IT PROJECT MANAGEMENT

Muhammad Hamza Ihtisham

Ice Breaker Activity: Describe a project they managed

Popular project management approaches

Waterfall is a traditional methodology in which tasks and phases are completed in a linear, sequential manner, and each stage of the project must be completed before the next begins. The project manager is responsible for prioritizing and assigning tasks to team members. In Waterfall, the criteria used to measure quality is clearly defined at the beginning of the project.

Agile involves short phases of collaborative, iterative work with frequent testing and regularly-implemented improvements. Some phases and tasks happen at the same time as others. In Agile projects, teams share responsibility for managing their own work. Scrum and Kanban are examples of Agile frameworks, which are specific development approaches based on the Agile philosophy.

Scrum is an Agile framework that focuses on **developing, delivering, and sustaining complex projects and products through collaboration, accountability, and an iterative process**. Work is completed by small, cross-functional teams led by a Scrum Master and is divided into short Sprints with a set list of deliverables.

Kanban is both an Agile approach and a tool that provides visual feedback about the status of the work in progress using Kanban boards or charts. With Kanban, project managers use sticky notes or note cards on a physical or digital Kanban board to represent the team's tasks with categories like "**To do," "In progress," and "Done."**

Popular project management approaches

Lean uses the 5S quality tool to eliminate eight areas of waste, save money, improve quality, and streamline processes. Lean's principles state that you can do more with less by addressing dysfunctions that create waste. Lean implements a Kanban scheduling system to manage production.

Six Sigma involves reducing variations by ensuring that quality processes are followed every time. The Six Sigma method follows a process-improvement approach called DMAIC, which stands for define, measure, analyze, improve, and control.

Lean Six Sigma is a combination of Lean and Six Sigma approaches. It is often used in projects that aim to save money, improve quality, and move through processes quickly. Lean Six Sigma is also ideal for solving complex or high-risk problems. The 5S quality tool, the DMAIC process, and the use of Kanban boards are all components of this approach.

Comparing Waterfall and Agile approaches

- Now that you know more about some of the different approaches and frameworks associated with project management, let's compare specific aspects of Waterfall (also commonly called traditional) and Agile approaches.

	Waterfall	Agile
Project manager's role	Project manager serves as an active leader by prioritizing and assigning tasks to team members.	Agile project manager (or Scrum Master) acts primarily as a facilitator, removing any barriers the team faces. Team shares more responsibility in managing their own work.
Scope	Project deliverables and plans are well-established and documented in the early stages of initiating and planning. Changes go through a formal change request process.	Planning happens in shorter iterations and focuses on delivering value quickly. Subsequent iterations are adjusted in response to feedback or unforeseen issues.
Schedule	Follows a mostly linear path through the initiating, planning, executing, and closing phases of the project.	Time is organized into phases called Sprints. Each Sprint has a defined duration, with a set list of deliverables planned at the start of the Sprint.

Comparing Waterfall and Agile approaches

	Waterfall	Agile
Cost	Costs are kept under control by careful estimation up front and close monitoring throughout the life cycle of the project.	Costs and schedule could change with each iteration.
Quality	Project manager makes plans and clearly defines criteria to measure quality at the beginning of the project.	Team solicits ongoing stakeholder input and user feedback by testing products in the field and regularly implementing improvements.
Communication	Project manager continually communicates progress toward milestones and other key indicators to stakeholders, ensuring that the project is on track to meet the customer's expectations.	Team is customer-focused, with consistent communication between users and the project team.
Stakeholders	Project manager continually manages and monitors stakeholder engagement to ensure the project is on track.	Team frequently provides deliverables to stakeholders throughout the project. Progress toward milestones is dependent upon stakeholder feedback.

SMART goals: Making goals meaningful

- **Specific:** The objective has no ambiguity for the project team to misinterpret.
- **Measurable:** Metrics help the project team determine when the objective is met.
- **Attainable:** The project team agrees the objective is realistic.
- **Relevant:** The goal fits the organization's strategic plan and supports the project charter.
- **Time-bound:** The project team documents a date to achieve the goal.

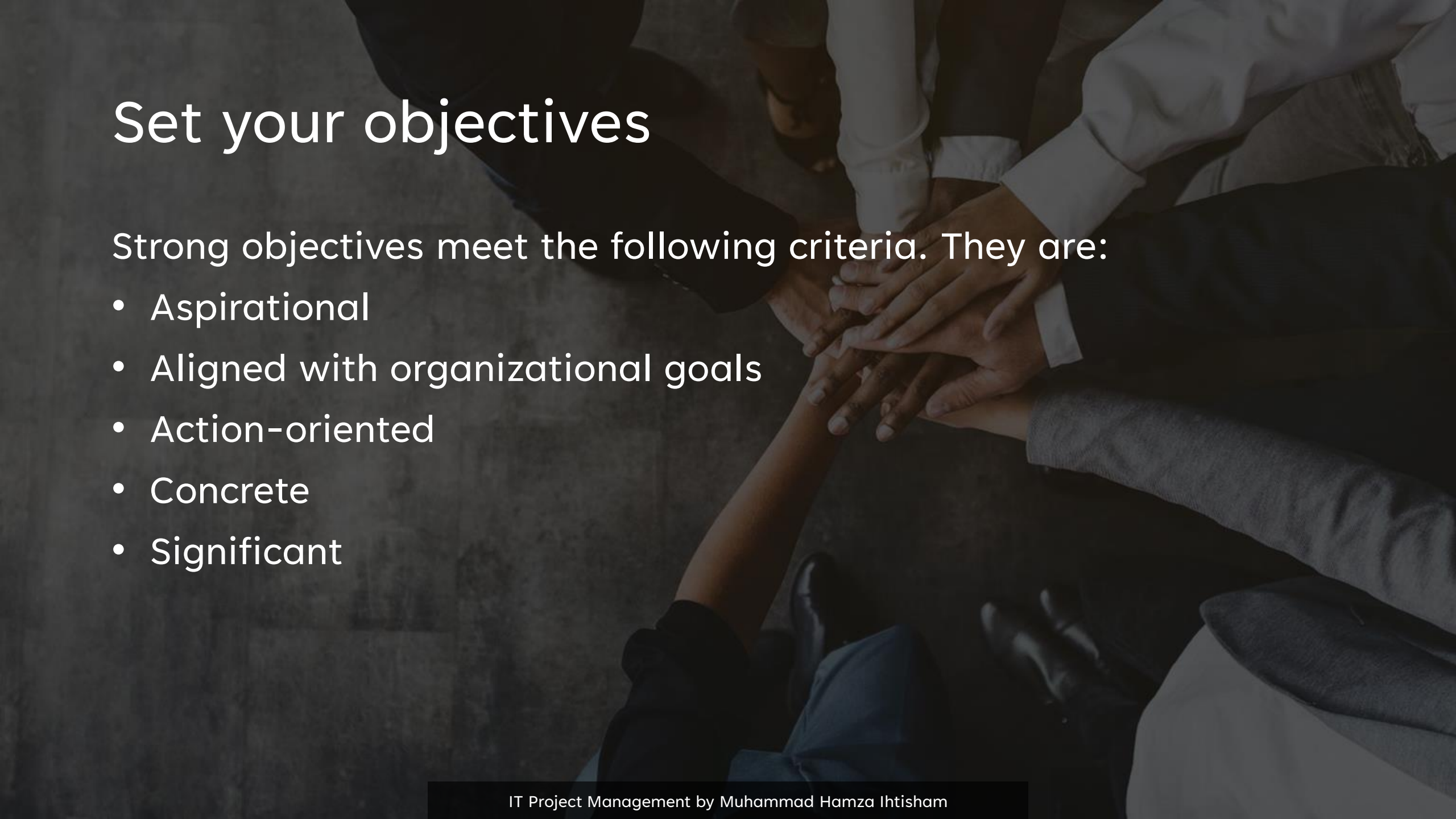
Creating OKRs for your project

- OKR stands for objectives and key results. They combine a goal and a metric to determine a measurable outcome.

Objectives	Key Results
Defines what needs to be achieved	The measurable outcomes that objectively define when the objective has been met
Describes a desired outcome	

Set your objectives: Examples

Build	Improve	Provide	Make	Increase	Achieve
Build the most secure data security software	Continuously improve web analytics and conversions	Provide a top-performing service	Make a universally-available app	Increase market reach	Achieve top sales among competitors in the region



Set your objectives

Strong objectives meet the following criteria. They are:

- Aspirational
- Aligned with organizational goals
- Action-oriented
- Concrete
- Significant

Set your objectives

To help shape each objective, ask yourself and your team:

- Does the objective help in achieving the project’s overall goals?
- Does the objective align with company and departmental OKRs?
- Is the objective inspiring and motivational?
- Will achieving the objective make a significant impact?

Develop key results

Key results should be time-bound.

They can be used to indicate the amount of progress to achieve within a shorter period or to define whether you've met your objective at the end of the project.

They should also challenge you and your team to stretch yourselves to achieve more.

Examples:

- X% new signups within first quarter post launch
- Increase advertiser spend by X%
- New feature adoption is at least X%
- Maximum 2 critical bugs are reported by customers per Sprint
- Maintain newsletter unsubscribe rate at X%

Strong key results meet the following criteria:

- Results-oriented—not a task
- Measurable and verifiable
- Specific and time-bound
- Aggressive yet realistic

To help shape your key results

What does success mean?

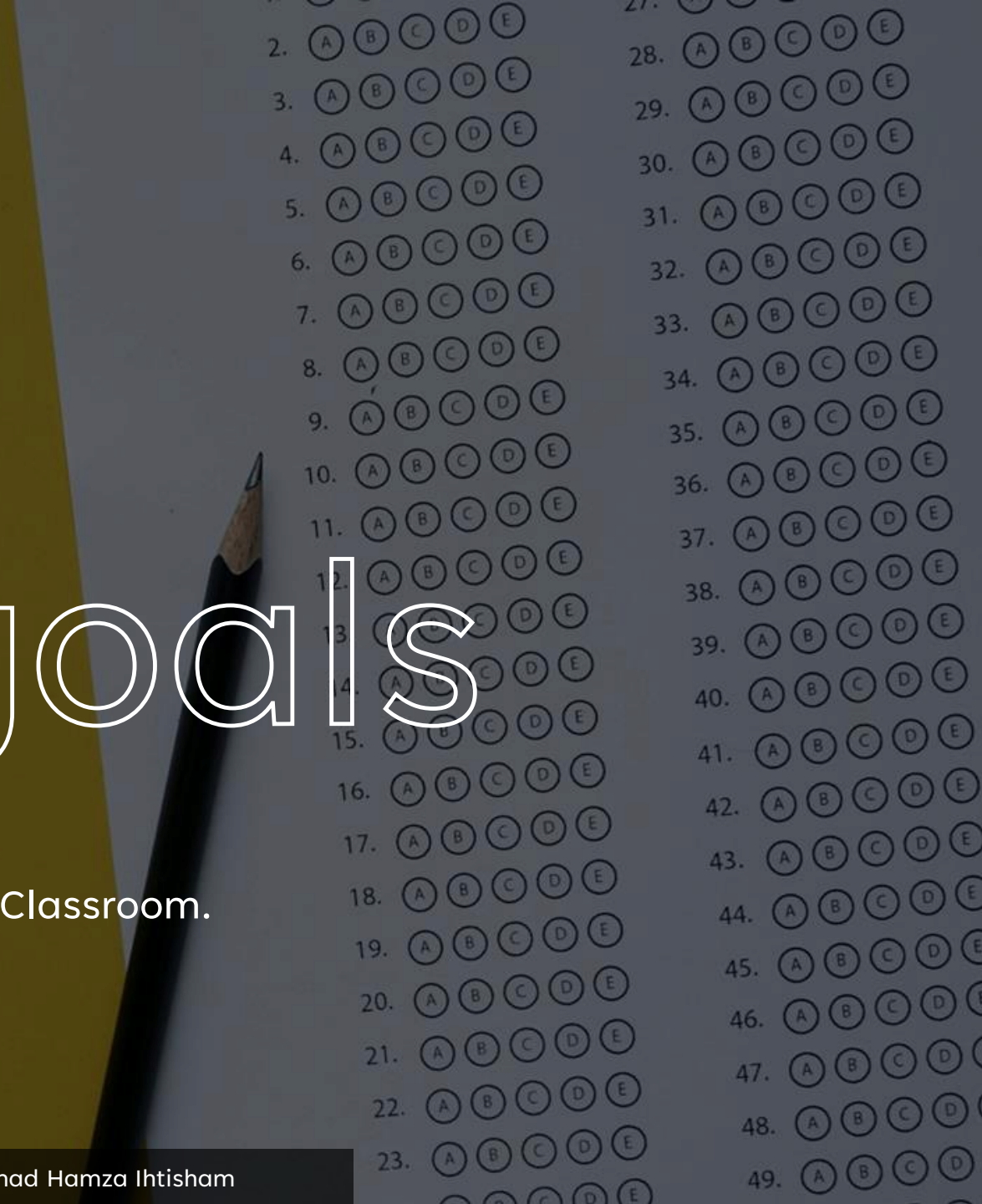
What metrics would prove that we’ve successfully achieved the objective?

OKRs v/s SMART goals

Assignment # 1

Submission Date: 17th September 2025 via Google Classroom.

Max 2 Pages.



Chapter 2: Initiating a Software Project

Identifying the Project Purpose

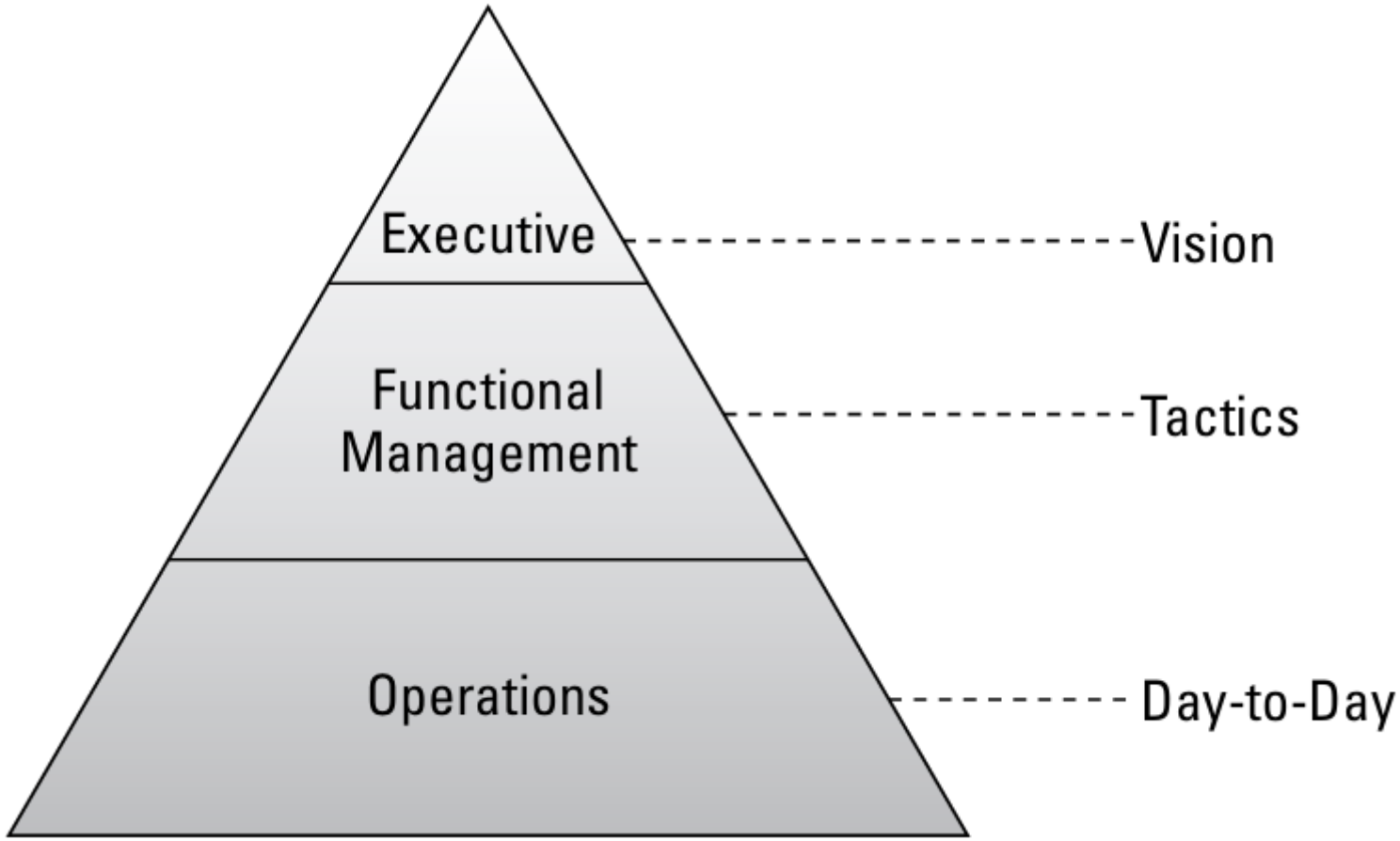
- **Why is the project being initiated?** You first have to know the project purpose.
- **Does everyone agree on this purpose and goals?** There must be consensus on what the project will create. There must be consensus on the goals of the project. If not, you can count on trouble before the project is complete.

Talking to the stakeholders

- **What are the factors for completion?** You should ask this key question far in advance of starting the project work. As a project manager you need to know what the project will accomplish and be able to plan how to get there.
- **What is the goal of this project?** Knowing the project's goal helps you and the team plan. For some projects, the goal will be to win new customers, or to make internal processes more efficient, or to solve a problem.
- **What are the areas of the organization that this project will affect?** The answer to this question tells you who you need to communicate with. It also brings to attention that there may be stakeholders who aren't attending meetings and should be. Although it's easy to identify the end-users of your software, there may be "hidden stakeholders" to consider accounting, security personnel, government agencies, a training team, and so on.

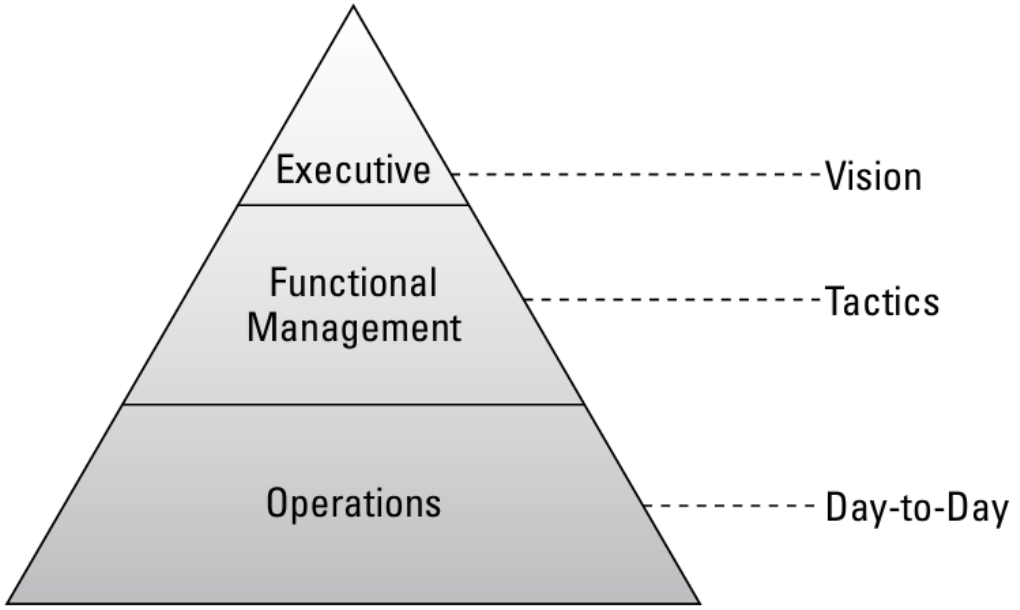
Talking to the stakeholders

- **What is the project priority?** Chances are good you'll be managing more than one project at a time, and there are equal chances that your project team members will be on multiple projects as well. When you consider these odds it's best to know your priorities so you know where to spend your energy.
- **What is the accepted range of variance?** The range of variance is the +/– value associated with the budget and the schedule.


Executive
Vision
Functional
Management
Tactics
Operations
Day-to-Day

Discussing high-level stuff with the executives

- What are the factors for project success?
- What's your vision for the project result?
- What's more important, time or budget?
- What risks do you anticipate for this project's success?



Playing nice with functional management

- What are the factors for project success?
- Are there scheduling issues that will affect the project's end date?
- What resources are available for the software creation?
- What departments and customers will need to interact?
- How will the project team be assembled?
- Do you have a preset budget in mind for the project?
- What risks do you see for this project?

Having a chat with operations

- What are the factors for project success?
- How will the software be used?
- What other software projects are you working on now?
- What immediate risks do you see in the project?
- Who has the experience to get this done?
- Do we need training to create this software?
- What areas of the project are you dreading?

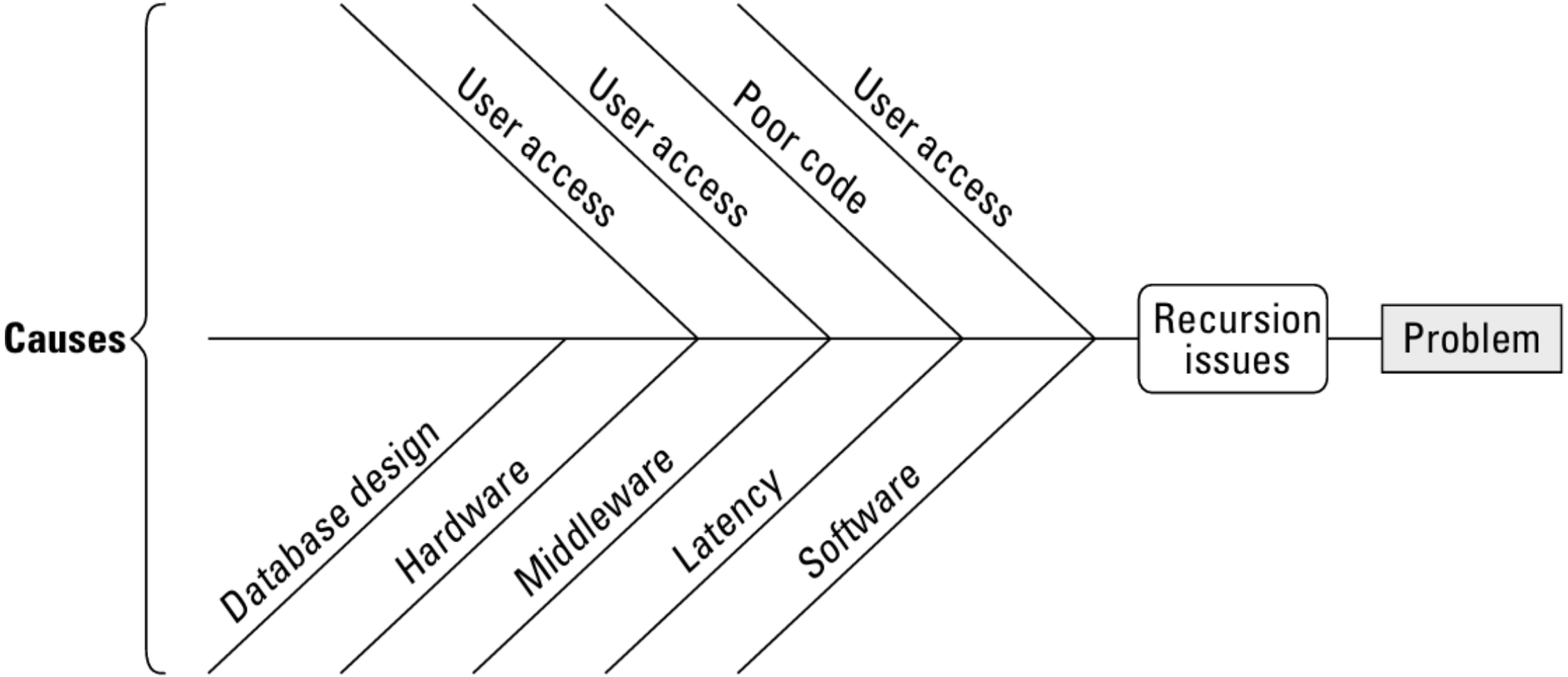
Reaching project consensus

- **Conduct interviews:** This is fundamental business. You and the key stakeholders must meet several times before the project work begins so that you can discuss the project goals and determine whether both par ties are in agreement to the project deliverables.

- **Do root cause analysis:** We know this sounds like a procedure a dentist does just before saying, “Well, I’ve got some bad news,” but root cause analysis is actually pretty cool. If your project is to create software that solves the problem of multiple databases and recursion issues, a root cause analysis can help you design a solution by examining potential causes to specific problems.

- **Do business analysis**: Some organizations use a business analyst to serve as the liaison between the project manager and the key stakeholders. A business analyst can lighten the burden of the project manager by gathering and prioritizing the project needs for the project manager and the key stakeholders.

- **Walk a mile in the stakeholders’ shoes:** Sometimes the easiest approach to reaching consensus is to experience the pain the project customer is experiencing.


Causes
User access
User access
Poor code
User access
Database design
Hardware
Middleware
Latency
Software
Recursion issues
Problem