Lecture 1. Project Management Fundamentals: Projects, Value, Success, and Delivery Approaches

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1. Project Management in Applied Linguistics

Applied linguists increasingly work in environments where language expertise must be transformed into a particular product, service, research result, or organisational change. Their work may involve localising a website, building a specialised corpus, developing a terminology database, preparing multilingual content, annotating data for a natural language processing system, or introducing a machine translation workflow.

Each of these initiatives requires more than linguistic knowledge. Someone must clarify the original need, agree on the expected result, coordinate people and technologies, control time and cost, manage quality, respond to uncertainty, and communicate with clients and users.

The European Master's in Translation Competence Framework reflects this professional reality. Its technology competence area covers computer-assisted translation, quality-assurance tools, machine translation, language data, and workflow-management tools. Its service-provision area includes identifying client requirements, negotiating conditions, organising and budgeting translation projects, applying relevant standards, managing quality, and handling client feedback. These activities are directly connected with project management. *European Commission: EMT Competence Framework 2022*

Project management is therefore relevant even when a graduate does not hold the formal title of project manager. Translators, localisation specialists, terminologists, language-data analysts, content designers, researchers, and teachers regularly plan temporary initiatives and coordinate their work with other specialists.

Running example

A university plans to localise its admissions website and an online applicant assistant into English and Polish before the next international admissions campaign.

The work includes:

- reviewing the original Ukrainian content;
- translating and editing the content;
- developing a terminology database;
- adapting interface elements;
- integrating the translations into the website;
- checking accessibility and functionality;
- testing the online assistant;
- obtaining final approval;
- publishing the multilingual service.

This example will be used throughout the lecture.

Task 1. Make an overview of the EMT Competence Framework 2022. Bring up the key findings in class.

Task 2. Prepare a presentation on a successful project related to applied linguistics. Describe its objectives, deliverables, and stakeholders, and explain how project management contributed to its success.

2. The concept of a project

A project is a temporary effort/endeavor undertaken to create a unique product, service, result, or change.

The word *temporary* does not necessarily mean short. A project may last several weeks or several years, but it has a recognisable beginning and an end.

The word *unique* does not mean that every project activity has never been performed before. Translation, editing, testing, meetings, and reporting may be familiar activities. However, their particular combination, content, participants, requirements, constraints, and intended result make every project different.

A project normally has the following characteristics:

- it responds to a defined need, problem, or opportunity;
- it has one or more objectives;
- it is expected to produce defined deliverables;
- it has a beginning and conditions for completion;
- it takes place in a particular organisational and social context;
- it involves stakeholders who influence the work or are affected by it;
- it operates under constraints related to scope, time, finance, resources, and quality;
- it involves uncertainty and therefore requires decisions and adaptation;
- it is expected to create value for users, a client, an organisation, or society.

Project deliverables

A deliverable is a verifiable output that a project is expected to produce. Deliverables may be tangible or intangible.

Examples include:

Type of result	Language-related example
Product	A multilingual website, terminology database, annotated corpus, or language-learning application
Service capability	A new institutional translation service or remote interpreting service
Research result	A validated dataset, analytical report, linguistic model, or tested prototype
Organisational change	A new quality-assurance workflow or an integrated human and machine translation process

A translated document is tangible in the managerial sense because it can be submitted, reviewed, and accepted. A new workflow, a trained team, or an approved terminology policy may be less tangible, but each can still be defined and evaluated.

A project ends when:

- its objectives and acceptance conditions have been met;

- its result has been transferred to the client or operational owner;
- the project is no longer justified;
- an authorised decision is made to terminate it.

A terminated project is still a project. Funding may end, the original need may disappear, the solution may prove technically impossible, or the expected value may no longer justify further investment.

In the running example, the project ends when the approved language versions and functions have been delivered, tested, accepted, published, and handed over. Routine content updates after launch belong to operations unless the university approves a separate improvement project.

3. Projects and operations

Projects and operations both create value, consume resources, and require management. Their purposes, however, are different.

***A project* creates a defined result or introduces change.**

***Operations* maintain an existing service or repeatedly produce similar outputs.**

Criterion	Project	Operation or business process
Purpose	Create a defined result or change	Maintain an ongoing function or service
Duration	Temporary	Continuous or recurring
Nature of work	A unique combination of tasks and constraints	Repeatable work based on established procedures
Change	Introduces or enables change	Sustains and stabilises existing activity
Uncertainty	Often relatively high, especially at the beginning	Usually lower in a mature process
Team	May be temporary and cross-functional	Usually based on permanent roles
Success	Evaluated against objectives, acceptance, outcomes, and value	Evaluated through quality, volume, efficiency, and service levels
Example	Localising a new admissions portal	Publishing weekly updates to an existing language version

Projects and operations are connected. A project may create a new operational capability, which operations then use and maintain. Operational information may also reveal a problem or opportunity that justifies another project.

For example, recurring complaints from international applicants may result in a project to redesign the university's multilingual help centre.

Short activity: Project or operation?

Classify each activity as a project or an operation. Explain the criterion you used.

- ❿ Creating a Ukrainian–English corpus for a funded research study.
- ❿ Adding approved terms to a terminology database every week.
- ❿ Localising a mobile application for the Ukrainian market.
- ❿ Providing routine monthly translation support to one department.
- ❿ Redesigning the workflow used by a university translation centre.
- ❿ Maintaining the language versions of a website after launch.

Task 3. Compare Business Process Management (BPM) / ongoing processes and Project Management. Mind the main differences and how BPM and Project Management can be interrelated.

4. Project Management and value delivery

Project Management is the coordinated application of knowledge, skills, tools, and techniques to project work in order to meet agreed requirements and objectives.

Project Management is a process that includes planning, putting the project plan into action, and measuring progress and performance.

Project Management is about getting things done.

It includes planning, but it is not limited to producing a plan. Project management also involves:

- organising decisions;
- defining responsibilities;
- coordinating people and resources;
- engaging stakeholders;
- managing information;
- responding to risks and issues;
- monitoring progress;
- protecting quality;
- controlling changes;
- closing the work responsibly.

A contemporary understanding of project management begins with value rather than activity. A project team can complete every planned task and still produce something that users do not need or cannot use.

Project professionals therefore connect deliverables with the outcomes and benefits that justified the project.

Level	Guiding question	Running example
Need	Why is change required?	International applicants cannot reliably use the current Ukrainian-only service
Output	What will the project deliver?	Localised content, interface strings, terminology resources, and a tested online assistant
Outcome	What becomes possible after delivery?	Applicants can obtain accurate information in a supported language
Benefit	What measurable improvement is expected?	Fewer misunderstandings, fewer avoidable enquiries, and better completion of admissions tasks
Value	Why does the result matter?	More accessible services and more effective international engagement

Task 4. Analysing Value Delivery in a Real Project. Select a real project related to applied linguistics and analyse it using the structure of the running example Localising a New Admissions Portal. Identify the project need, objectives, deliverables, outcomes, benefits, stakeholders, and value created, and present the complete value-delivery chain in a table or diagram.

Task 5. Prepare a presentation on the United Nations Millennium Development Goals. Explain their purpose and main areas of action, and demonstrate how project management can contribute to their achievement; support your conclusions with examples of relevant projects.

5. The Historical Development of Project Management

People have coordinated temporary collective undertakings for centuries, but project management as a formal professional field emerged much later.

Its development should be understood as the accumulation of useful ideas. New approaches have not made scheduling, budgeting, or control unnecessary. Instead, they have changed how these practices are combined and adapted.

Project management did not emerge as a complete discipline at a particular moment. It developed gradually as governments, engineers, manufacturers, scientists, and business organisations faced increasingly complex tasks. Each stage added new instruments to the project manager's toolkit: first administrative and logistical practices, then graphical schedules, mathematical network models, integrated control systems, professional standards, adaptive frameworks, digital platforms, and artificial intelligence.

It is important to distinguish between the **practice of managing projects** and **project management as a formal discipline**. People managed large temporary undertakings long before the terms *project manager*, *critical path*, or *project life cycle* existed. However, systematic theories, standardised tools, professional associations, and specialised software appeared primarily during the twentieth century.

1. Ancient and pre-industrial projects: the origins of coordination

Large projects existed in ancient Egypt, Mesopotamia, China, Greece, Rome, and other civilisations. The Egyptian pyramids, Stonehenge, the Great Wall of China, Roman roads and aqueducts, and major irrigation systems required the coordination of labour, materials, finance, transport, and technical knowledge.

These undertakings did not use project management in its modern form. Nevertheless, they demonstrated several fundamental managerial practices: division of work among specialised groups; allocation and supervision of labour; procurement and transportation of materials; to name but a few.

Most of these practices were based on experience, tradition, and administrative authority rather than on formal analytical methods. Therefore, ancient projects should be presented as **historical precedents of project organisation**, not as evidence of an established project management discipline.

2. The nineteenth century: industrialisation and large infrastructure projects

The Industrial Revolution substantially increased the scale and complexity of production, transportation, and construction. Railways, canals, factories, telegraph systems, and urban infrastructure involved thousands of workers, geographically dispersed sites, multiple contractors, and unprecedented quantities of materials.

One example included in the original lecture is the **First Transcontinental Railroad**, constructed in the United States during the 1860s. It combined railway and telegraph construction across difficult terrain and required the coordination of two major railway companies, government funding, private contractors, engineers, workers, and suppliers.

Similar managerial challenges were evident in the construction of the Suez Canal, large industrial plants, corduroy roads, and the reconstruction of infrastructure in the southern United States after the American Civil War.

These projects contributed several important practices: dividing a large undertaking into geographical sections or packages of work; creating hierarchical structures of responsibility; using contracts to distribute work among organisations; coordinating labour, equipment, and material supply; etc.

These practices were still largely administrative. Managers could record what had happened, but they lacked reliable analytical tools for modelling dependencies, forecasting delays, or calculating the consequences of changes.

3. Scientific management: analysing and standardising work

The first major theoretical foundation was **scientific management**, developed in the United States in the late nineteenth and early twentieth centuries.

The central figure was the American mechanical engineer **Frederick Winslow Taylor**. His ideas originated in industrial experiments at Midvale Steel and Bethlehem Steel in Pennsylvania. In 1911, he systematised his approach in *The Principles of Scientific Management*.

Taylor proposed that work should be studied scientifically rather than organised only through habit and personal experience. His approach introduced: the decomposition of complex work into smaller tasks; time studies to determine how long activities should take; standard methods and instructions; **separation of planning from execution**; systematic selection and training of workers; performance measurement; incentive-based remuneration.

Taylor's contribution to project management was indirect but fundamental. Task decomposition, work measurement, duration estimation, responsibility assignment, and performance comparison later became central elements of project planning and control.

4. Graphical scheduling: Adamiecki and Gantt

As industrial work became more complex, managers needed tools that could make schedules visible.

In 1896, the Polish engineer and management researcher **Karol Adamiecki** developed the *harmonogram* while working with production processes in a steel rolling mill in Dąbrowa Górnicza, then within the Russian Empire and now in Poland.

The harmonogram used movable graphical strips to represent the duration and sequence of operations. However, his work received limited international recognition, although it preceded Henry Gantt's charts.

The American engineer **Henry Laurence Gantt**, who had worked with Frederick Taylor, independently developed a series of graphical control charts during the early twentieth century.

Gantt's original charts were not exactly the same as contemporary project schedules. They were designed primarily to compare planned and actual production. They enabled managers to see:

- what work had been planned;
- when it should have been completed;
- what had actually been completed;
- whether performance was ahead of or behind schedule;
- where managerial attention was required.

The modern Gantt chart developed from these ideas. It represents activities as horizontal bars on a timeline and may show start and finish dates, duration, milestones, dependencies, assigned resources, and percentage completed.

Gantt charts were subsequently applied to major American construction and infrastructure programmes, including the Hoover Dam and later the Interstate Highway System. They remain one of the most accessible tools for communicating a project schedule. However, unlike network methods, a basic Gantt chart does not itself calculate the critical path or the statistical probability of meeting a deadline.

The principal contribution of this milestone was therefore **visual scheduling and progress control**.

5. The 1930s and 1940s: managing large technical programmes

By the middle of the twentieth century, industrial and military projects had become too complex to be managed only through bar charts and informal coordination.

Around the 1930s, the **Line of Balance** method was developed in American manufacturing, with an early documented application at the Goodyear Tire and Rubber Company. It was later used by the United States Navy.

Line of Balance was intended for projects or production programmes containing repeated units. It allowed managers to compare planned and actual progress for different stages of production and determine whether each stage was advancing at the rate required to meet the final delivery schedule.

It remains relevant to repetitive construction, manufacturing, and large-scale translation or content-processing workflows.

The Manhattan Project began as a research programme in 1939 and became a major United States-led military programme during the Second World War. It eventually involved more than 130,000 people and numerous research, engineering, and production sites in the United States, Canada, and the United Kingdom.

Its principal administrative leader was **General Leslie Groves**, while physicist **J. Robert Oppenheimer** led the scientific work at Los Alamos.

The Manhattan Project did not use PERT or CPM, which were developed only in the late 1950s, but it became a landmark in large-scale programme and systems management. It combined centralised authority, work breakdown across multiple sites and technical streams, milestone reporting, strict information control, and close coordination among scientists, engineers, military personnel, contractors, and suppliers. By pursuing several technical solutions in parallel, the programme accepted higher short-term costs to reduce schedule and technical risks – an approach later associated with concurrent development.

6. The 1950s: the beginning of modern project management

The 1950s are usually identified as the beginning of modern project management because this period produced formal mathematical scheduling models and explicit organisational approaches for managing complex programmes.

Beginning in 1954, US Air Force General **Bernard A. Schriever** applied the **concurrency concept** to the Atlas missile programme, allowing research, engineering, testing, production, and site preparation to overlap rather than proceed sequentially. The approach relied on integrated teams, centralised contractor coordination, systems integration, frequent programme reviews, rapid problem escalation, and controlled risk to reduce development time. The Air Force's early network-based control system, the Program Evaluation Procedure (PEP), supported this work and helped establish Schriever as one of the founders of modern project management.

The **Critical Path Method**, or CPM, was developed in the United States in 1956–1959 through cooperation between the DuPont chemical company and the Remington Rand computer company.

The principal developers were:

Morgan R. Walker of DuPont;

James E. Kelley Jr. of Remington Rand.

The initial problem involved the planning and control of complex plant construction and maintenance shutdowns. The method was implemented with the help of UNIVAC computers.

CPM introduced a network model in which activities are connected according to their logical dependencies. It provided several specific instruments:

- forward-pass calculation of earliest start and finish dates;
- backward-pass calculation of latest start and finish dates;
- calculation of activity float or scheduling flexibility;
- identification of the longest dependent sequence of activities;
- identification of activities that cannot be delayed without delaying the project;
- calculation of the shortest possible project duration;
- analysis of time–cost trade-offs;
- crashing, or shortening selected activities by assigning additional resources or accepting additional cost.

The **critical path** is the sequence of activities that determines the earliest possible project completion date. A delay in a critical activity normally delays the project unless corrective action is taken.

CPM was primarily deterministic: managers usually entered one expected duration for each activity. It was therefore particularly suitable for construction, maintenance, engineering, and other projects in which activities and their durations could be estimated with reasonable confidence.

The **Program Evaluation and Review Technique**, or PERT, was developed in 1957–1958 for the United States Navy's Polaris Fleet Ballistic Missile programme. The

development involved the Navy's Special Projects Office, Booz Allen Hamilton, and major defence contractors.

Important contributors included **Willard Fazar** of the United States Navy and **Donald G. Malcolm** of Booz Allen Hamilton. The method was formally documented by Malcolm, John Roseboom, Charles Clark, and Fazar in 1959.

PERT addressed a different problem from CPM. The Polaris programme involved research and development activities whose durations were highly uncertain. PERT therefore introduced probabilistic scheduling.

For each activity, managers made three estimates:

O – optimistic time: the activity duration under favourable conditions;

M – most likely time: the most realistic duration;

P – pessimistic time: the duration under unfavourable conditions.

The traditional PERT expected duration was calculated as:

Expected time = (O + 4M + P) / 6

PERT also estimated the variance of activity duration and allowed managers to calculate the probability of completing a project by a particular date.

Its main tools were: network diagrams; explicit representation of dependencies; three-point duration estimates; expected-duration calculations; schedule variance; identification of critical activities; probability-based deadline analysis.

PERT and CPM changed project scheduling from a mainly visual activity into an analytical discipline. They also demonstrated the growing importance of computers because large networks were difficult to calculate and update manually.

7. The 1960s and 1970s: integration of scope, organisation, time, and cost

During the 1960s and 1970s, project management expanded beyond schedule calculation. New tools connected project scope, organisational responsibility, finance, and performance.

The **Work Breakdown Structure**, or WBS, emerged from United States defence and space programmes. It was used in the joint Department of Defense and NASA PERT/COST guidance of 1962 and was formalised in the United States military standard MIL-STD-881 in 1968.

A WBS hierarchically decomposes the total project scope into smaller components:

project → major deliverables → sub-deliverables → work packages

The WBS provided a common basis for:

1. defining the complete project scope;
2. preventing important work from being omitted;
3. assigning responsibility;
4. developing schedules;
5. estimating costs and resources;
6. identifying procurement packages;
7. creating control accounts;
8. connecting technical work with budgets and reports.

Unlike a simple task list, a WBS shows how smaller components contribute to the complete project result.

Complex projects required specialists from different functional departments to work together without permanently leaving those departments. This led to the wider adoption of the **matrix organisation**.

The term was applied to organisational design by **John F. Mee** in 1964. In a matrix structure, an employee may report both to a functional manager and to a project manager.

The matrix model provided:

- access to specialised staff across departments;
- cross-functional project teams;
- shared responsibility between technical and project leadership;
- more flexible use of scarce expertise;
- stronger integration across organisational boundaries.

Its main disadvantage was the possibility of conflicting priorities and unclear authority. As a result, responsibility matrices, escalation procedures, and explicit governance arrangements became increasingly important.

In 1962, the United States Department of Defense and NASA extended schedule analysis through **PERT/COST**, which attempted to connect work, schedule, and expenditure.

In 1967, the Department of Defense introduced the **Cost/Schedule Control Systems Criteria**, or C/SCSC. This later developed into modern **Earned Value Management**, or EVM.

EVM integrated three types of information:

Planned Value: the authorised budget for the work that should have been completed;

Earned Value: the authorised budget value of the work actually completed;

Actual Cost: the real cost of the completed work.

This created practical performance indicators:

Schedule Variance = Earned Value - Planned Value;

Cost Variance = Earned Value - Actual Cost;

Schedule Performance Index = Earned Value / Planned Value;

Cost Performance Index = Earned Value / Actual Cost.

EVM enabled managers to move beyond the question “How much money have we spent?” and ask the more informative question “How much authorised work have we completed for the money spent?”

It also provided early warnings and evidence-based forecasts of the probable final cost and completion date.

8. Professionalisation and standardisation

By the 1960s, project management was becoming a distinct international profession rather than a collection of techniques used only in engineering and defence.

The first international professional association emerged in Europe. In 1965, specialists in network analysis established the International Management Systems Association in Switzerland. The network later became known as INTERNET and was renamed the **International Project Management Association**, or IPMA, in 1996. Its origins were linked to European cooperation among experts from France, Germany, the Netherlands, and other countries.

The **Project Management Institute**, or PMI, was founded in the United States in 1969. Its first formal meeting was held at the Georgia Institute of Technology in Atlanta. The institute created a professional forum in which managers from different industries could exchange practices and develop a common body of knowledge.

Professionalisation introduced:

- common terminology;
- codes of professional ethics;
- defined areas of project management knowledge;
- competence requirements;
- professional education;
- certification systems;
- standards applicable across different industries.

PMI introduced the Project Management Professional, or PMP, certification examination in 1984. In 1987, PMI approved its first formal **Project Management Body of Knowledge**. In 1996, it published the first edition titled *A Guide to the Project Management Body of Knowledge*.

This stage did not introduce only one technical instrument. Its major contribution was a **shared professional architecture**through which planning, scope, cost, risk, quality, communication, procurement, human resources, and stakeholder practices could be studied and applied systematically.

9. The 1980s and 1990s: computers and structured methodologies

Early PERT and CPM calculations had required mainframe computers. The spread of personal computers during the 1980s made sophisticated scheduling available to ordinary project teams.

Commercial systems such as Primavera Project Planner, introduced in 1983, and Microsoft Project, first released in 1984, enabled managers to:

- create and update Gantt charts;
- calculate critical paths automatically;
- recalculate schedules after changes;
- assign resources to activities;
- identify resource over-allocation;
- perform resource levelling;
- save and compare schedule baselines;
- calculate project costs;
- model alternative scenarios;

- generate standardised reports;
- manage several related projects.

During the 1990s, graphical user interfaces, local networks, databases, and the Internet improved communication and made project information accessible to a broader group of stakeholders.

In the United Kingdom, the Central Computer and Telecommunications Agency introduced **PRINCE** in 1989 as a government method for managing information-systems projects. In 1996, **PRINCE2** was released as a more general method suitable for different types of projects.

Its distinguishing contribution was not a new scheduling algorithm but a complete method for governing decisions and maintaining managerial control.

In 1997, Israeli physicist and management theorist **Eliyahu M. Goldratt** introduced Critical Chain Project Management in his book *Critical Chain*. It applied the Theory of Constraints to projects.

Traditional critical-path analysis focuses mainly on logical dependencies. Critical Chain also considers resource dependencies and the effects of uncertainty and multitasking.

Its principal instruments are:

- the resource-constrained critical chain;
- shorter, more realistic activity estimates;
- a project buffer protecting the final deadline;
- feeding buffers protecting the critical chain;
- resource buffers or availability signals;
- control through buffer consumption;
- reduction of harmful multitasking.

The approach shifted attention from protecting every individual task deadline to protecting the completion date of the entire project.

10. Lean and Agile approaches: managing flow, feedback, and uncertainty

Another important line of development came from manufacturing and software product development.

After the Second World War, **Taiichi Ohno** and his colleagues at Toyota developed the Toyota Production System in Japan.

Its central ideas included:

- elimination of activities that do not create value;
- continuous improvement;
- just-in-time production;
- limiting unfinished work;
- making workflow visible;
- solving problems where they occur;
- producing according to actual demand rather than forecasts alone.

The **Kanban** system used visual signals to indicate which items were required, in what quantity, and at what time. Toyota applied Kanban in its main plant during the 1950s and extended it across its plants by 1963.

Although Lean and Kanban originated in operations management, their principles were later adapted to project and knowledge work. Modern Kanban boards show work that is waiting, in progress, under review, or completed and help teams control work-in-progress and identify bottlenecks.

In 1986, Japanese management researchers **Hirotaka Takeuchi** and **Ikujiro Nonaka** published "The New New Product Development Game." They studied innovative companies whose product-development teams did not follow a rigid sequential process. Instead, cross-functional teams worked together through overlapping stages, learning and adapting as the product developed.

They compared this approach with a rugby team moving forward together rather than a relay race in which one specialist passes work to the next.

This research influenced **Jeff Sutherland** and **Ken Schwaber**, who developed Scrum for software projects in the early 1990s and publicly presented it in 1995.

Scrum introduced a practical set of instruments:

- a prioritised Product Backlog;
- short development cycles called Sprints;
- a Sprint Goal;
- a selected Sprint Backlog;
- a usable product Increment;
- frequent team coordination;
- Sprint Reviews with stakeholders;
- Retrospectives for process improvement;
- transparency, inspection, and adaptation.

In February 2001, seventeen software practitioners met in Snowbird, Utah, and formulated the **Manifesto for Agile Software Development**. Important participants included Kent Beck, Martin Fowler, Ken Schwaber, and Jeff Sutherland.

The Manifesto did not create one project management method. It established values and principles that supported:

- iterative and incremental development;
- early delivery of usable results;
- close customer collaboration;
- rapid feedback;
- adaptive planning;
- empowered cross-functional teams;
- continuous technical and process improvement;
- response to changing requirements.

Agile approaches emerged because traditional predictive methods were often insufficient for projects in which requirements, technologies, or user expectations could not be fully understood at the beginning.

11. The 2000s and 2010s: web-based collaboration, PMOs, and portfolio management

The growth of the Internet transformed project management from an activity centred on an individual manager's schedule into a collaborative information environment.

Web-based and later cloud-based systems provided:

- shared task boards;
- central document repositories;
- simultaneous access to current project data;
- version control;
- automated notifications;
- digital approval workflows;
- issue, risk, and change registers;
- real-time dashboards;
- integration with financial and enterprise resource planning systems;
- remote collaboration across countries and time zones;
- portfolio-level reporting.

Mobile access enabled team members to update tasks, report issues, approve work, and exchange information from different locations.

At the organisational level, project management offices, or PMOs, became more widespread. Their functions included:

- establishing common methods and templates;
- providing project assurance;
- supporting managers and teams;
- collecting lessons learned;
- coordinating resources across projects;
- monitoring programmes and portfolios;
- aligning projects with organisational strategy.

Portfolio management added tools for project selection, prioritisation, resource allocation, benefit management, and the termination of projects that no longer supported strategic objectives.

12. The 2020s: value, tailoring, hybrid delivery, sustainability, and AI

Contemporary project management is moving beyond the assumption that success means only completing the agreed scope on time and within budget.

Current practice emphasises:

- value and measurable outcomes;
- stakeholder experience;
- organisational strategy;
- adaptability and tailoring;

- sustainability;
- ethical responsibility;
- resilience;
- hybrid delivery;
- data-informed decisions;
- artificial intelligence.

The PMBOK Guide – Seventh Edition, published in 2021, strengthened the transition from a predominantly process-based structure to principles, performance domains, value delivery, and tailoring.

The PMBOK Guide – Eighth Edition, published in November 2025, combines six core principles with seven performance domains and reintroduces practical process guidance in a non-prescriptive form. It also expands its coverage of artificial intelligence, project management offices, and procurement.

Artificial intelligence is adding another layer of instruments:

- automated preparation of draft schedules and reports;
- analysis and classification of large document sets;
- identification of possible dependencies, risks, and inconsistencies;
- forecasting and scenario analysis;
- automated meeting summaries and action lists;
- support for resource allocation;
- retrieval of lessons from previous projects;
- monitoring of patterns in project performance.

However, AI-generated outputs require human verification. Privacy, intellectual property, bias, transparency, security, contractual obligations, and accountability must remain part of project governance. In June 2026, PMI published its *Standard for Artificial Intelligence in Portfolio, Program and Project Management*, which emphasises structured governance, human-in-the-loop review, ethical safeguards, risk management, and responsible value delivery.

The history of project management is therefore not a sequence in which each new approach completely replaces the previous one. It is a process of accumulating and combining tools. A contemporary project may use a WBS to define scope, a Gantt chart and CPM to manage contractual milestones, a Kanban board to visualise daily work, Scrum events to obtain feedback, Earned Value indicators to control performance, and AI tools to analyse information. The project manager's responsibility is to select and tailor the tools that fit the project's objectives, uncertainty, stakeholders, and context.

Task 6. Prepare a short report comparing the two main approaches to project management – Waterfall and Agile. Explain their key principles, advantages and limitations, and identify the types of projects for which each approach is most suitable.

6. Project constraints and trade-offs

The traditional project management triangle links **scope, time,** and **cost,** the so-called **"triple constraint".** A change in one side frequently affects the others.

The triple constraint is illustrated in the form of a triangle to visualize the project work and see the relationship between the scope/quality, schedule/time, and cost/resource (Fig. 1). They are considered to be the main pillars of a project. They are also regarded as the main reason why we need a systematic project management approach. These primary constraints also compete with each other. Therefore, project managers should consider trade-offs among them.

The best projects have a perfectly balanced triangle. Maintaining this balance is difficult because projects are prone to change. For example, if scope increases, cost and time may increase disproportionately. Alternatively, if the amount of money you have for your project decreases, you may be able to do as much, but your time may increase.

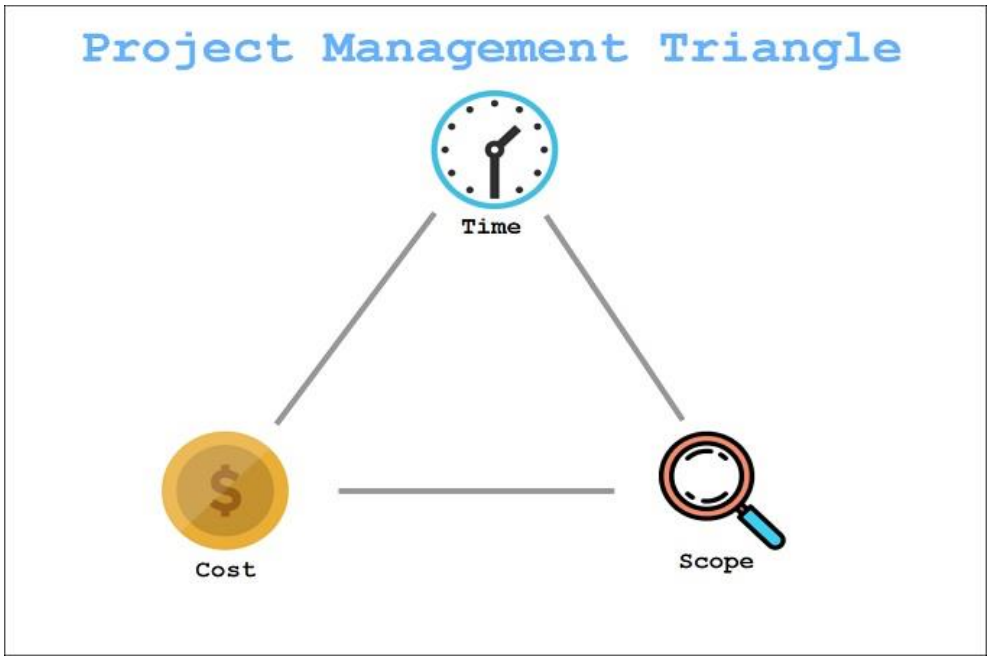


Figure 1. Project Management Triangle

Think of all of these constraints as the classic carnival game of Whack-a-mole (Figure 2). Each time you try to push one mole back in the hole, another one pops out. The best advice is to rely on your project team to keep these moles in place.



Figure 2. Whac-a-mole

The dynamic trade-offs between the project constraint values have been humorously and accurately described in Figure 3.



Figure 3. Good, Fast, Cheap: Choose two.

Contemporary project management applies a broader perspective that also considers resources, quality, and risk.

Constraint	Meaning	Question for a language project
Scope	The work and deliverables included in the project	Which languages, content types, functions, and locales are included?

Constraint	Meaning	Question for a language project
Schedule	Milestones, dependencies, and completion dates	When must the source content be approved, translated, tested, and released?
Finance	Approved budget and cost limits	What can be spent on specialists, tools, licences, testing, and contingency?
Resources	People, expertise, data, technologies, and availability	Are translators, reviewers, engineers, subject experts, and users available?
Quality	Fitness for purpose and compliance with agreed criteria	What linguistic, functional, accessibility, and technical conditions define an acceptable result?
Risk	Uncertainty that may affect objectives positively or negatively	Could late source changes, missing fonts, poor data, or early user feedback affect the result?

These dimensions are interdependent, but they are not the purpose of the project. Decisions about them should protect the intended value and comply with mandatory legal, ethical, technical, and professional requirements.

Scope

Scope defines what the project will and will not deliver and the work required to produce the agreed result.

Vague scope creates different expectations among stakeholders. In the running example, translating web pages is not the same as fully localising the service. Localisation may also include interface elements, dates, forms, automated messages, search behaviour, accessibility, and functional testing.

An explicit list of items that are outside the project scope can be as important as the deliverables list.

Schedule and finance

A deadline is credible only when the team understands:

- the amount and complexity of the work;
- task dependencies;
- resource availability;
- review and approval time;
- potential risks and rework.

Cost estimates should include more than the number of words to be translated. File preparation, coordination, terminology work, revision, engineering, meetings, testing, and rework may all consume time and money.

A fixed budget does not eliminate these costs. It requires the team to decide what scope and delivery strategy are feasible.

Quality

Quality means that the result is fit for its agreed purpose and satisfies defined requirements.

Quality should be planned through acceptance criteria rather than inspected only at the end. In a language project, quality may include:

- semantic accuracy;
- correct and consistent terminology;
- appropriate style and register;
- functional behaviour;
- file integrity;
- accessibility;
- compliance with instructions and standards.

Mandatory safety, confidentiality, accessibility, and legal requirements cannot simply be traded away to save time or money.

Risk and issue

Risk arises from uncertainty. It may represent a threat, such as delayed approval of the source content, or an opportunity, such as an automated check that reduces repetitive work.

A risk is not the same as an issue:

- a risk may occur in the future;
- an issue already exists and requires action.

Early risk management asks:

What might happen?

How likely is it?

How significant could its effect be?

Who should monitor it?

What response would be appropriate?

Managing a trade-off

Suppose the project sponsor requests a third language two weeks before launch.

The project manager should not immediately accept or reject the request. The team must first:

- clarify the additional deliverables;
- estimate the effects on time, cost, resources, quality, and risk;
- identify possible options;
- present the consequences to the authorised decision-maker.

The final decision may be to:

- increase the budget;
- move the deadline;

- reduce lower-priority scope;
- release the third language later;
- reject the requested change.

Once a decision has been approved, the relevant plans, records, and stakeholder expectations must be updated.

7. Project success and project management success

Completing a project on time and within budget is important, but it does not automatically mean that the project has succeeded.

A team may manage delivery efficiently and still produce a result that users reject. The reverse can also happen: a result may eventually create considerable value even though delivery exceeded the original budget or schedule.

Evaluation should therefore distinguish delivery performance from the quality, use, outcomes, and longer-term value of the result.

Dimension	Main question	Possible evidence
Project management success	Was the work governed and delivered effectively?	Scope, schedule and cost performance, controlled changes, managed risks, reliable communication
Deliverable success	Does the output satisfy its acceptance criteria?	Linguistic review, functional tests, accessibility checks, client acceptance
Stakeholder success	Do important stakeholders accept and use the result?	User feedback, adoption, client satisfaction, manageable support requirements
Outcome and benefit success	Did the intended improvement occur?	Fewer errors, better task completion, reduced rework, improved access to information
Strategic and responsible value	Is the result worthwhile and responsible?	Strategic alignment, privacy, ethics, sustainability, and maintainability

Success criteria should be agreed during project initiation and planning. Some criteria can be evaluated at delivery. Others can only be measured after users have adopted the result.

In the running example, publishing all translated pages by the deadline would demonstrate schedule performance. It would not be sufficient if links failed, terminology was inconsistent, the online assistant provided unsafe answers, or applicants could not complete the admissions process.

Project success requires evidence that the service works for its intended users.

PROJECT MANAGEMENT IN PRACTICE

What Current Data Show

Technology investment continues to grow rapidly. Forrester forecasts that technology spending by US enterprises and government, including technology staffing costs, will reach USD 2.9 trillion in 2026, representing an annual increase of 8.3 % (O'Grady, 2026). Against this background, the successful implementation of large-scale technology programmes remains a significant managerial challenge. A global study conducted by Boston Consulting Group, involving more than 1,000 C-suite executives

from 59 countries, found that only 30 % of companies implementing large-scale technology programmes met or exceeded expectations for schedule, budget and scope. A further 35 % remained within budget but failed to meet schedule and scope expectations, while another 35 % failed to meet all three criteria (Grebe et al., 2024). The study defined a large-scale technology programme as one absorbing more than 3 % of a company's annual technology budget.

Recent evidence also supports a broader understanding of project success that extends beyond the traditional constraints of time, cost and scope. The Project Management Institute reports that 31 % of complex projects fail to achieve the full scope of their intended benefits, compared with 13 % of projects overall (Project Management Institute, 2026). Although these results are based on different methodologies and should not be compared directly, they demonstrate that increasing technology expenditure does not eliminate implementation risks and that project performance should be assessed in terms of both delivery efficiency and realised value.

8. Project context and stakeholders

No project operates in isolation. Organisational priorities, funding rules, legislation, professional standards, technologies, markets, cultures, languages, and current events influence both the project work and the meaning of success.

Language projects are particularly sensitive to context because:

- meaning changes across audiences and situations;
- interfaces behave differently across scripts and devices;
- terminology may be institutionally or legally regulated;
- source content may change during production;
- user data may be confidential;
- team members may work across languages, organisations, and time zones.

Effective management replaces cultural stereotypes with explicit research, representative user involvement, documented requirements, and regular feedback.

Stakeholders

A stakeholder is a person, group, or organisation that may affect the project, be affected by it, or believe that it is affected by it.

Stakeholders do not have equal authority, interest, knowledge, or definitions of success.

Stakeholder	Possible interest in the running example
Project sponsor	Strategic value, funding, deadline, reputation, and authorised decisions
Admissions office	Accurate procedures, manageable workload, and timely content updates
International applicants	Clear, accessible, culturally appropriate, and reliable information
Translators and reviewers	Complete source materials, realistic workloads, terminology, instructions, and feedback
Developers and localisation engineers	Compatible files, stable interfaces, technical requirements, and defect tracking
Legal, data-protection, and accessibility specialists	Compliance, responsible data use, and accessible design
Operational owner	Maintainable content, documentation, permissions, and a clear handover

Stakeholder analysis is not performed only once. It should be revised when the project context, participants, or requirements change.

9. Project life cycles and management process groups

A project life cycle is the sequence of phases through which a project develops from its beginning to its end.

Phase names depend on the sector and the nature of the work. A translation project, an NLP research project, and a software-localisation project may use different phases.

An illustrative life cycle for a language project may include:

Phase	Main purpose
Need and feasibility	Clarify the problem, expected value, users, constraints, and feasibility
Definition and preparation	Agree on requirements, deliverables, acceptance criteria, roles, workflow, schedule, budget, and risks
Production or development	Translate, localise, annotate, configure, or build the result
Verification and validation	Review linguistic and technical quality and test the result with relevant users
Launch and handover	Release the result and transfer documentation and responsibility
Closure and learning	Confirm acceptance, close commitments, archive information, and record lessons learned

These phases may be sequential, overlapping, or repeated.

In a predictive project, the team may complete most planning before production begins. In an adaptive project, it may develop, test, and improve small increments several times.

Closure remains necessary in both cases because responsibilities, records, unresolved issues, and operational ownership must be clear.

Project management process groups

Process groups describe related management activities. In the traditional process-based model, they are:

1. Initiating.
2. Planning.
3. Executing.
4. Monitoring and controlling.
5. Closing.

They are not automatically identical to project life-cycle phases.

Planning and monitoring may occur repeatedly during several phases. A large phase may itself involve all five process groups.

Process group	Typical management purpose
Initiating	Authorise the work, clarify high-level objectives, and identify key stakeholders
Planning	Define how the objectives will be achieved and how the work will be governed
Executing	Coordinate people and resources to produce the deliverables
Monitoring and controlling	Compare actual and expected performance and manage risks, issues, and changes
Closing	Obtain acceptance, complete commitments, transfer the result, archive records, and capture learning

Three concepts must therefore be distinguished:

Project life cycle: how the temporary project progresses.

Management process groups: what managers and teams do to govern the work.

Product or service life cycle: how the delivered result is used, maintained, improved, and eventually retired.

For example, preparation, localisation, testing, launch, and closure may represent the project life cycle. Planning and monitoring occur during several of these phases. After the project closes, the multilingual portal continues through its operational life cycle.

10. Predictive, adaptive, and hybrid approaches

A development approach determines how the team organises the creation and delivery of project results.

Current PMI guidance distinguishes predictive, adaptive, and hybrid approaches. No approach is universally superior. The team selects and tailors an approach according to uncertainty, frequency of change, stakeholder access, risk, compliance requirements, and organisational capability.

Approach	Suitable conditions	Typical pattern	Language-related example
Predictive	Requirements and solutions are sufficiently clear and stable	Detailed planning precedes most production; changes are formally controlled	Translation of an approved legal document with fixed languages, format, deadline, and review requirements
Adaptive	Requirements or solutions are uncertain and feedback can improve the result	Work is delivered in small increments and refined through frequent review	Development of a language-learning application tested and revised with learners
Hybrid	Some elements are fixed while others require experimentation and iteration	Predictive governance is combined with iterative development or testing	A grant-funded multilingual portal with fixed reporting dates and an iteratively developed online assistant

Agile approaches belong to the adaptive side of this spectrum. The Agile Manifesto was originally written for software development, but its emphasis on people, usable results, customer collaboration, and response to change has influenced many forms of knowledge work.

Agile does not mean the absence of:

- planning;
- documentation;
- deadlines;
- governance;
- professional responsibility.

It means planning at an appropriate level, obtaining feedback frequently, and adapting when new evidence becomes available.

Choosing an approach

Before choosing an approach, the team should ask:

1. How stable and complete are the requirements and source materials?

2. Can the result be divided into useful increments?
3. How quickly can users or clients provide meaningful feedback?
4. Which contractual, legal, security, or reporting requirements are fixed?
5. What would be the cost of discovering an error late?
6. Does the team have the skills and authority needed for iterative decisions?

In the running example, the publication date, supported languages, privacy rules, and accessibility requirements may be fixed. However, the structure of the online assistant and some interface decisions may remain uncertain until users test them.

A hybrid approach would allow the university to maintain formal governance and milestones while developing and validating uncertain components iteratively.

11. Competencies of a project professional

A project professional does not need to be the leading expert in every discipline represented in the team.

However, the person needs enough domain knowledge to:

- ask relevant questions;
- recognise important constraints;
- support informed decisions;
- understand the consequences of changes;
- know when specialist judgement is required.

In a language project, this involves combining project management capability with an understanding of translation, localisation, language technology, data, terminology, quality, and relevant professional standards.

The current PMI Talent Triangle groups professional development into three areas: Ways of Working, Power Skills, and Business Acumen.

Competency area	Meaning	Application in a language project
Ways of Working	Methods and techniques used to organise and deliver work	Selecting a suitable approach, planning scope and schedule, managing quality and risk, and using workflow tools
Power Skills	Human abilities needed to lead and collaborate	Communication, facilitation, negotiation, empathy, conflict management, feedback, and leadership in multilingual teams
Business Acumen	Understanding organisational strategy, the operating environment, and domain implications	Connecting the project with user needs and institutional goals and understanding language services, technology, costs, privacy, and ethics

These areas reinforce one another.

A technically correct schedule is of little use if stakeholders do not understand or support it. Strong communication is insufficient if the manager cannot recognise an unrealistic workflow. Domain expertise does not replace governance, leadership, or teamwork.

Ethical and responsible judgement

Language projects may involve:

- confidential documents;
- personal data;
- culturally sensitive content;
- copyrighted materials;

- automated systems that generate inaccurate or biased language.

Generative AI may support drafting, classification, terminology extraction, or quality-assurance tasks. However, its use does not remove responsibility for verification, privacy, intellectual property, transparency, and professional quality control.

A project manager must ensure that relevant requirements are identified and that appropriate specialists participate in decisions.

Integrated case: Multilingual admissions service

A university wants to improve access to admissions information for international applicants. It approves a project to localise the admissions website and an online applicant assistant into English and Polish.

The service must be available before the international recruitment campaign begins. The budget is fixed. However, some Ukrainian source pages are outdated, and several admissions procedures may change before launch.

The preliminary team includes:

- a project sponsor;
- a project coordinator;
- admissions specialists;
- translators and an editor;
- a terminology specialist;
- developers;
- a localisation engineer;
- an accessibility specialist;
- a data-protection adviser;
- representative users.

The project covers web content, interface strings, automated messages, frequently asked questions, and the assistant’s approved knowledge base. Social-media translation and routine updates after launch are currently outside the project scope.

The sponsor proposes publishing all translated pages on the final deadline. The team argues that high-priority pages and selected assistant functions should be tested earlier with a small group of users.

One month before launch, the admissions office requests an additional language and a new scholarship section. At the same time, the developers report that several interface elements cannot correctly display longer translated strings.

I. Review Questions

1. Why is project management relevant to applied linguists, even when they do not formally work as project managers?
2. What is a project, and which characteristics make it temporary and unique?
3. What is a project deliverable, what forms can it take, and under what conditions does a project end?
4. How do projects differ from operations, and how can projects and operations be interconnected?
5. What is project management, and how does it connect outputs with outcomes, benefits, and value?
6. What planning and control tools were introduced by scientific management, Karol Adamiecki's harmonogram, and Henry Gantt's charts?
7. How do CPM and PERT differ in their purpose, duration estimates, treatment of uncertainty, and practical application?
8. How did the Work Breakdown Structure and Earned Value Management extend project control beyond scheduling?
9. What did Lean, Kanban, Scrum, and Agile contribute to managing workflow, feedback, and uncertainty?
10. What are the main project constraints, and why does a change in one constraint usually require trade-offs in others?
11. How does a project risk differ from an issue, and what questions should guide early risk management?
12. How does project management success differ from deliverable, stakeholder, outcome and benefit, and strategic value success?
13. Who are project stakeholders, why may they define success differently, and why should stakeholder analysis be regularly updated?
14. How does a project life cycle differ from project management process groups and a product or service life cycle?
15. How should a team choose among predictive, adaptive, and hybrid approaches, and which professional and ethical competencies are required to manage the selected approach responsibly?

II. Key Terms for Independent Study. Define each term in your own words and provide an example from an applied linguistics project.

1. Project
2. Project deliverable
3. Operations
4. Project management
5. Value delivery
6. Project constraint

7. Stakeholder
8. Risk
9. Project life cycle
10. Development approach