LECTURE 3

FRAMEWORK FOR PROJECT MANAGEMENT. PROJECT SCOPE.

CONTENT

Institutes

the Project Management Institute (PMI),
the United States, 1969

the International Project Management Association (IPMA), Switzerland.

A GUIDE TO THE PROJECT MANAGEMENT BODY OF KNOWLEDGE

Goal - to help keep project management terms and concepts clear and consistent

Issues: 1987, 1996, 2000, 2004, 2009, 2013.

2017 – PMBOK Guide, Sixth Edition. The sixth edition added several topics and included agile practices for the first time.

2021 – PMBOK Guide, Seventh Edition. The seventh edition presents major structural changes, such as replacing the 10 knowledge areas with 12 principles and including agile practices more comprehensively.

Project Management Institute.

GLOBAL STANDARD

A Guide to the Project Management Body of Knowledge

PMBOK® GUIDE

Seventh Edition

AND The Standard for Project Management

ANSI/PMI 99-001-2021
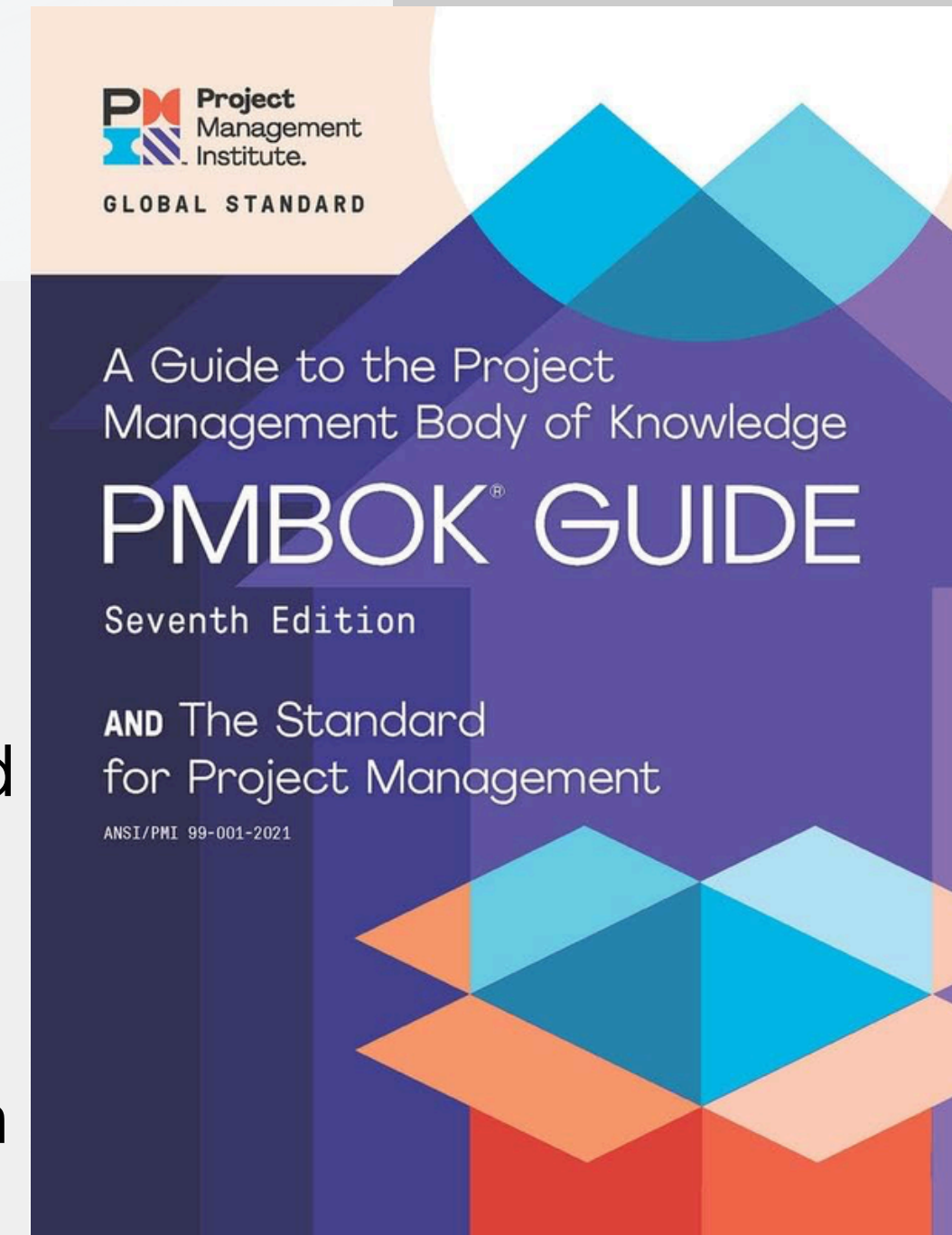
10 knowledge areas of PMBOK

1. Managing integration. Developing the project charter, scope statement, and plan to direct, manage, monitor, and control project change.

2. Managing scope. Planning, definition, WBS creation, verification, and control.

3. Managing time/schedule. Definition, sequencing, resource and duration estimating, schedule development, and schedule control.

10 knowledge areas of PMBOK

4. Managing costs. Resource planning, cost estimating, budgeting, and control.

5. Managing quality. Quality planning, quality assurance, and quality control.

6. Managing human resources. Human resources planning, hiring, and developing and managing a project team.

7. Managing communication. Communications planning, information distribution, performance reporting, and stakeholder management.

10 knowledge areas of PMBOK

8. Managing risk. Risk planning and identification, risk analysis (qualitative and quantitative), risk response (action) planning, and risk monitoring and control.

9. Managing procurement. Acquisition and contracting plans, sellers' responses and selections, contract administration, and contract closure.

10. Managing stakeholders. Identifying stakeholders, their interest level, and their potential to influence the project; and managing and controlling the relationships and communications between stakeholders and the project.

PROJECT MANAGEMENT KNOWLEDGE AREAS

Building a plan for executing the project based on the project profile

1.PROJECT START-UP AND INTEGRATION

Defining what work will be accomplished by the end of the project—the deliverables

2. PROJECT SCOPE

The development and management of a project schedule that will complete the project on time

3. PROJECT SCHEDULE AND TIME MANAGEMENT

PROJECT MANAGEMENT KNOWLEDGE AREAS

Developing and controlling a project budget to accomplish the project objectives

4.PROJECT COSTS

Documenting quality specifications and expectations

5. PROJECT QUALITY

Staffing the project with the right skills, at the right place, and at the right time

6. HUMAN RESOURCES AND COMMUNICATIONS

PROJECT MANAGEMENT KNOWLEDGE AREAS

Identifying potential project risks and developing a risk mitigation plan

7.PROJECT RISKS

Building and implementing a project procurement plan

8. PROJECT PROCUREMENT

Creating of a stakeholder management plan

9. PROJECT STAKEHOLDER MANAGEMENT

PROJECT SCOPE MANAGEMENT

- **Project scope planning** is concerned with the definition of all the work needed to successfully meet the project objectives.
- **Deliverables** are the output of each development phase, described in a quantifiable way.
- They are tangible outcomes, measurable results, or specific items that must be produced to consider either the project or the project phase completed.

- **A requirement** is an objective that must be met. Requirements answer the following questions regarding the as-is (current) and to-be (future) states of the business: who, what, where, when, how much, and how does a business process work?
- They can be divided into **six basic categories:** functional, non-functional, technical, business, user, and regulatory requirements.

An Example of Requirements. Automated teller machines (ATMs)

- *Functional:* The system will enable the user to select whether or not to produce a hard-copy transaction receipt before completing a transaction.
- *Non-functional:* All displays will be in white, 14-point Arial text on black back ground.
- *Technical:* The ATM system will connect seamlessly to the existing customer's database.
- *User:* The system will complete a standard withdrawal from a personal account, from log-in to cash, in less than two minutes.
- *Business:* By providing superior service to our retail customers, Monumental Bank's ATM network will allow us to increase associated service fee revenue by 10% annually on an ongoing basis.
- *Regulatory:* All ATMs will connect to standard utility power sources within their civic jurisdiction, and be supplied with an uninterrupted power source approved by the company.

SOFTWARE REQUIREMENTS FUNDAMENTALS

A software requirement is a property (feature, quality) that must be exhibited by software developed or adapted to solve a particular problem.

The problem may be to automate part of a task of someone who will use the software, to support the business processes of the organization that has commissioned the software, to correct shortcomings of existing software, to control a device, etc.

The functioning of users, business processes, and devices is typically complex. Therefore, the requirements on particular software are typically a complex combination of requirements from different people at different levels of an organization and from the environment in which the software will operate.

An essential property of all software requirements is that they be verifiable.

Table 9.1: Measuring Requirements

Property	Measure
Speed	- Processed transactions/second - User/Event response time - Screen refresh time
Size	- K Bytes - Number of RAM chips
Ease of use	- Training time - Number of help frames
Reliability	- Mean time to failure - Probability of unavailability - Rate of failure occurence - Availability
Robustness	- Time to restart after failure - Percentage of events causing failure - Probability of data corruption on failure
Portability	- Percentage of target dependent statements - Number of target systems

Work Breakdown Structure (WBS)

WBS describes the products or services to be delivered by the project and how they are decomposed and related. It is a deliverable-oriented decomposition of a project into smaller components. It defines and groups a project's discrete work elements in a way that helps organize and define the total work scope of the project.