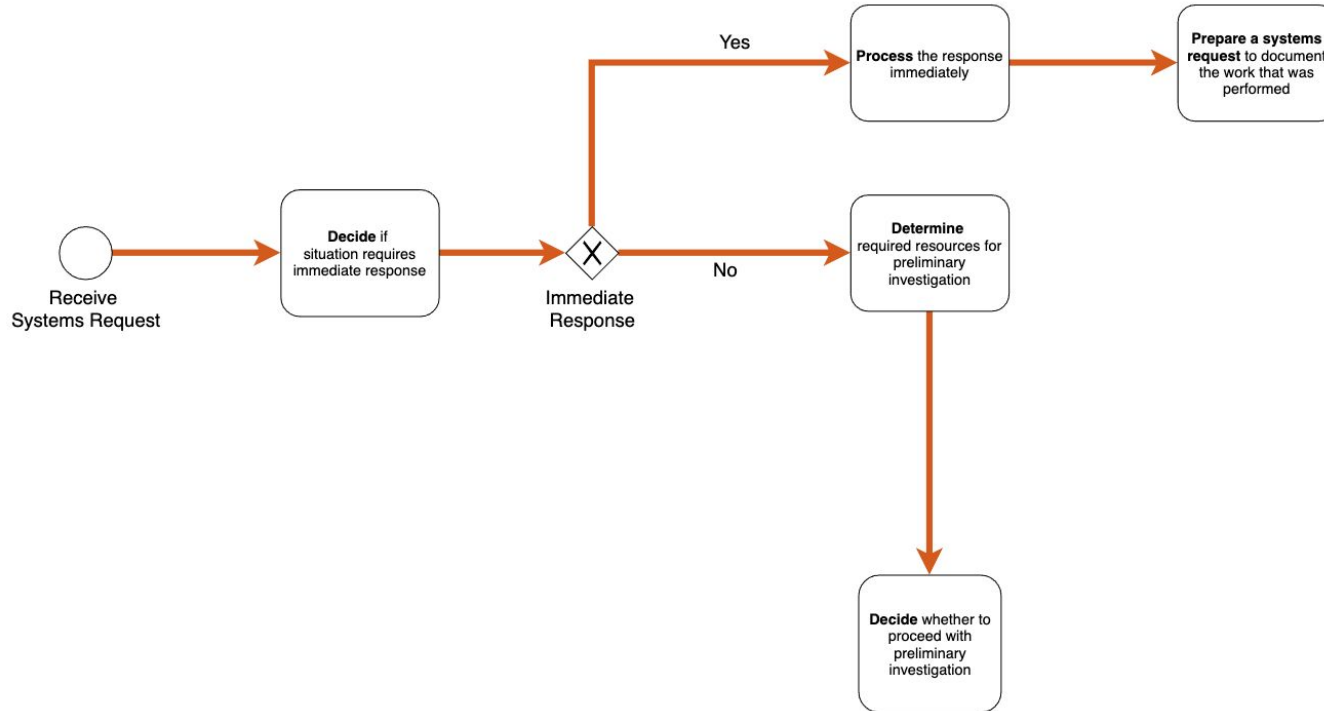
The image shows a web form titled "Tech Support Request System" with the Florida Institute of Technology logo. The form is titled "Submit Request" and contains the following fields:

- First Name:
- Last Name:
- Telephone:
- Email-ID:
- Describe the problem: (Maximum of 4000 characters)
- Date critical: ☐ Yes ☒ No
-

FIGURE 2-10 Example of an online systems request form.

Source: Florida Institute of Technology

Processing Systems Requests



Systems Review Committee

- A broader viewpoint enables a committee to establish priorities more effectively than an individual
 - One person's bias is less likely to affect decisions
- Disadvantages
 - Action on requests must wait until the committee meets
 - Members might favor projects requested by their own departments
 - Internal political differences could delay important decisions

Feasibility

- Feasibility studies can be simple or exhaustive
- Effort required depends on the nature of the request
- Initial **fact-finding** involves:
 - Studying organizational charts
 - Performing interviews
 - Reviewing current documentation
 - Observing operations
 - Surveying users

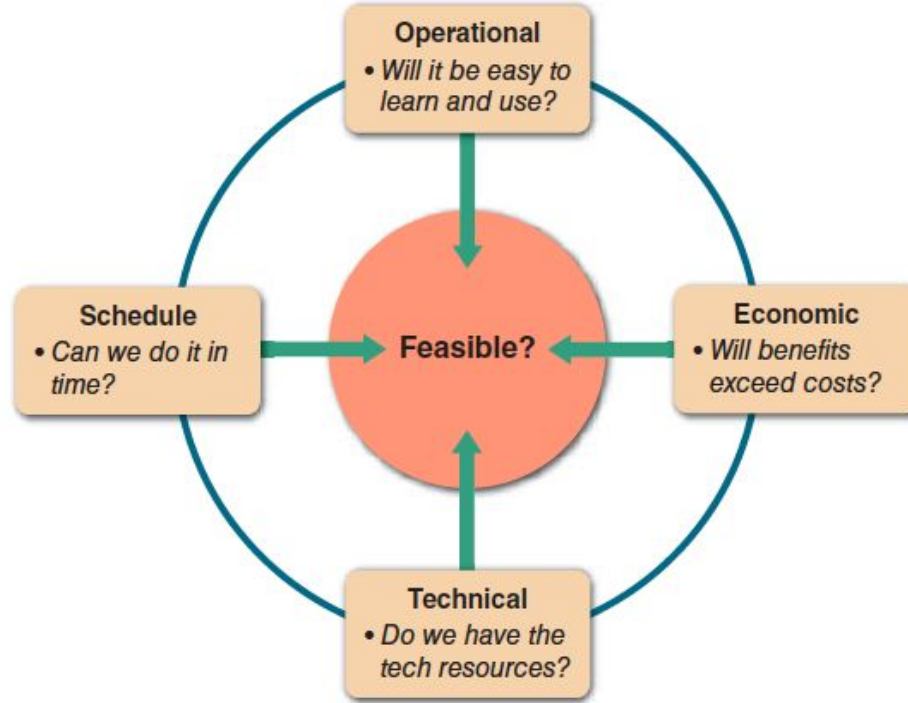


FIGURE 2-11 A feasibility study examines operational, technical, economic, and schedule factors.

Operational Feasibility

- A proposed system will be used effectively after it has been developed
 - Can be affected by organizational culture
 - Cannot be accurately measured but requires careful study
- Questions that can help predict a system's operational feasibility
 - Is the project supported by management and users?
 - Will the new system result in a workforce reduction?
 - Do legal or ethical issues need to be considered?

Economic Feasibility

- Projected benefits of a proposed system out-weigh **total cost of ownership (TCO)**
- Determination of TCO requires cost analysis of:
 - People, including IT staff and users
 - Hardware and equipment
 - Software
 - Formal and informal training
 - Licenses and fees
 - Consulting expenses
 - Facility costs

Costs & benefits

- **Tangible costs** are measured in dollars
- **Intangible costs** can significantly affect organizational performance
- **Tangible benefits** can result from a decrease in expenses or an increase in revenues
- **Intangible benefits** are important to the company despite the inability to measure them in dollars

Technical Feasibility

- Technical resources required to acquire and use the system
- Questions analysts should ask
 - Does the company have the necessary hardware, software, and network resources?
 - Does the company have the required technical expertise?
 - Does the proposed platform have sufficient capacity for future needs?
 - Will a prototype be required?

Schedule Feasibility

- A project can be implemented in an acceptable time frame
- Issues that can affect schedule feasibility
 - Interaction between time and costs
 - Can the company or the IT team control the factors that affect schedule feasibility?
 - Has management established a firm timetable for the project?
 - What conditions must be satisfied during the development of the system?
 - Will an accelerated schedule pose any risks?

Evaluating Feasibility

- Identify and weed out systems requests that are not feasible
 - Some feasible requests may not be necessary
- Requests that are not currently feasible can be resubmitted as new hardware, software, or expertise becomes available

Setting Priorities

Factors that Affect Priority

- Will the proposed system reduce costs?
- Will the system increase revenue for the company?
- Will the systems project result in more information or produce better results?
- Will the system serve customers better?
- Will the system serve the organization better?
- Can the project be implemented in a reasonable time period?
- Are the necessary financial, human, and technical resources available?

Discretionary and Nondiscretionary Projects

- **Discretionary projects:** Projects where management has a choice in implementing them
- **Nondiscretionary projects:** Management has no choice in implementing a project
 - Most of these projects are predictable
 - Annual updates to payroll
 - Tax percentages
 - Quarterly changes

Preliminary Investigation

Interaction with Managers and Users

- Meet with key managers, users, and IT staff to describe the project, explain responsibilities, answer questions, and invite comments
- Focus on improvements and enhancements, not problems

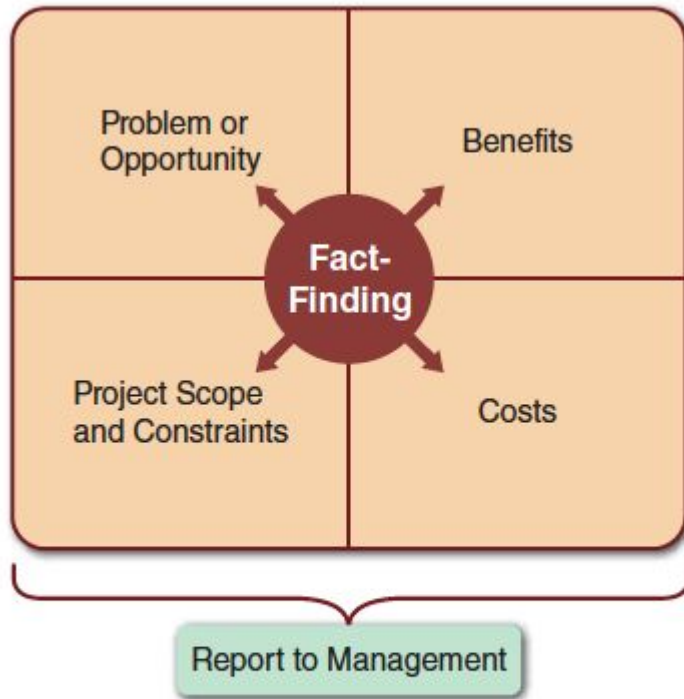


FIGURE 2-12 Model of a preliminary investigation. Note the importance of fact-finding in each of the four areas.

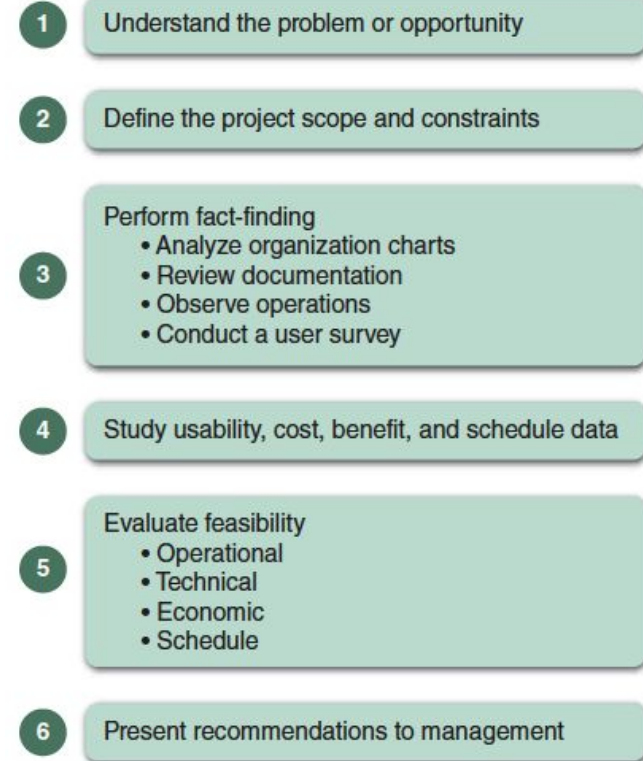


FIGURE 2-13 Six main steps in a typical preliminary investigation.

Planning the Preliminary Investigation

- Step 1- Understand the problem or opportunity
 - Develop a business profile that describes current business processes and functions
 - Understand how modifications will affect business operations and other information systems
 - Identify the departments, users, and business processes involved
 - Consider using a **fishbone diagram**

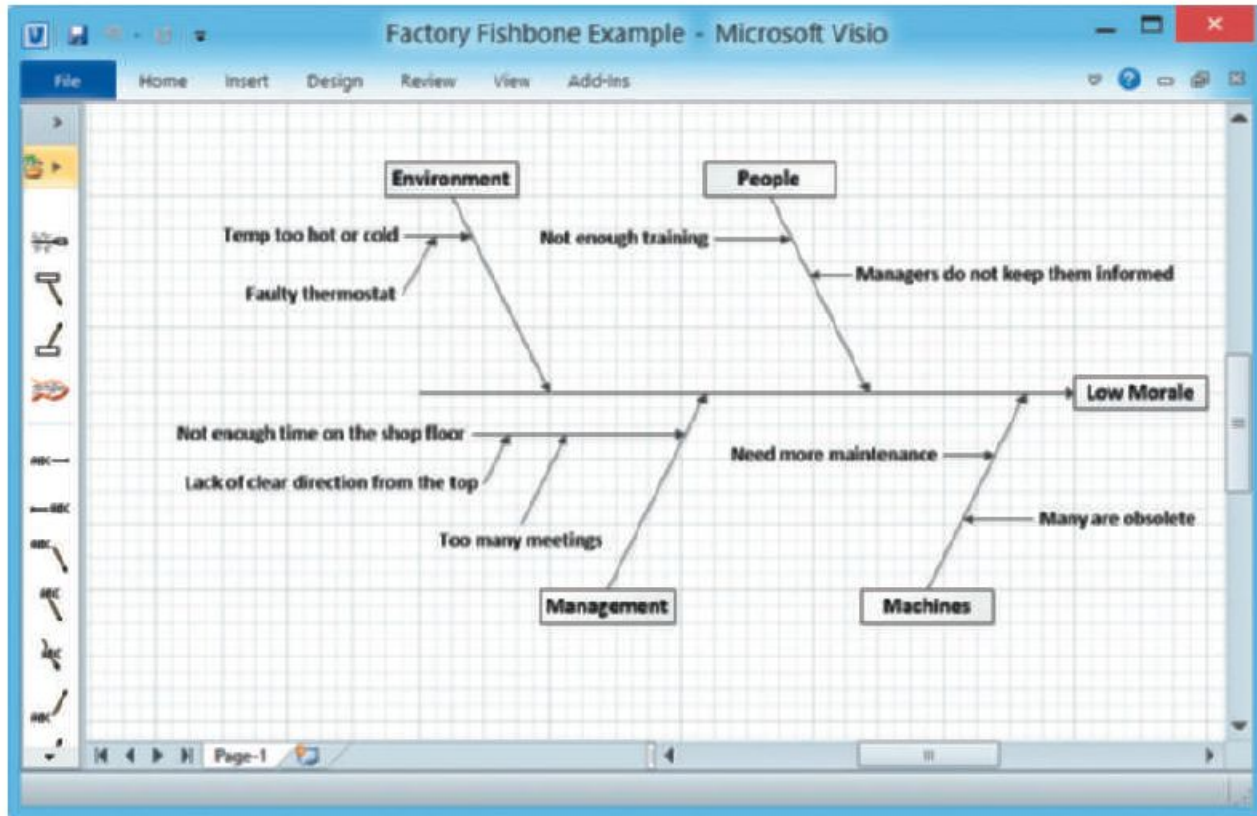


FIGURE 2-14 A fishbone diagram displays the causes of a problem. Typically, you must dig deeper to identify actual causes rather than just symptoms.

Planning the Preliminary Investigation

- Step 2 - Define the project scope and constraints
 - Define the specific boundaries, or extent, of the project
 - Define project scope by creating a list with sections called must do, should do, could do, and won't do
 - Avoid project creep
 - **Project creep:** Process by which projects with very general scope definitions expand gradually, without specific authorization
 - Identify constraints
 - **Constraint:** A requirement or condition that the system must satisfy or an outcome that the system must achieve

Sample Constraints Shown by Timing, Type, and Urgency

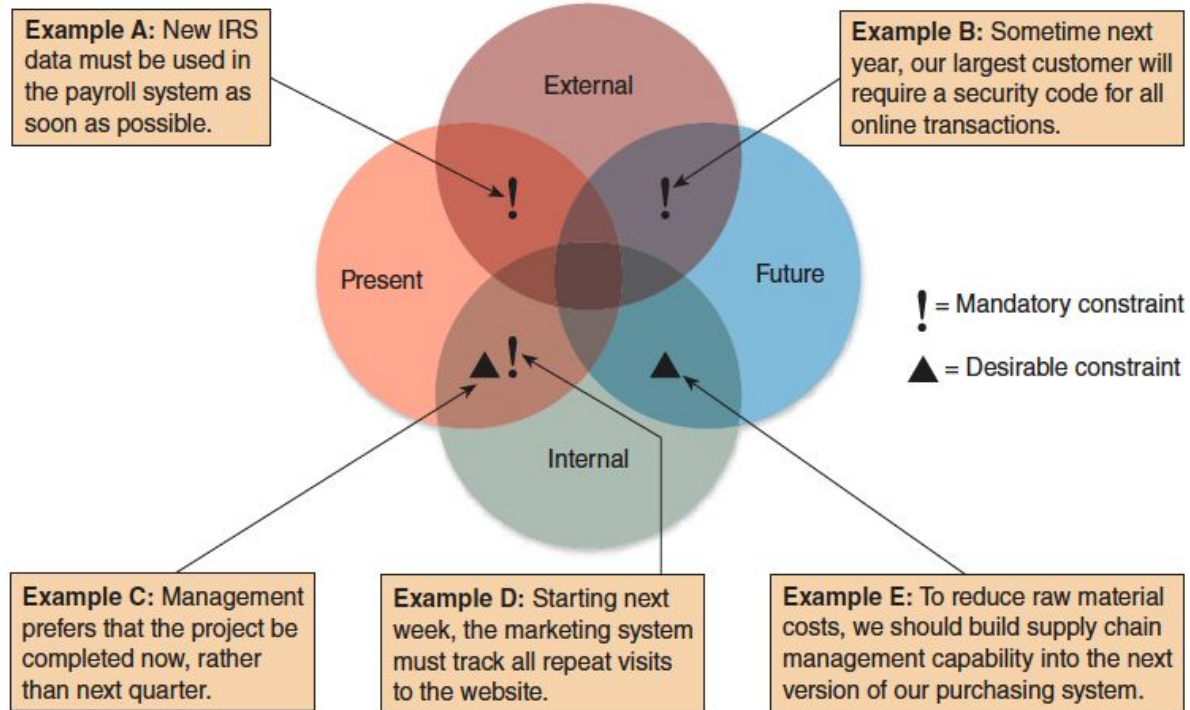


FIGURE 2-15 Examples of various types of constraints.

Planning the Preliminary Investigation

- Step 3 - Perform fact-finding
 - Gather data about project usability, costs, benefits, and schedules
 - Analyze organization charts, conduct interviews, review documentation, observe operations, and conduct a user survey
 - Analyze the data
 - **Pareto chart**
 - **XY chart (scatter diagram)**

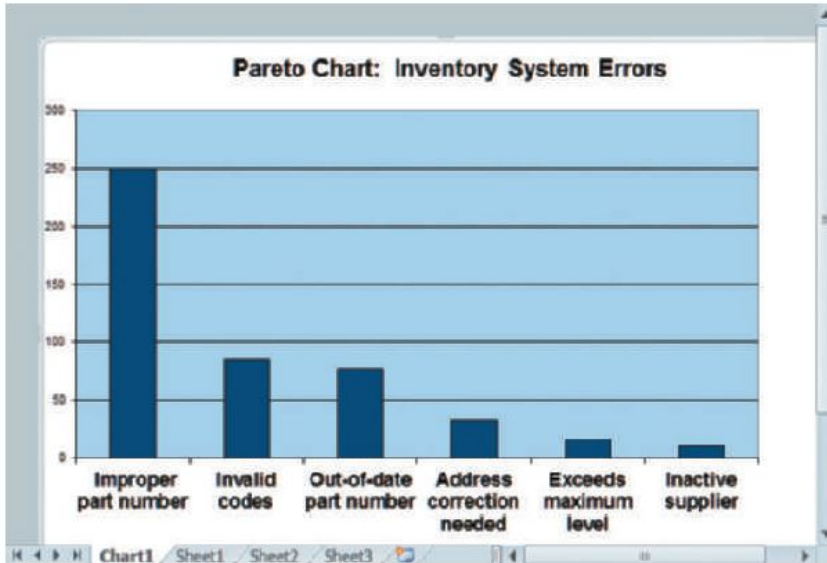


FIGURE 2-17 A Pareto chart displays the causes of a problem, in priority order, so an analyst can tackle the most important cases first. In this example, the part number issue would be the obvious starting point.

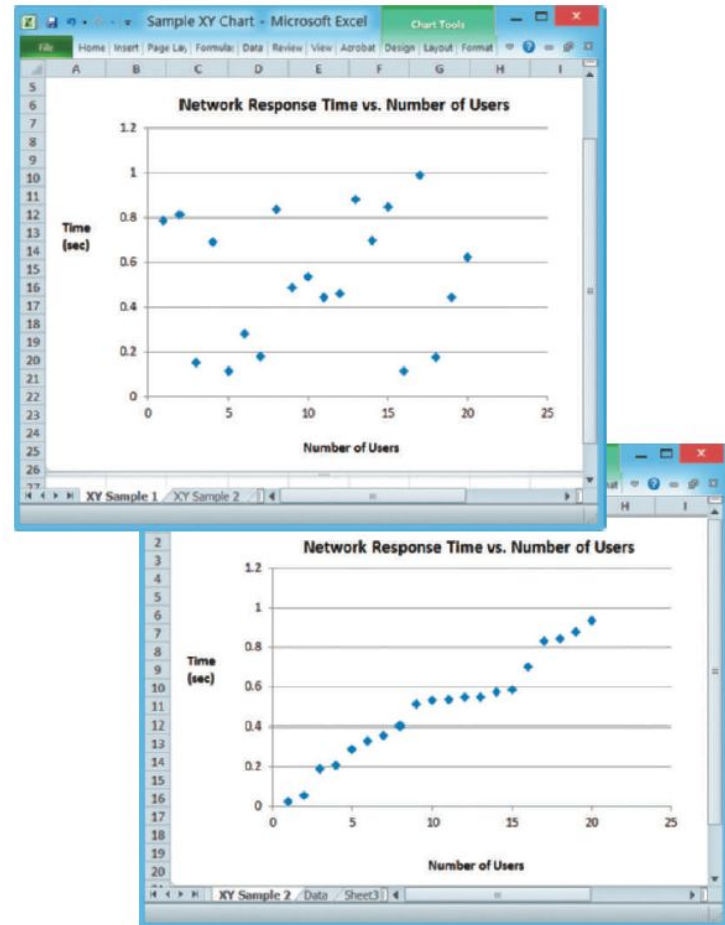


FIGURE 2-18 An XY chart shows correlation between variables, which is very important in problem solving. Conversely, a lack of correlation suggests that the variables are independent and that you should look elsewhere for the cause.

Planning the Preliminary Investigation

- Step 4 - Analyze project usability, cost, benefit, and schedule data
 - Factors to consider
 - What information must be obtained, and how will it be gathered and analyzed?
 - Who will conduct the interviews? How many people will be interviewed?
 - Will a survey be conducted? Who will be involved? How much time will it take to tabulate the results?
 - How much will it cost to analyze the information and prepare a report with findings and recommendations?

Planning the Preliminary Investigation

- Step 5 - Evaluate feasibility
 - Operational feasibility
 - Technical feasibility
 - Economic feasibility
 - Schedule feasibility

Planning the Preliminary Investigation

- Step 6 - Present results and recommendations to management
 - Prepare a report that includes:
 - An evaluation of the systems request
 - An estimate of costs and benefits
 - A **case for action**
 - Format of a report
 - Introduction
 - Systems request summary
 - Findings
 - Recommendations
 - Project roles
 - Time and costs estimates
 - Expected benefits
 - Appendix

Summary

- Systems planning is the first phase of the systems development life cycle
- A business case should:
 - Describe the project clearly
 - Provide the justification to proceed
 - Estimate the project's financial impact
- Factors that affect systems projects
 - User requests, top management directives, existing systems, the IT department, software and hardware vendors, technology, customers, competitors, the economy, and government

Summary

- Analysts evaluate the systems request and determine whether the project is feasible from an operational, technical, economic, and schedule standpoint
- Steps in the preliminary investigation
 - Understand the problem or opportunity
 - Define the project scope and constraints
 - Perform fact-finding and analyze project usability, cost, benefit, and schedule data
 - Evaluate feasibility and present results and recommendations to management