FUNDAMENTALS FOR PROJECT MANAGEMENT

Chapter 1

Project management fundamentals and general strategy for successful project in IT and programing projects

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WHAT IS A PROJECT?

A project is a complex set of elements that come together as a result of a collaborative effort to make a difference by solving a unique problem

"A project is a set of specific goals within a given budget over a given period of time is an action aimed at implementing. ” (European Commission, 2004, p. 8)

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EuropeAid Project Cycle Management Guidelines/ European Commission: Bruxelles, 2004.158 pages.

WHAT IS A PROJECT MANAGEMENT?

Achieving certain goals and meeting certain success criteria in a given period of time to start, plan, execute, monitor, and complete team work.

The main challenge in project management is to ensure that all project activities are carried out within certain limits is to achieve the goal. ”(Phillips, 2003, p. 1)

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Phillips, J., 2003. PMP Project Management Professional Study Guid. s.l.:McGraw Hill Professional.

PROJECT KEY ELEMENTS

A successful project manager must cover four key elements of a project: scope, resources, time, and money.

Scope: This includes the size, purpose and requirements of the project.

Resources: You will need to use people, equipment and materials.

Time: This is how much time the entire project takes. It must be broken down into work durations, dependencies, and important paths.

Money: Have a strong understanding of costs, potential circumstances, and benefits

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WHAT IS A FUNDAMENTAL METHOD FOR PROJECT MANAGEMENT?

Logical structure (LFA) is an analytical activity that involves project planning, is a set of tools used to improve management.

It is an organized and systematic summary of project and program ideas interactions used as part of the iteration process to help with analysis provides a coherent set of concepts.

LFA (Stakeholder Analysis and Problem Analysis) analysis, goal setting, and strategy selection) and objectives the Logical Frame Matrix (LFM), which may require further analysis

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Phillips, J., 2003. PMP Project Management Professional Study Guid. s.l.:McGraw Hill Professional.

PROJECT MANAGEMENT?

The Logical Framework Approach

ANALYSIS PHASE	PLANNING PHASE
Stakeholder analysis - identifying & characterising potential major stakeholders; assessing their capacity	**Developing Logical Framework matrix** - defining project structure, testing its internal logic & risks, formulating measurable indicators of success
Problem analysis - identifying key problems, constraints & opportunities; determining cause & effect relationships	**Activity scheduling** - determining the sequence and dependency of activities; estimating their duration, and assigning responsibility
Objective analysis - developing solutions from the identified problems; identifying means to end relationships	**Resource scheduling** - from the activity schedule, developing input schedules and a budget
Strategy analysis - identifying different strategies to achieve solutions; selecting most appropriate strategy.	

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European Commission, 2004. Aid Delivery Methods – Volume 1 Project Management Cycle Guidelines. [Online]

WHAT IS AN INFORMATION TECHNOLOGY PROJECT

Many IT organizations have problems delivering quality IT products that is finished on time and meets the users' needs.

IT systems and software development projects are unique in that they not only directly affect and change people's business processes and daily life processes, but also become an integral part of their daily life practices.

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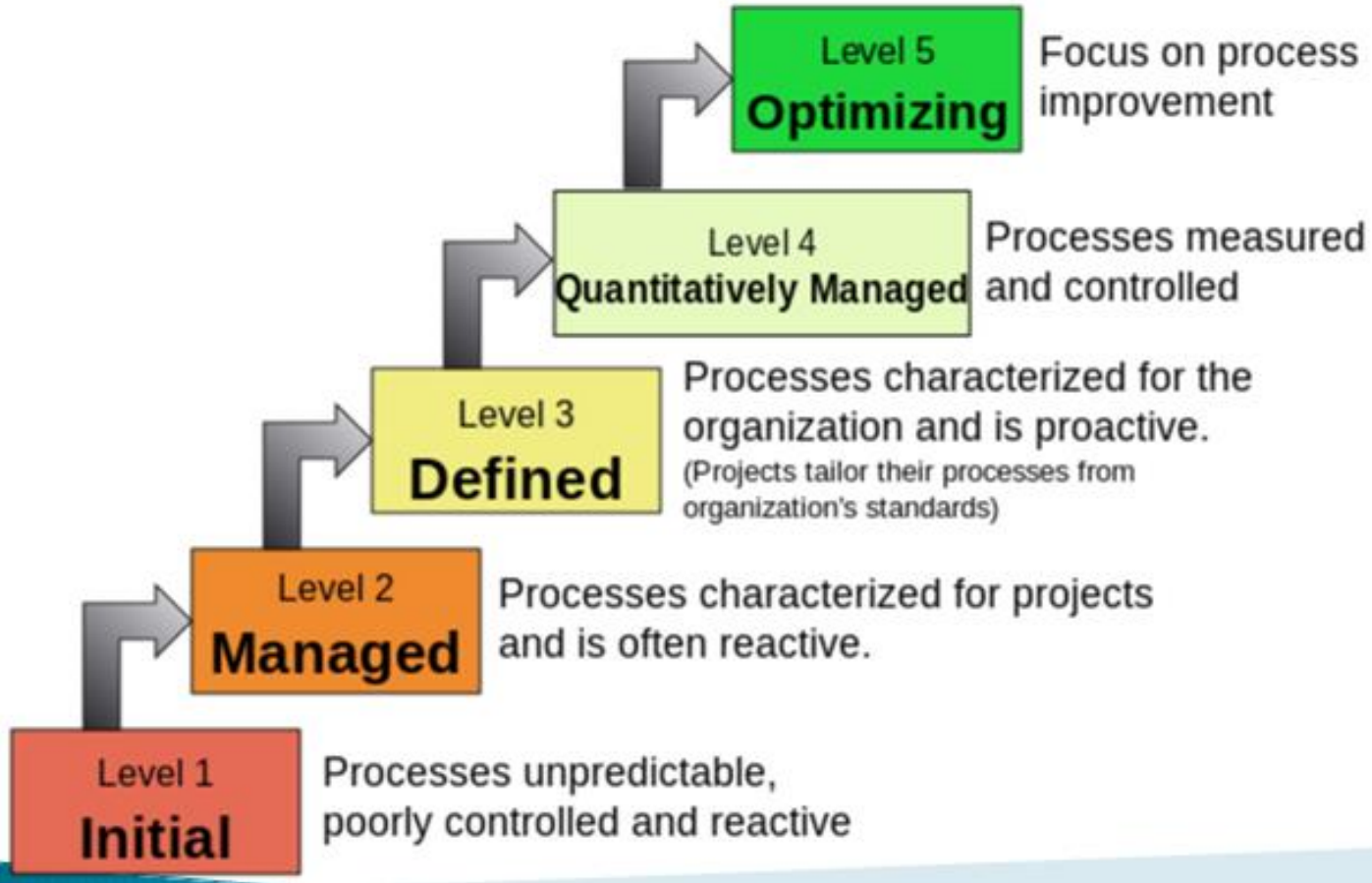
Phillips, J., 2003. PMP Project Management Professional Study Guid. s.l.:McGraw Hill Professional.

ON HISTORY OF A PROJECT MANAGEMENT, INFORMATION TECHNOLOGY PROJEC CASE



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Phillips, J., 2003. PMP Project Management Professional Study Guid. s.l.:McGraw Hill Professional.

ON EXAMPLES OF SUCCESSFUL AND FAILED PROJECTS

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https://www.mobileappdaily.com/software-project-failures-and-how-to-avoid-them

6 MAIN REASONS FOR WHY IT PROJECT FAILED

- **People begin programming before they understand the problem**
- **The team has an unrealistic idea about how much work is involved.**
- **Defects are injected early but discovered late**
- **Programmers have poor habits – and they don't feel accountable for their work.**
- **Managers try to test quality into the software**

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https://www.gartner.com/
https://www.pmi.org/

MORE REASONS FOR FAILED PROJECT

- **Project requirements are poorly defined**
- **Incorrectly defined project scope**
- **The project incorrectly identified the required resources**
- **The goal of the project is set too high**
- **The budget was miscalculated**
- **Incorrect timing**
- **Lack of project team skills**
- **Conflicts between stakeholders**

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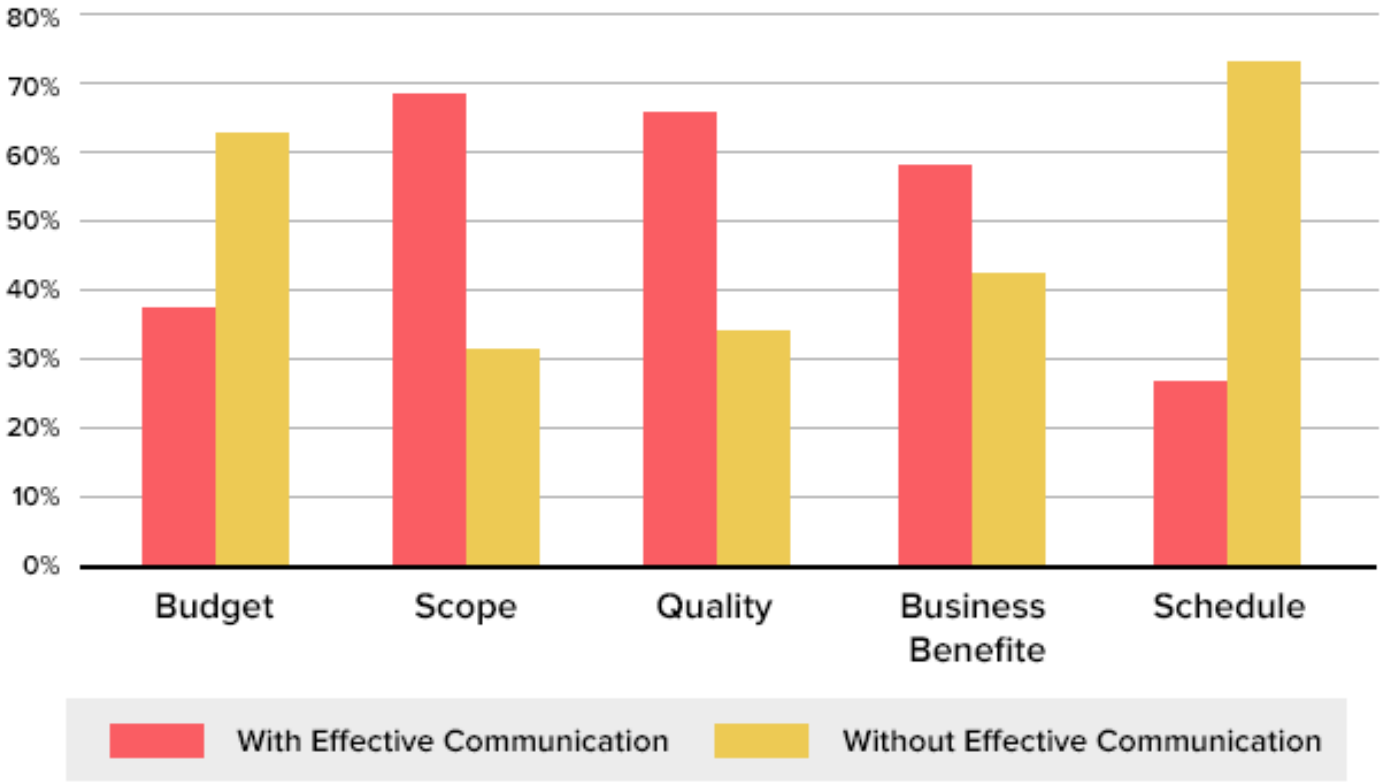
EFFECTIVE COMMUNICATION AND IT'S IMPACT ON KPI



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LACK OF CODING ITS TESTING FOR FAILED PROJECT

- **Programmers have poor habits – and they don't feel accountable for their work.**
- **Programmers don't have good control of their source code**
- **Code written by one person is often difficult for another person to understand**
- **Programmers don't test their code, which makes diagnosing and fixing bugs more expensive**
- **The team does not have a good sense of the overall health of the project.**

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https://www.mobileappdaily.com/software-project-failures-and-how-to-avoid-them

State of the Practice in Software Management

Technologies on Unsuccessful Projects	Technologies on Successful Projects
• No historical software measurement data	• Accurate software measurement
• Failure to use automated estimating tool	• Early use of estimating tools
• Failure to use automated planning tool	• Continuous use of planning tool
• Failure to monitor progress or milestones	• Formal progress reporting
• Failure to use effective architecture	• Formal architecture planning
• Failure to use effective development methods	• Formal development methods
• Failure to use design reviews	• Formal design reviews
• Failure to use code inspections	• Formal code inspections
• Failure to include formal risk management	• Formal risk management
• Informal, inadequate testing	• Formal testing methods
• Manual design and specification	• Automated design and specification
• More than 30% creep in user requirements	• Automated configuration control
	• Less than 10% creep in requirements

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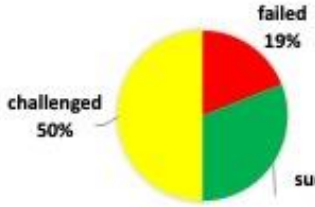
https://slidetodoc.com/se-477-software-and-systems-project-management-dennis-4/

CHAOS REPORT OF IT PROJECT

Project Success
Quick Reference Card

Based on CHAOS 2020: Beyond Infinity Overview. January 2021, QRC by Henny Portman



Modern measurement
(software projects)

Good Sponsor, Good Team, and Good Place are the only things we need to improve and build on to improve project performance.

The Good Place is where the sponsor and team work to create the product. It's made up of the people who support both sponsor and team. These people can be helpful or destructive. It's imperative that the organization work to improve their skills if a project is to succeed. This area is the hardest to mitigate, since each project is touched by so many people. Principles for a Good Place are:

- The Decision Latency Principle
- The Emotional Maturity Principle
- The Communication Principle
- The User Involvement Principle
- The Five Deadly Sins Principle
- The Negotiation Principle
- The Competency Principle
- The Optimization Principle
- The Rapid Execution Principle
- The Enterprise Architecture Principle

Successful project Resolution by Good Place Maturity Level:

highly mature	50%
mature	34%
moderately mature	23%
not mature	23%

The Good Team is the project's workhorse. They do the heavy lifting. The sponsor breathes life into the project, but the team takes that breath and uses it to create a viable product that the organization can use and from which it derives value. Since we recommend small teams, this is the second easiest area to improve. Principles for a Good Team are:

- The Influential Principle
- The Mindfulness Principle
- The Five Deadly Sins Principle
- The Problem-Solver Principle
- The Communication Principle
- The Acceptance Principle
- The Respectfulness Principle
- The Confrontationist Principle
- The Civility Principle
- The Driven Principle

Successful project Resolution by Good Team Maturity Level:

highly mature	66%
mature	46%
moderately mature	21%
not mature	1%

The Good Sponsor is the soul of the project. The sponsor breathes life into a project, and without the sponsor there is no project. Improving the skills of the project sponsor is the number-one factor of success – and also the easiest to improve upon, since each project has only one. Principles for a Good Sponsor are:

- The Decision Latency principle
- The Vision Principle
- The Work Smart Principle
- The Daydream Principle
- The Influence Principle
- The Passionate Principle
- The People Principle
- The Tension Principle
- The Torque Principle
- The Progress Principle

Successful project Resolution by Good Sponsor Maturity Level:

highly mature	67%
mature	33%
moderately mature	21%
not mature	18%

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https://hennyportman.files.wordpress.com/2021/01/project-success-qrc-standish-group-chaos-report-2020.pdf

ON VISION OF SUCCESSFUL PROJECT

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https://www.projectmanager.com/blog/guide-writing-perfect-vision-statement-examples

ON FOCUS ON TIME RESOURCES OF SUCCESSFUL PROJECT

Time/Schedule — time frames required for the project to reach completion.

Budget/Cost — financial constraints of a project. These include the cost of your team members with different skills and experience levels, the cost of contract workers and outsourcing.

Scope/Performance — tasks required to finish the project. Typically, as the project unfolds, the project scope either grows or shrinks to meet the changing client expectations.

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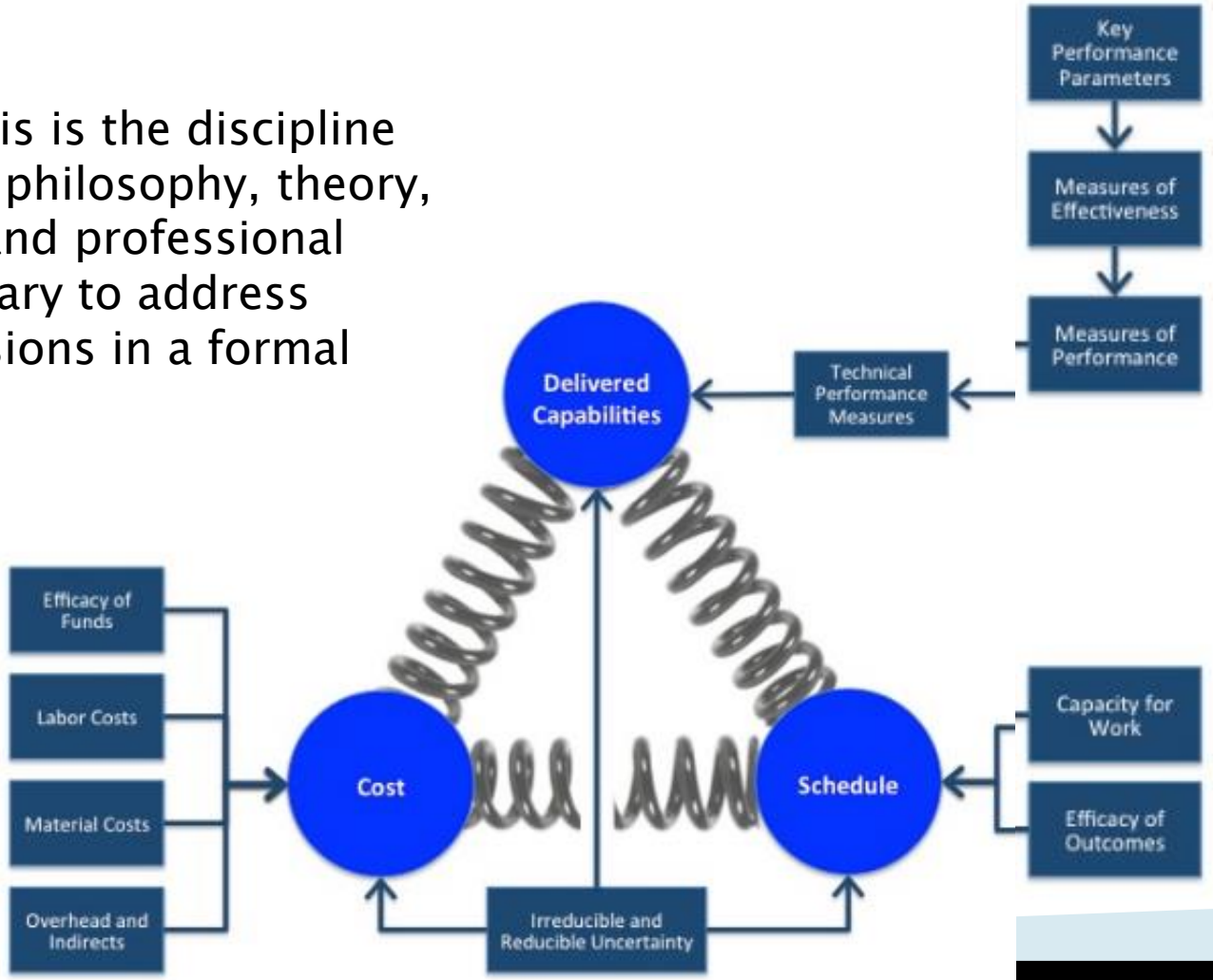
https://medium.com/actiresults/resource-management-in-software-projects-6fcf602c5504

DECISION MAKING ON SUCCESSFUL PROJECT

Decision analysis is the discipline comprising the philosophy, theory, methodology, and professional practice necessary to address important decisions in a formal manner.



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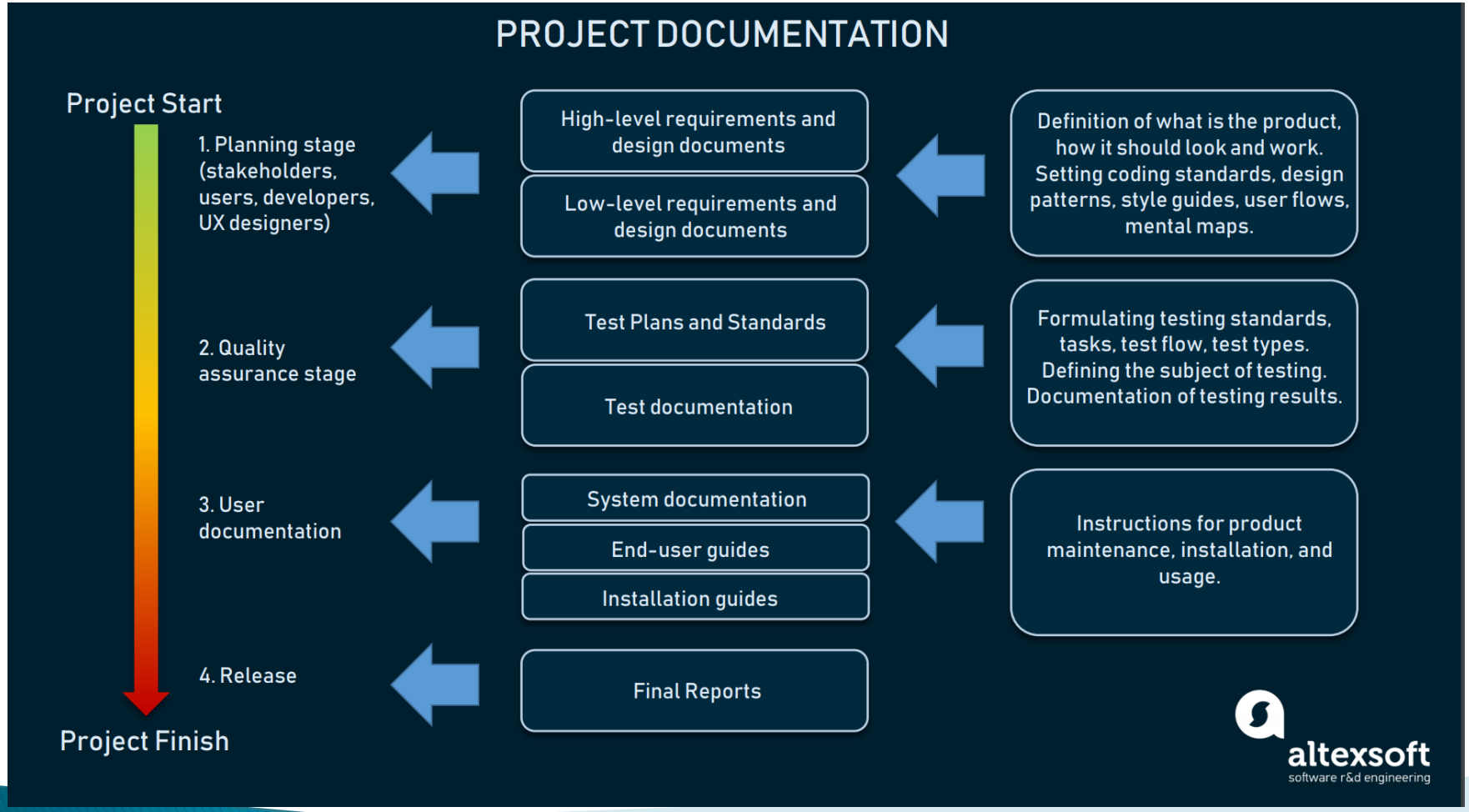
https://herdingcats.typepad.com/my_weblog/2015/04/decision-analysis-and-software-project-management.html

DOCUMANTATION OF SUCCESSFUL PROJECT



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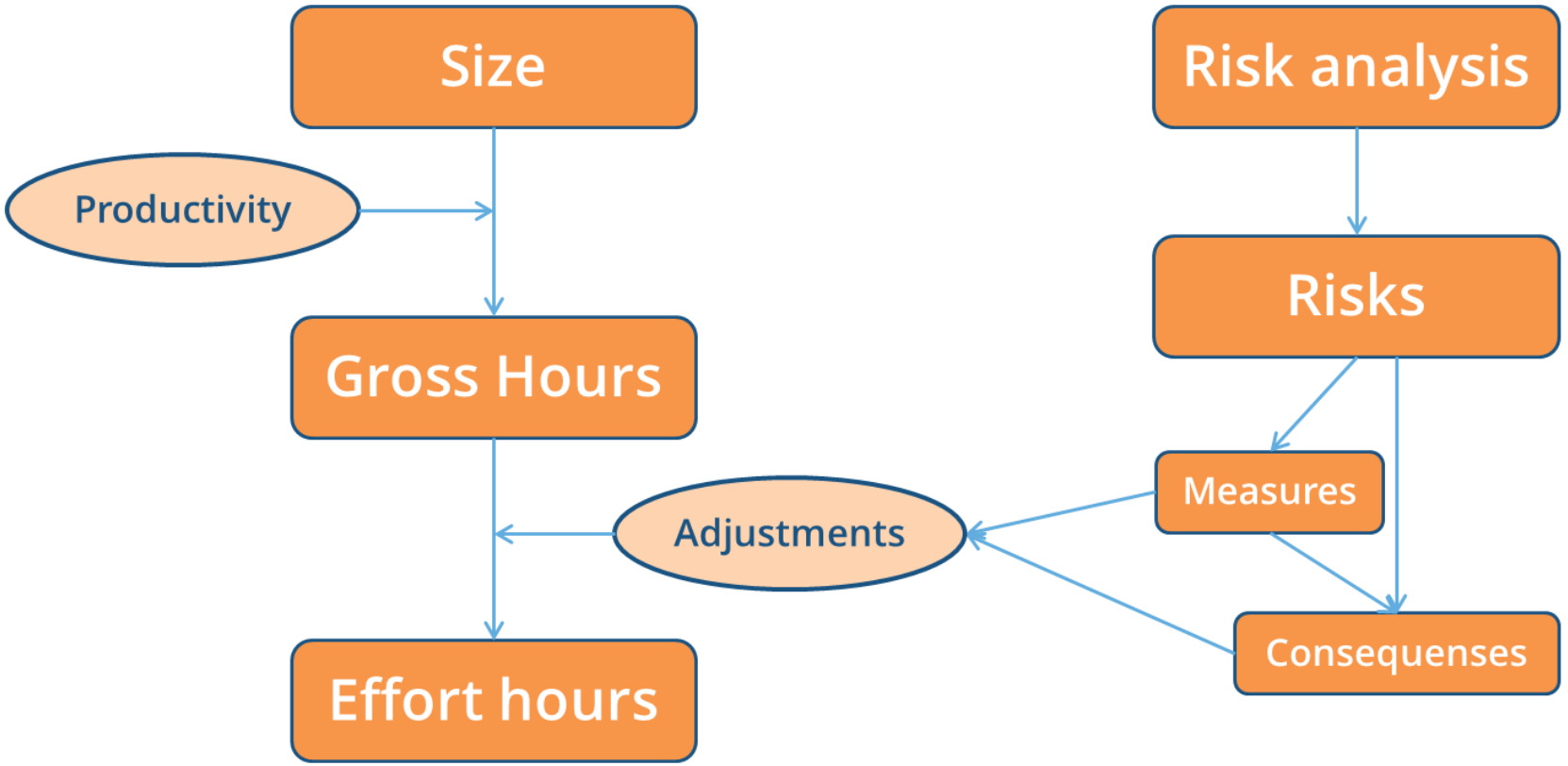
https://www.altexsoft.com/blog/business/technical-documentation-in-software-development-types-best-practices-and-tools/

FINANCE, BUDGET ESTIMATION OF SUCCESSFUL PROJECT



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https://nesma.org/2015/05/software-size-measures-and-their-use-in-software-project-cost-estimation/

ON STOPPING CASE OF SUCCESSFUL PROJECT

As a project progresses, its goals often become blurred and uncertain. In this case, no one has the courage to stop the project, not even the project sponsor. For a small project, like any other project, there are business, technical, investment and financial conditions to stop the project. It's easier to make the decision to stop a small project. This is because it has relatively little impact on the organization's operations.

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https://nesma.org/2015/05/software-size-measures-and-their-use-in-software-project-cost-estimation/

HOW CAN WE MAKE SURE THAT OUR PROJECTS SUCCEED?

- Make sure all decisions are based on openly shared information
- Don’t second-guess your team members’ expertise
- Introduce software quality from the very beginning of the project

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Andrew Stellman, Jennifer Greene, Applied Software Project Management, 2005, O'Reilly Media, Inc, ISBN: 9780596009489

HOW CAN WE MAKE SURE THAT OUR PROJECTS SUCCEED?

- Introduce software quality from the very beginning of the project
- Don’t impose an artificial hierarchy on the project team
- Remember that the fastest way through the project is to use good engineering practices

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Andrew Stellman, Jennifer Greene, Applied Software Project Management, 2005, O'Reilly Media, Inc, ISBN: 9780596009489

WHAT IS PROJECT TIME MANAGEMENT?

AIMS
Grow Your Career

www.aims.education

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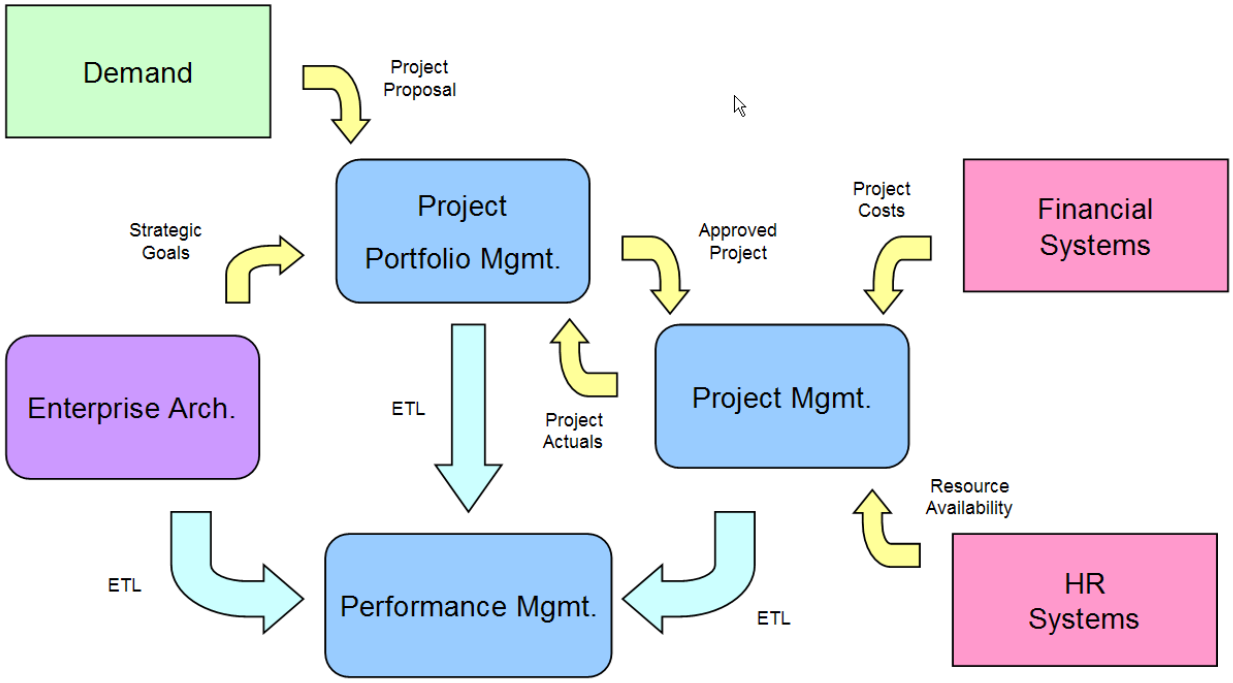
https://aims.education/study-online/what-is-project-time-management/

Software Project Management Context Diagram



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http://softwarewealth.blogspot.com/2016/09/software-project-management-knowledge.html

Information technology project documentation

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https://www.slideteam.net/three-months-project-proposal-development-roadmap.html

Start process of IT project

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https://www.projectmanager.com/blog/project-initiation

Challenges in a software project

The software industry is a rapidly evolving industry in terms of variety and technology. In addition to specializing in their field, software companies need to have a broad knowledge of the industry in which the client organization operates. Therefore, it is very important to decide what kind of experience and project team to appoint to the organization working in which field

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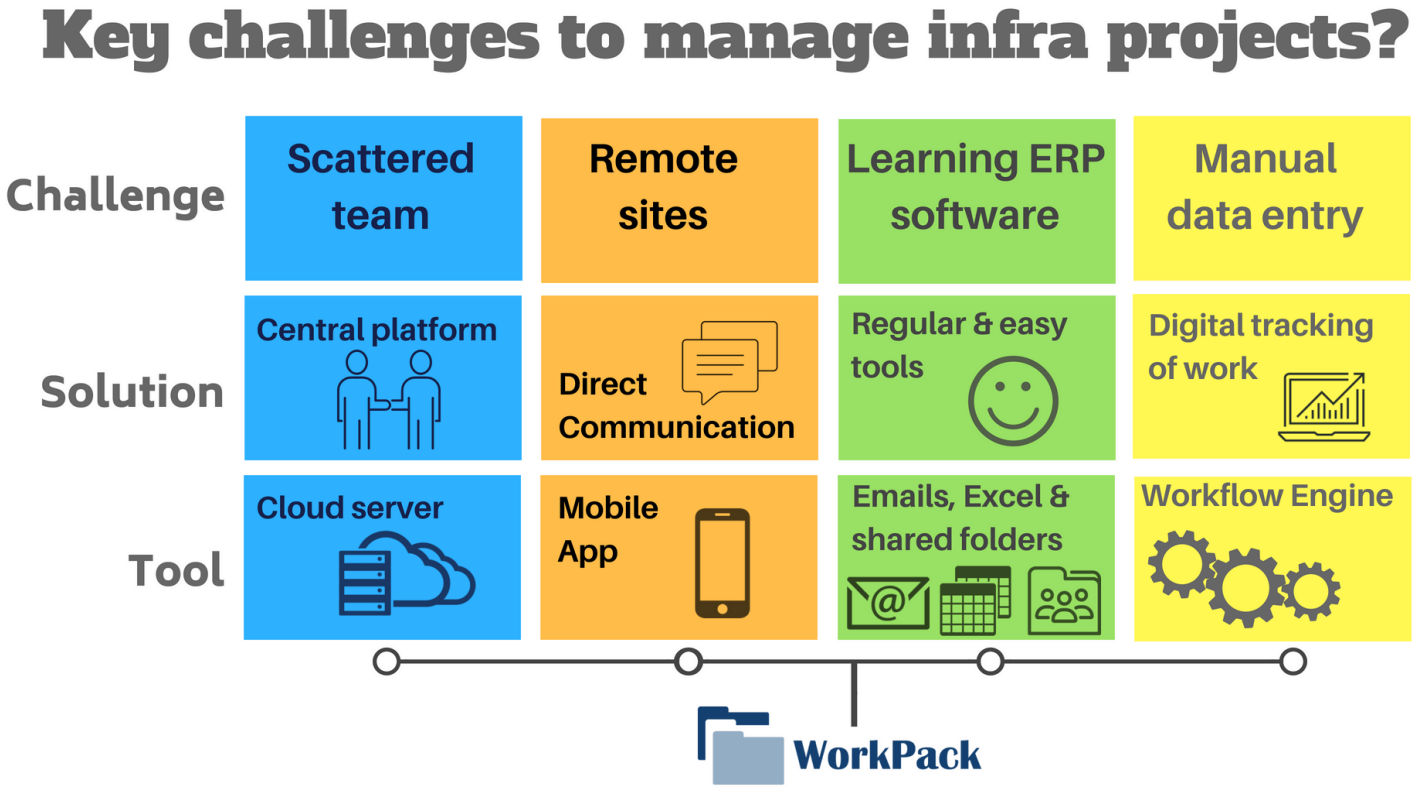
Challenges in a software project



Lack of software knowledge
Different levels of customer requirements
Customer training

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For a software project, hints

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https://www.dreamstime.com/royalty-free-stock-photo-project-management-success-diagram-image23973505

Thank you.

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