

Chapter 1:

Introduction to Project Management



Information Technology Project Management, Ninth Edition. © 2019 Cengage. May not be copied, scanned, or duplicated, in whole or in part, except for use as permitted in a license distributed with a certain product or service or otherwise on a password-protected website for classroom use.

Learning Objectives

Articulate the growing need for better project management, especially for information technology (IT) projects

Explain what a project is, provide examples of IT projects, list various attributes of projects, and describe constraints of project management

Define project management and discuss key elements of the project management framework, including project stakeholders, the project management knowledge areas, common tools and techniques, and project success

Discuss the relationship between project, program, and portfolio management and the contributions each makes to enterprise success

Summarize the role of project managers by describing what they do, what skills they need, the talent triangle, and career opportunities for IT project managers

Recall key aspects of the project management profession, including important components of its history, the role of professional organizations like the Project Management Institute (PMI), the importance of certification and ethics, and the advancement of project management software

Introduction (1 of 3)

Many people and organizations today have a new or renewed interest in project management

Worldwide IT spending was \$3.5 trillion in 2017, a 2.4 percent increase from 2016 spending

The Project Management Institute reported that the number of jobs reached almost 66 million in 2017. By 2027, employers will need 87.7 million individuals working in project management-oriented roles

In 2017, the average annual salary (without bonuses) for someone in the project management profession was \$112,000 in the U.S. and \$130,866 in Switzerland

The top skills employers look for in new college graduates are all related to project management: team-work, problem-solving, and verbal communications

Organizations waste \$97 million for every \$1 billion spent on projects, according to PMI's Pulse of the Profession® report

Advantages of Using Formal Project Management:

- Better control of financial, physical, and human resources
- Improved customer relations
- Shorter development times
- Lower costs and improved productivity
- Higher quality and increased reliability
- Higher profit margins
- Better internal coordination
- Positive impact on meeting strategic goals
- Higher worker morale

Project Manager in KSA

How much does a Project Manager make in Riyadh, Saudi Arabia?

Updated Aug 17, 2023

Experience

All years of Experience



Industry

All industries



SAR 53,000 / mo

 Very High Confidence

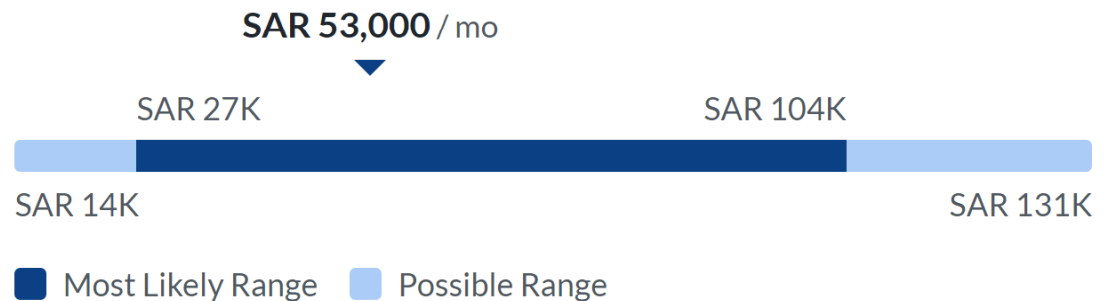
Total Pay

SAR 17,000 / mo

Base Pay

SAR 36,000 / mo

Additional Pay



What Went Wrong?



IT Projects have a terrible track record, as described in the What Went Wrong?




A 1995 Standish Group study (CHAOS) found that only 16.2% of IT projects were successful in meeting scope, time, and cost goals; over 31% of IT projects were canceled before completion



A PricewaterhouseCoopers study found that over half of all projects fail and only 2.5% of corporations consistently meet their targets for scope, time, and cost goals for all types of project

What Is a Project?

A project is “a temporary endeavor undertaken to create a unique product, service, or result” (PMBOK Project Management Body of Knowledge® Guide, Seven Edition, 2021)



Operations is work done to sustain the business



Projects end when their objectives have been reached or the project has been terminated

https://www.google.com.sa/books/edition/A_Guide_to_the_Project_Management_Body_o/IKsxEAAAQBAJ?hl=en

Examples of IT Projects

Project management is the use of specific knowledge, skills, tools and techniques to deliver something of value to people.

The development of software for an improved business process, the construction of a building, the relief effort after a natural disaster, the expansion of sales into a new geographic market—these are all examples of projects

A team of students creates a smartphone application and sells it online

A company develops a driverless car

A government group develops a system to track child immunizations

A global bank acquires other financial institutions and needs to consolidate systems and procedures

Top Strategic Technologies for 2018 (Gartner)

- **Artificial Intelligence (AI) Foundation** focuses on the development of algorithms that leverage data and statistical tools to solve complex human tasks, to explore novel applications of such tools, and to better understand the apparent
- **Intelligent Things** provide high quality energy solutions to an ever-growing client base including world class global blue-chip organisations. It continues to grow by delivering the correct expertise and the extensive knowledge, required to give you the most cost-effective and sustainable energy solution.
- **Cloud to the Edge** Edge to cloud refers to the fact that enterprise data is no longer confined to the data Center; It is being generated at the edge in ever-growing amounts, processed and stored in the cloud, and used by an increasingly distributed global workforce.
- **Immersive Experience** pulls a viewer into another real or imagined world, enabling them to manipulate and interact with their environment. Immersive experiences use a blend of visuals, sound and technology to deliver unforgettable and engaging worlds.

Media Snapshot

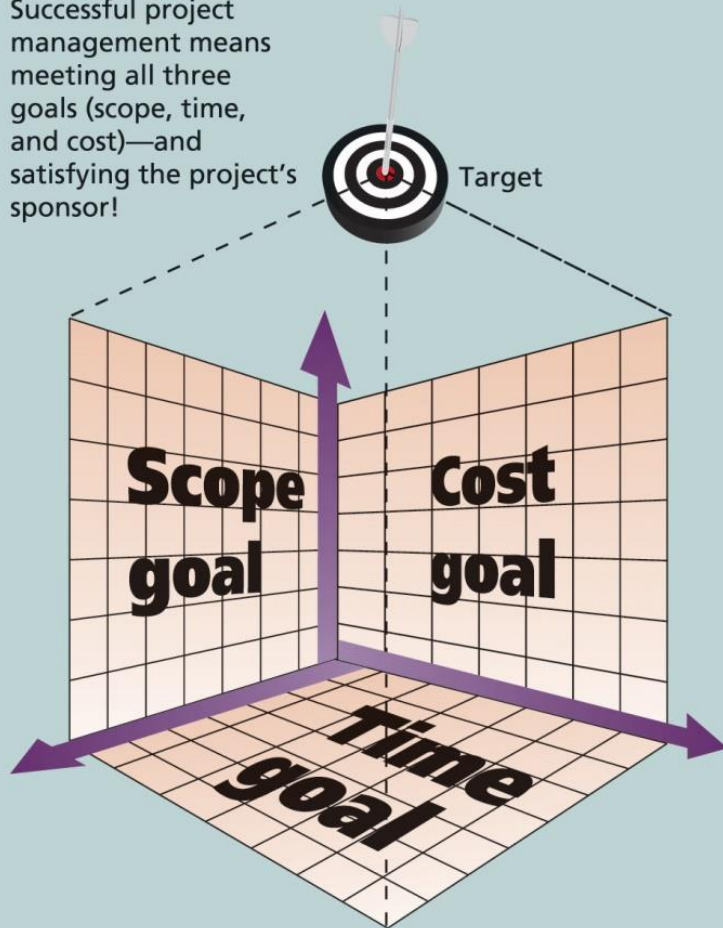
- Gartner predicted that by 2014, there would be more than 70 billion mobile application downloads every year, but it was almost double
- Facebook is by far the most downloaded app, and the most popular category of all apps continues to be games
- As of March 2017, Android users could download 2.8 million different apps, and Apple users could download 2.2 million

Project Attributes

- A project
 - has a unique purpose
 - is temporary
 - drives change and enable value creation
 - is developed using progressive elaboration
 - requires resources, often from various areas
 - should have a primary customer or sponsor
 - The project sponsor usually provides the direction and funding for the project
 - involves uncertainty
- Project managers work with project sponsors, team, and other people involved in a project to achieve project goals

Project Constraints

Successful project management means meeting all three goals (scope, time, and cost)—and satisfying the project's sponsor!



Project constraints are the limits within which a project must operate. The six main project constraints are time, cost, scope, quality, resources, and risks. Managers must balance these constraints in order to ensure successful project completion.

FIGURE 1-1 Project constraints

What is Project Management?

- Project management is “the application of knowledge, skills, tools and techniques to project activities to meet project requirements” (PMBOK® Guide, Seven Edition, 2021)
- Project managers strive to meet the triple constraint (project scope, time, and cost goals) and also facilitate the entire process to meet the needs and expectations of project stakeholders

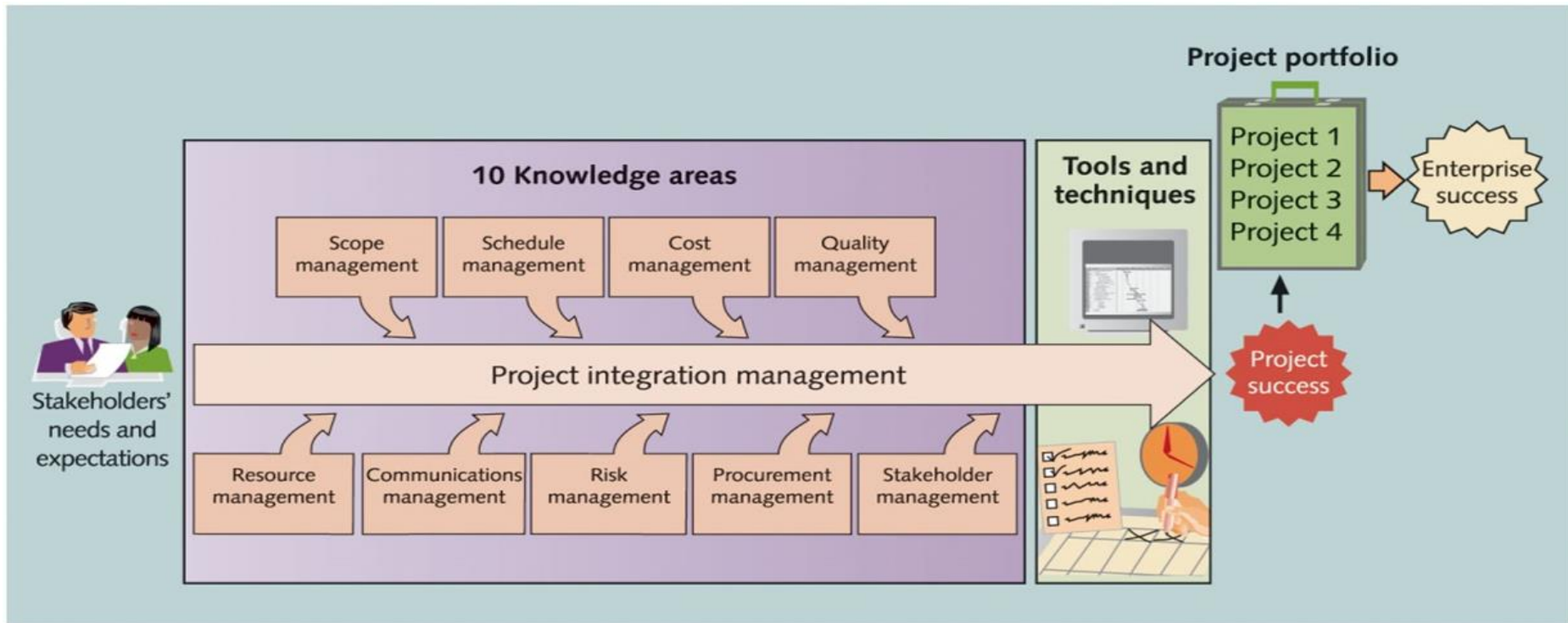


FIGURE 1-2 Project management framework

Project Stakeholders

Stakeholders are the people involved in or affected by project activities

Stakeholders include

- Project sponsor
- Banks and other financial institutions
- Project manager
- Project team
- Support staff
- Suppliers
- Opponents (Adversaries) to the project

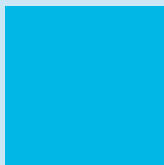
Project Management Knowledge Areas



Knowledge areas describe the key competencies that project managers must develop



Project managers must have knowledge and skills in all 10 knowledge areas (scope, schedule, cost, quality, resource, communications, risk, procurement, stakeholder, and project integration management)



Project Management Tools and Techniques



Project management tools and techniques assist project managers and their teams in various aspects of project management



Some specific ones include

Project charter, scope statement, and WBS (scope)

Gantt charts, network diagrams, critical path analysis, critical chain scheduling (time)

Cost estimates and earned value management (cost)



PMBOK® Guide –lists tools and techniques based on their purpose:

Data gathering

Data analysis

Data representation

Decision making

Communication

Interpersonal and team skills

Ungrouped

Project Success

1. There are several ways to define project success:

- The project met scope, time, and cost goals
- The project satisfied the customer/sponsor
- The results of the project met its main objective, such as making or saving a certain amount of money, providing a good return on investment, or simply making the sponsors happy

Factors of Success	Points
Executive sponsorship	15
Emotional maturity	15
User involvement	15
Optimization	15
Skilled resources	10
Agile processes	7
Modest execution	6
Project management expertise	5
Clear business objectives	4

Source: The Standish Group, CHAOS Manifesto 2015 (2015)

3,Top three reasons why federal technology projects succeed

- Adequate funding
- Staff expertise
- Engagement from all stakeholders

4,Research findings show that companies that excel in project delivery capability:

Use an integrated toolbox

Grow project leaders

Develop a streamlined project delivery process

Measure project health using metrics, like

customer satisfaction or return on investment

Program and Project Portfolio Management



About one-quarter of the world's gross domestic product is spent on projects



Two important concepts that help projects meet enterprise goals:

Use of programs

Project portfolio management



Programs



A program is “a group of related projects managed in a coordinated manner to obtain benefits and control not available from managing them individually” (PMBOK® Guide)



Examples of common programs in the IT field include infrastructure, applications development, and user support



A program manager provides leadership and direction for the project managers heading the projects within the program

Project Portfolio Management

- As part of project portfolio management, organizations group and manage projects and programs as a portfolio of investments that contribute to the entire enterprise's success
- Portfolio managers help their organizations make wise investment decisions by helping to select and analyze projects from a strategic perspective



FIGURE 1-3 Project management compared to project portfolio management

Best Practice



A best practice is “an optimal way recognized by industry to achieve a stated goal or objective”*



Robert Butrick suggests that organizations need to follow basic principles of project management, including these two mentioned earlier in this chapter:

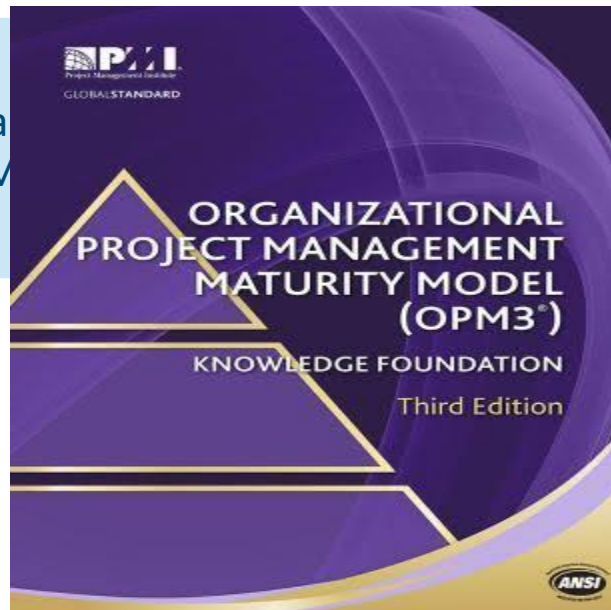
Make sure your projects are driven by your strategy. Be able to demonstrate how each project you undertake fits your business strategy, and screen out unwanted projects as soon as possible

Engage your stakeholders. Ignoring stakeholders often leads to project failure. Be sure to engage stakeholders at all stages of a project, and encourage teamwork and commitment at all times



*Project Management Maturity Model (OPM3)

Organizational Project Management Maturity



Organizational Project Management

- Organizational project management
 - Framework in which portfolio, program, and project management are integrated with organizational enablers in order to achieve strategic objectives

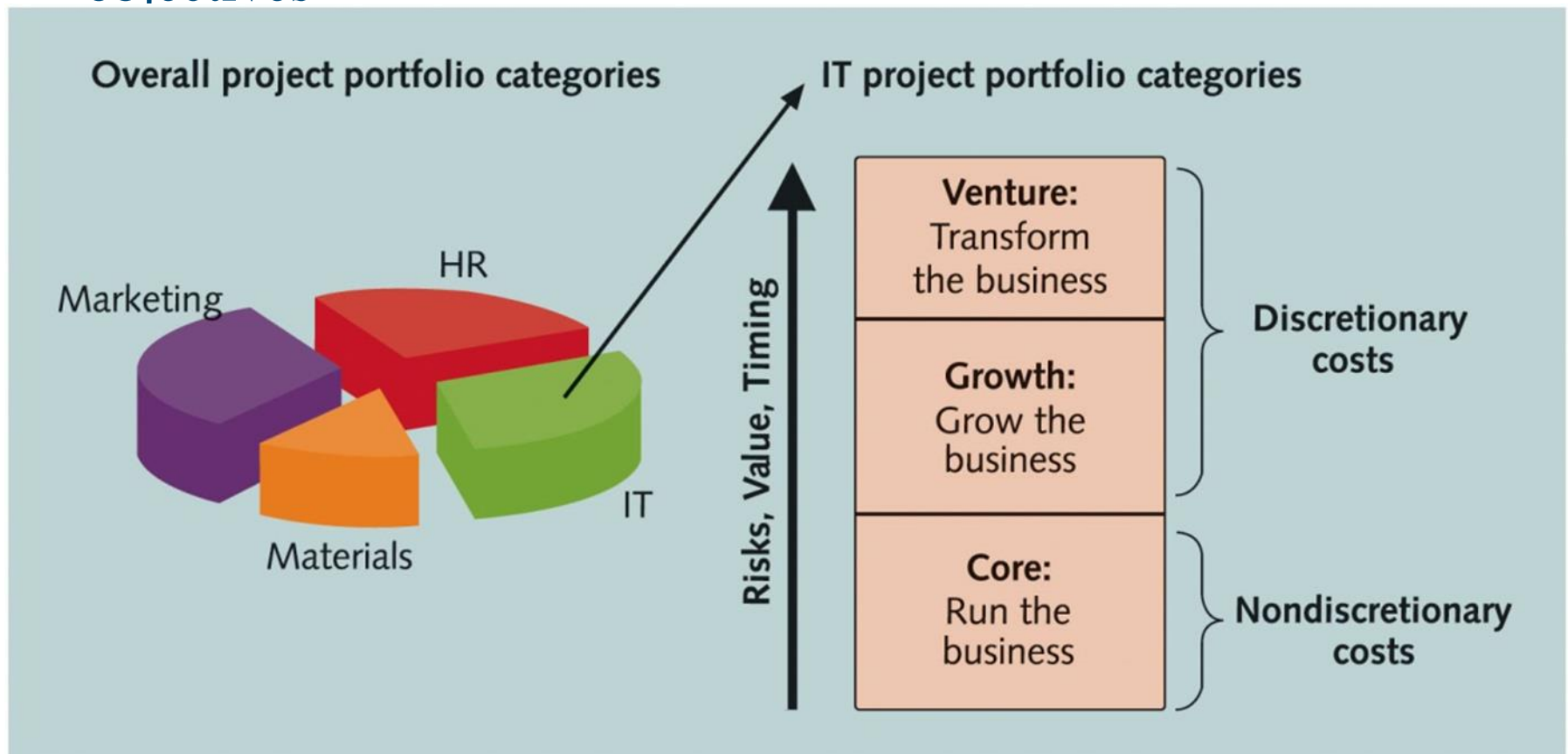


FIGURE 1-4 Sample project portfolio approach

The Role of the Project Manager

- Project managers must work closely with the other stakeholders on a project, especially the sponsor and project team
- They are also more effective if they are familiar with the 10 project management knowledge areas
 - And the various tools and techniques related to project management

Project Manager Job Description

Job descriptions vary, but most include responsibilities like planning, scheduling, coordinating, and working with people to achieve project goals

Project management is a skill needed in every major IT field, from database administrator to network specialist to technical writer

Advice for Young Professionals

• A few questions to ask yourself to know if you would be a good project manager

- Do you get frustrated by bad bosses? Do you think you could do a better job?
- Are you interested in understanding the big picture of how organizations work and how your individual work or your project fits in?
- Have you had other leadership roles, such as being a team captain, president of a club, or entrepreneur of a small business? Did you enjoy it? Did others think you did a good job?
- Are you good at mentoring others? Do people ask you for help in developing their skills or your advice on what to do?

Suggested Skills for Project Managers

- The Project Management Body of Knowledge
- Application area knowledge, standards, and regulations
- Project environment knowledge
- General management knowledge and skills
- Soft skills or human relations skills
- **Six traits** of highly effective project managers as follows:
 - Be a strategic business partner
 - Encourage and recognize valuable contributions
 - Respect and motivate stakeholders
 - Be fully vested in success
 - Stress integrity and accountability
 - Work in the gray/Be able to deal with ambiguity

PMI Talent Triangle® and the Importance of Leadership Skills*

Talent triangle includes:

- Technical project management skills
- Strategic and business management skills
- Leadership skills

Leadership styles include:

- Laissez-faire
- Transactional
- Servant leader
- Transformational
- Charismatic
- Interactional

Careers for IT Project Managers

IT executives listed the “ten hot tech skills” they planned to hire for in 2023
<https://www.technojobs.co.uk/info/career-advice/the-top-10-it-and-tech-skills-to-learn-in-2023.phtml>

- Project management was second only too full-stack software development
- Even if you choose to stay in a technical role, you still need project management knowledge and skills to help your team and organization
- **7 In-Demand IT Skills to Boost Your Resume in 2023**

<https://www.coursera.org/articles/key-it-skills-for-your-career>

Global Project Management Job Trends 2023

<https://www.pmi.org/learning/careers/global-job-trends-2023>

The Project Management Profession



The profession of project management is growing at a very rapid pace



It is helpful to understand the history of the field, the role of professional societies like the Project Management Institute, and the growth in project management software



A project manager is a professional who organises, plans, and executes projects while working within restraints like budgets and schedules. Project managers are in charge of leading teams, defining goals, communicating with stakeholders, and seeing a project through to its closure.

History of Project Management (1 of 3)

- Some people argue that building the Egyptian pyramids was a project, as was building the Great Wall of China
- Most people consider the Manhattan Project to be the first project to use “modern” project management
- This three-year, \$2 billion (in 1946 dollars) project had a separate project manager and a technical manager

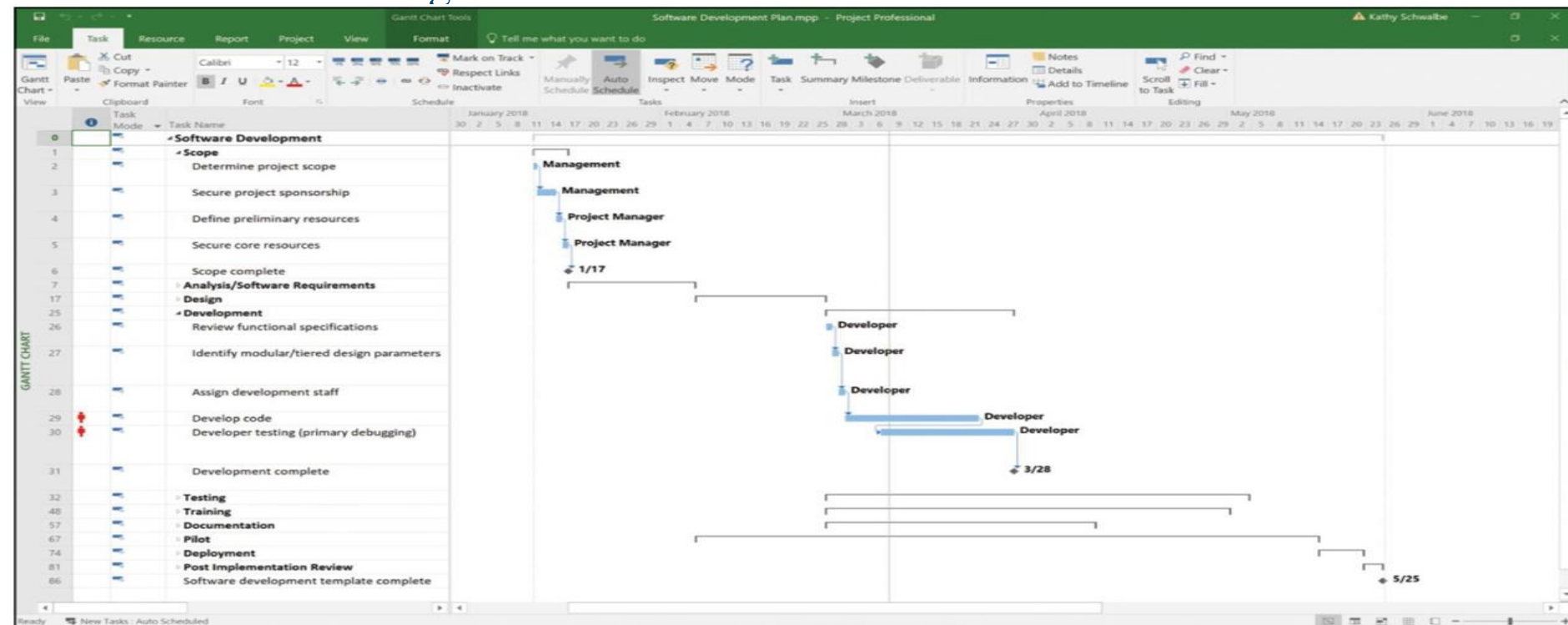


FIGURE 1-5 Sample Gantt chart from Project 2016 software development plan template

History of Project Management (2 of 3)

PMO history

Big changes in programme and project management have sparked conversation, but what impact have they had? Has anything really changed since the 90s?

Join the conversation...

#thePMOpuzzle

100
years ago

(approximately)

Scientific management method

Frederick Taylor introduced the idea of increasing the number and complexity of projects managed by single organisations.

30s

First project office

Possibly the first recorded use of the "project office" expression, developed by the U.S. Air Corps (Crawford & Cabanis-Brewin, 2010).

50s

US military complex missile systems PMO

This PMO realised the benefits of centralising funding into work packages instead of separate components. So, the concept of improving budget predictions, creating a standard phased planning approach and identifying non-strategic initiatives before fund allocation was born.

80s

Exported to construction and IT Industries as a result of computer tech advancement

Advancements in technology allowed the PMO concept to roll out across the construction and IT industries, as well as others.

90s

Professional associations mobilised / industry standards met

Professional associations and project management certifications gained traction and became recognised industry standards: Project Management Institute (PMI), PRINCE2 and the International Project Management Association (IPMA).

The need for a standardised and coordinated approach gained momentum to improve the efficiency of project delivery and eliminate delays and overspend.

Out of this grew...

Portfolio Management Office: Multiple projects of programmes, usually organised by function or investment

Programme Management Office: Multiple linked projects, forming a programme of work. Project level and programme level objectives apply.

Project Management Office: Single project (single or multifaceted) not a common objective.



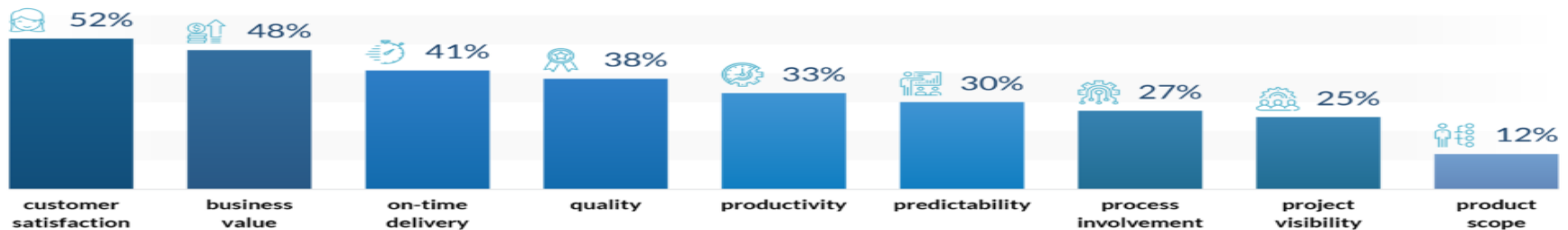
History of Project Management (3 of 3)

3 Key Project Management Trends You Should Know

 **FinancesOnline**
REVIEWS FOR BUSINESS

1 How organizations measure the success of Agile initiatives

Source: CollabNet VersionOne



2 Top project management challenges

Source: Wellington



3 Activities where PMOs are getting more involved

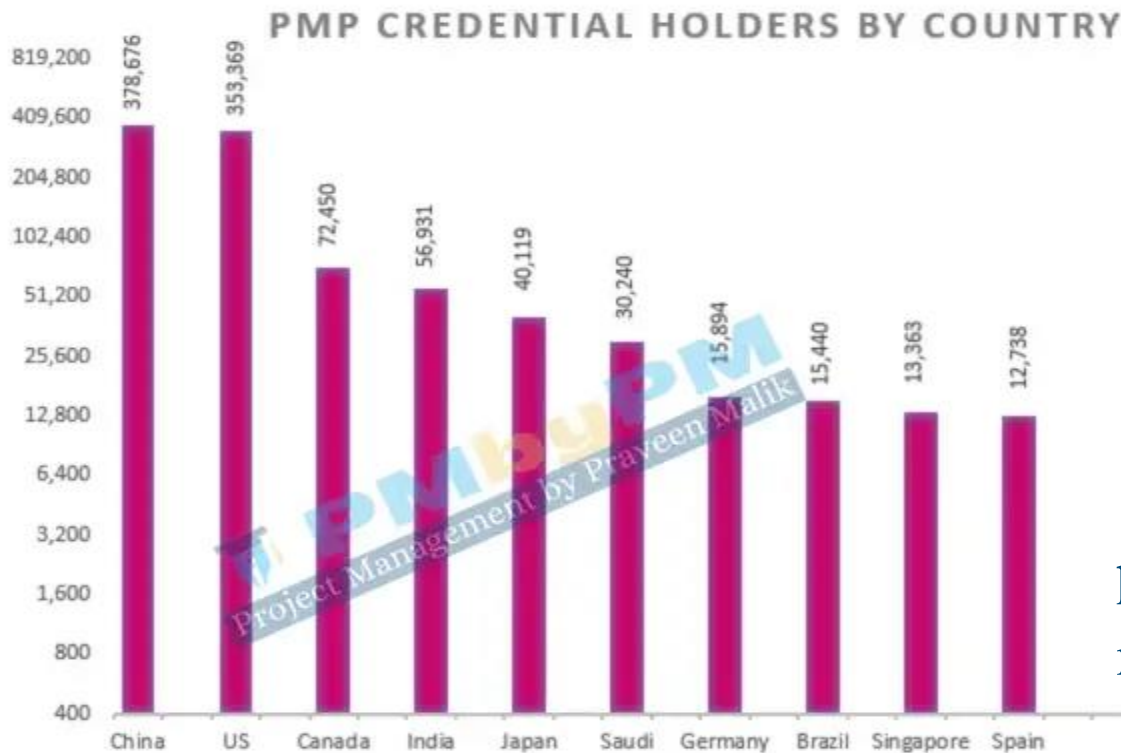
Source: Wellington



<https://financesonline.com/project-management-software-trends/>

Global Issues

- Several global dynamics are forcing organizations to rethink their practices:
 - Talent development for project and program managers is a top concern
 - Basic project management techniques are core competencies
 - Organizations want to use more agile approaches to project management
 - Benefits realization of projects is a key metric



<https://www.pmbypm.com/pmi-pmp-statistics/>

The Project Management Institute

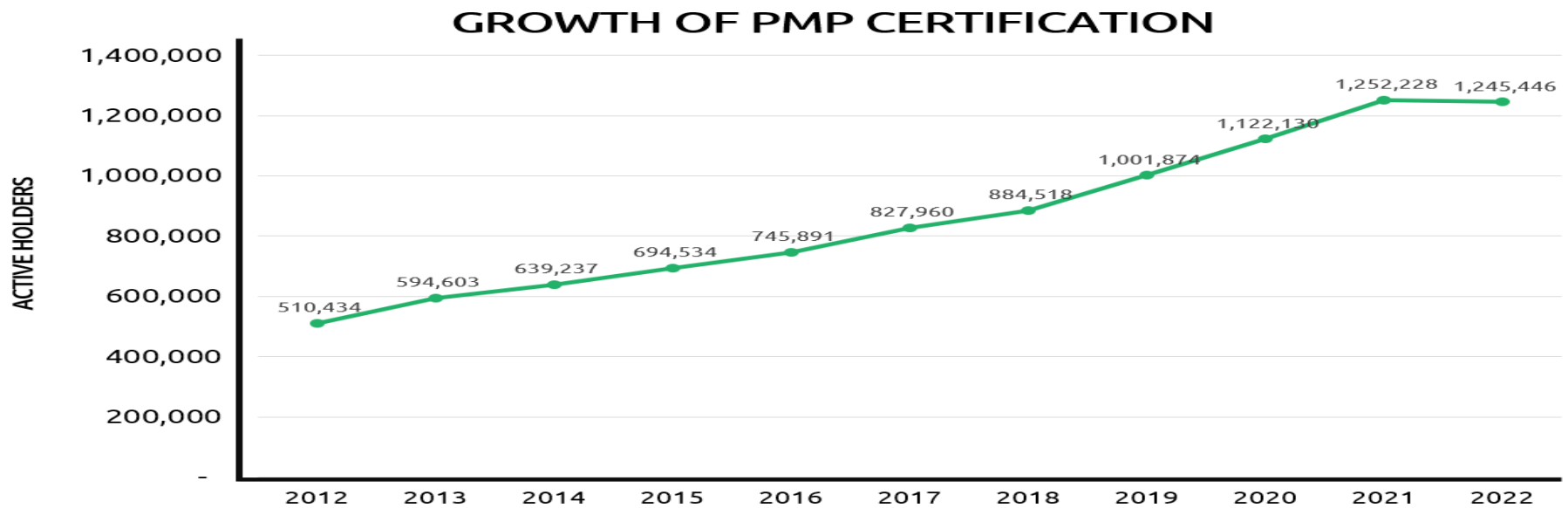
- The Project Management Institute (PMI) is an international professional society for project managers founded in 1969
- PMI has continued to attract and retain members, reporting more than 500,000 members worldwide by late 2017
- There are communities of practices in many areas, like information systems, financial services, and health care
- Project management research and certification programs continue to grow
- Students can join PMI at a reduced fee and earn the Certified Associate in Project Management (CAPM) certification(see [PMI](#) for details)
- [Project Management Institute | PMI](#)

Project Management Institute KSA Chapter

<https://pmiksa.sa/>

Project Management Certification

- PMI provides certification as a Project Management Professional (PMP®)
- A PMP® has documented sufficient project experience, agreed to follow a code of ethics, and passed the PMP® exam
- The number of people earning PMP® certification is increasing quickly



<https://vitalitychicago.com/blog/where-is-the-wow-now-an-update-on-the-pmi-disciplined-agile-certifications/>

Ethics in Project Management



Ethics, loosely defined, is a set of principles that guide our decision making based on personal values of what is “right” and “wrong”



Project managers often face ethical dilemmas



In order to earn PMP® certification, applicants must agree to PMI’s Code of Ethics and Professional Conduct



Several questions on the PMP® exam are related to professional responsibility, including ethics

Project Management Software*



There are hundreds of different products to assist in performing project management



Three main categories of tools:

Low-end tools: Handle single or smaller projects well, cost under \$200 per user

Midrange tools: Handle multiple projects and users, cost \$200-\$1,000 per user, Microsoft Project is still the most popular

High-end tools: Also called enterprise project management software, often licensed on a per-user basis



Several free or open-source tools are also available



10 Best Project Management Software Of 2023

<https://www.forbes.com/advisor/business/software/best-project-management-software/>

Chapter Summary

A project is a temporary endeavor undertaken to create a unique product, service, or result

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements

A program is a group of related projects managed in a coordinated way

Project portfolio management involves organizing and managing projects and programs as a portfolio of investments

Project managers play a key role in helping projects and organizations succeed

The project management profession continues to grow and mature