

ENGR 301

Engineering Project Management

PROJECT INTEGRATION AND HUMAN RESOURCE MANAGEMENT



Project Integration Management

The role of the project manager: to direct and manage stakeholders to complete the project.

Project managers:

- Coordinate planning and execution
- Develop and use “soft” skills – **actually the hardest skills to master**
- Provide a supportive organisational culture
- Break the rules when needed
- Capitalize on product, business and application area knowledge
- Use project execution tools and techniques

Project Integration Management

The **Team Lead** role is similar to that of a **Project Manager**.

Teams:

- Coordinate planning and execution
- Use project execution tools and techniques
- Are responsible for managing the project

Team Leads:

- Provide points of coordination between teams and staff
- Develop and use “soft” skills

Staff:

- Direct and manage stakeholders
- Provide a supportive organisational culture
- Break the rules when needed

Project Integration Management

Coordinates planning and execution:

- The purpose of plans and planning is to guide execution
- A well-conceived plan is ~~easy~~ easier to execute
- As the project environment changes, the plan is updated
- Everyone needs to be aware of plan updates

What and where is your project plan?

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Develop and use soft skills

- Strong leadership
- Effective team building
- Strong communication
- Motivation
- Negotiation
- Conflict management
- Problem Solving

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Provide a supportive organisational culture

- Organisational procedures can help or hinder execution
- If **templates** or **guidelines** exist, use them
- If templates or guidelines are required, create them
- Use project plans to monitor progress during execution
- **Create a supportive culture within the team**
(even if the external organisational culture is not supportive)

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Break the rules when needed

- May be necessary even with a supportive organizational culture
- Examples could be the use of non-standard software or hardware
- Stakeholders will need to be persuaded
- **Very risky – *politics* will play a role in the results**

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Capitalize on product, business and application area knowledge

- This is the specialist knowledge you bring from your other courses
- Use your expertise to guide the team when making important decisions
- Know how to access the organisational expertise within the School

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Use project execution tools and techniques

- Follow an appropriate project management methodology
- Methodology should include guidelines for communication, project status, conflict handling, etc.
- Use project management software

What methodology and software are you using?

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Deliverables

- These are the most important outputs from your project
- They should be documented!
- *What are your project's deliverables?*
- *Where are they documented?*
- *When do you deliver them?*

Project Integration Management

Implemented Solutions to Problems

[Does that phrasing seem odd to you?
Integration management produces the above!]

Despite best efforts:

- Some problems can't be avoided, or
- first appear during project execution.

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Common problems:

- Lack of support for the project from “higher-ups”.
- Project stakeholders insufficiently involved in decision-making.
- The project manager/team is inexperienced.
- The project objectives/scope are unclear.
- Estimates for time and cost goals are unreliable or unrealistic.
- Business needs/technology changes have impacted the project.
- People working on the project are incompetent or unmotivated.
- There are poor conflict-management procedures.
- Communications are poor.
- Suppliers are not delivering as promised

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Common solutions:

- **HR Management:** “Managing up” and “Leadership from the bottom”.
- **Stakeholder Management:** involve stakeholders.
- **HR Management:** Training, mentorship and reflection.
- **Scope & Stakeholder Management:** clarify requirements and objectives.
- **Time & Cost Management:** review previous to refine future estimates.
- **Risk Management:** anticipate & avoid; adapt to external changes.
- **HR Management:** training, accommodation, reflection.
- **HR Management:** practice good conflict-management; team contract.
- **Communications & HR Management** Document; identify modes and styles
- **Risk Management:** anticipate & avoid; adapt

Project Integration Management

Issues with Competence and Motivation

Teams should never ignore such issues

Try to deal internally first

Raise with your senior manager in the second instance

Who raises such issues?

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Poor Conflict Management

Conflicts are a natural part of work and life in general.

Handling conflicts well can promote **project success**

Handling conflicts poorly can cause **project failure**

The **team contract** should address conduct and conflict management

Conflict Management Methods

Balancing Importance of Task vs. Importance of Relationship

1. **Confrontation** or problem-solving: Directly face a conflict (high/high).
2. **Compromise**: Use a give-and-take approach (medium/medium).
3. **Smoothing**: De-emphasize areas of differences and emphasize areas of agreement (low/high).
4. **Forcing**: The win-lose approach (high/low).
5. **Withdrawal**: Retreat or withdraw from an actual or potential disagreement (low/low).
6. **Collaborating**: Decision makers incorporate different viewpoints and insights to develop consensus and commitment

Human Resource Management

Project execution is the longest phase;

It exposes your projects to the
greatest number of **human factors**.

Human Resource Management

Project execution is the longest phase; it exposes your projects to the greatest number of **human factors**.

Those factors are often around the:

- motivation
- influence
- effectiveness

experienced by your team and its members.

Brief Review of Motivation

Nobody really knows what motivates individuals to do the things they do. In an attempt to understand, motivations are often split into:

Intrinsic Motivation: causes people of their own volition to behave in a particular manner.

Extrinsic Motivation: causes people to do something for reward/benefit or to avoid a penalty/detriment.

But, why different people experience different types and degrees of motivation at different times in similar situations, is still unknown.

Maslow's Hierarchy of Needs

This is one attempt to understand human motivations.

- Behaviours are motivated by needs, in sequence
- Each level is a prerequisite for the next
- A satisfied need is no longer a motivator

Maslow's Hierarchy of Needs

Physiological, Safety, Social and Esteem are termed “deficiency” needs: needs which arise from deprivation; satisfaction of these needs avoid feelings of anxiety or discomfort.

Self-actualisation is a “growth” need: a need which arises when all other needs are met.

Maslow's Hierarchy of Needs

Hopefully you and all of your team members have your Physiological and Safety needs met!

The degrees to which Social and Esteem needs can be met by project teams or managers depend on context and individual.

A team member motivated by self-actualization is likely performing at their peak.

Maslow's Hierarchy of Needs

Caveats: Maslow's Hierarchy of Needs originated in a particular time, place and context.

Consequently, its worldview of personal growth and fulfilment is not universally accepted or applicable.

Some refinement of this model is found in Herzberg's Motivation-Hygiene Theory.

Herzberg's Motivation-Hygiene Theory

Herzberg's Motivation-Hygiene Theory, a.k.a. the two-factor theory, was developed for workplace motivation.

The central idea is that job satisfaction and job dissatisfaction act independently of each other.

Motivators: cause job satisfaction when present

Hygiene factors: cause job dissatisfaction when absent

What do you think are motivators and hygiene factors in the workplace?

Herzberg's Motivation-Hygiene Theory

Herzberg's studies showed that salary, working conditions, etc. are **hygiene factors**.

More **hygiene** does not produce greater motivation!

Herzberg argued that people want to actualize themselves, per Maslow's Hierarchy of Needs.

Herzberg's Motivation-Hygiene Theory

Motivation is caused by factors which give opportunity for growth (self-actualization).

What hygiene and motivator factors can you identify in your projects and teams?

McGregor's Theory X and Theory Y

Theory X (Classical Systems Theory)

Assumes the average worker:

- Dislikes working
- Avoids work wherever possible
- Wants to be directed
- Wants to avoid responsibility

And thus coercion, threats and control structures are required to make workers meet objectives.

Theory Y (Human Relations Theory)

Assumes that individuals:

- Do not inherently dislike work
- Find work natural
- Want satisfaction of esteem and self-actualization needs

And thus should be motivated per Maslow's Hierarchy.

Research supports Theory Y.

The Job Characteristics Model (JCM)

Uses job design to improve motivation. There are five key job characteristics:

Skill Variety: the job requirements for use of different skills and talents

Task Identity: how much the job is a clearly identifiable larger project

Task Significance: the influence of the job on the work of others

Autonomy: the independence, freedom and discretion in performing the job

Task Feedback: the amount of clear, specific, detailed, actionable information about the effectiveness of job performance

These characteristics can be used to calculate a “Motivating Potential Score” for the job.

Influence over Team Members

Age-old Question: How do I make people do what I want them to do?

Investigation has identified nine **influence bases**, but note that:

How project managers or project teams approach and treat team members affects project success.

The Nine Influence Bases

The nine influence bases available to project managers and/or teams:

1. **Authority** – legitimate hierarchical right to command
2. **Assignment** – perceived ability to influence future project assignments
3. **Budget** – perceived ability to authorize use of discretionary funds.
4. **Promotion** – the ability to improve a member's position
5. **Money** – the ability to improve pay and/or benefits
6. **Penalty** – The perceived ability to dispense or cause punishment
7. **Work Challenge** – The ability to assign enjoyable work
8. **Expertise** – perceived specialised knowledge others deem important
9. **Friendship** – The ability to establish friendly personal relationships

The Nine Influence Bases

It has been found that projects are more likely to fail when:

- Authority
- Money
- Penalty

are relied upon to influence people.

Projects are more likely to succeed when:

- Work challenge
- Expertise

are used to influence individuals.

What influence bases are available to you in your projects?

Empathic Listening and Rapport

Good project managers are **empathic listeners**—they listen with the intent to understand

- Before you can communicate with others, you have to have **rapport**—a relation of harmony, conformity, accord, or affinity
- **Mirroring** is the matching of certain behaviors of the other person, a technique to help establish rapport

[From Covey, *The Seven Habits of Highly Effective People*]

Personality Types and Team Work

First Obvious Truism: Everyone has a personality type

Second Obvious Truism: Teams are very likely to be made up of people with different personality types

Proposition: You don't have to love your team-mates, but you do have to work with them.

Obvious Question: how do you work, in a team, with people who may have a different personality type to your own?

Or, occasionally, how do you work with people who have the same personality type?

Obvious Answer: ...?

Personality Types and Team Work

Teams are made up of people with personalities

What is required for an extremely effective and high-achieving team?

- Teams with homogeneous personality type composition often function adequately.
- Teams with heterogeneous personality type compositions can function extremely effectively... or be extremely dysfunctional.

Team diversity is necessary but not sufficient!

Personality Types and Team Work

What is required to make a team of diverse individuals an extremely effective and high-achieving team?

An understanding of:

- yourself,
- your team-mates and
- how to function together in a team

This requires an understanding of personality types and team roles

- ~~Meyers-Briggs Personality Types~~
- Belbin Team Roles

Belbin Team Roles

Stems from the work of
Meredith Belbin.

Core Concept: People often naturally fall
into discrete roles in teams.

See the [ENGR 301 Talis page](#) for links.

ENGR 301 Reading List

The course reading list

<https://victoria.rl.talis.com/lists/D87650D1-ED14-8060-E0CC-9CF3DCAD5E75.html>

Has several sections with resources for managing conflicts and team dynamics, including:

- Teamwork and Team Dynamics
- Belbin Team Roles
- BYU Manager's Toolbox