

Final Project

Prepared by Walid Soliman

Lecture 12

Resources & Procurement



PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



جامعة الجميع الذكية

EVERYONE`S SMART UNIVERSITY

- Happy New Semester! Best wishes to all our students, faculty, and staff on a great semester!

Mission & Vision Statements

- **A Mission Statement** defines the company's business, its objectives and its approach to reach those objectives.
- **A Vision Statement** describes the desired future position of the company.
- Elements of Mission and Vision Statements are often combined to provide a statement of the company's purposes, goals and values.

What is Mission Statement?

- **A Mission Statement** is a role or purpose by which an organization intends to serve its stakeholders.
- It describes what the organization does (current capabilities), who it to serve (stakeholders) and what makes the organization unique (justification for existence).
- Mission statement is simply an organization's reason for existing.

Mission Statement

For developing mission of any project, the follow two questions' answers should be written:

1. What are we going to do?
2. How are we going to do it?

Example of mission statement

Farm Fresh Company:

To become the number one product store in main street by selling the highest quality, fresh farm product, from farm to customer in under 24 hours on 75% of our rang and with 89% customer satisfaction>

What is a Vision statement?

- **A Vision Statement** identifies where the organization intends to be in the future or where it should be to best meet the needs of stakeholders.
- **It is a business's guiding image of success**
- “Destiny is not a matter of chance, but of choice. Not something to wish for , but to attain.

What is a Vision statement?

- A good Vision Statement will help when there are no clear answers, or for critical decisions that will impact your products or service. Control your destiny or someone else will.

Vision Statement

- What makes a good Vision Statement?
- It would be short, simple and powerful.
- A Vision is meant to inspire, has an emotional impact.
- It must give a clear direction or mental image to anyone that reads it.
- Provide a sense of belonging to the stakeholders.

Vision Statement Example

- **McDonald's corporate vision** “to move with velocity to drive profitable growth and become an even better McDonald's serving more customers delicious food each day around the world.”.

Objectives

- After developing **mission statement** , **objectives** are required to define. Objectives are much specific than mission statement.
- For example- I want to finish my assignment by 10 o'clock this morning. **That indicates to perform several tasks.**

Objectives

- Objectives must be evaluated by **SMARTER** tool:
 - Specific
 - Measurable
 - Attainable
 - Realistic
 - Timeframe
- **Extending**
 - **Rewarding**

Goal

What is goal?

- Goal is a target to achieve within a specific time.
- Without a goal or aim you can't lead your life with the feeling of satisfaction
- Goal can be one or more objectives that needs to be achieved in specific time.
- Goals help choosing a specific task from various options.

Leading KPIs

- **Leading KPIs** measure performance *before the business* or process result starts to follow a particular pattern or trend. Leading KPIs are used to predict changes or trends, as well as forward looking and help to manage the performance of a system or process.

Leading KPIs

- **Leading indicator** is a predictive measurement, for example; the percentage of people wearing hard hats on a building site is a leading safety indicator.
- **To influence the future**, a type of measurement is required to be predictive rather than a result. For example, if we want ***to increase sales***, a predictive measure could be to make ***more sales calls*** or run more ***marketing campaigns***.

Lagging KPIs

- **Lagging indicator** measure performance *after the business* or process follow a pattern or trend and is used to confirm long-term trends. Lagging indicators are used to determine how well a process or system was managed.

Lagging KPIs

- A lagging indicator is an output measurement, for example; the number of accidents on a building site is a lagging safety indicator.
- They are **an after-the-event** measurement, essential for charting progress but useless when attempting to influence the future.

Lead & Lag Indicators

- Lead indicators are always more difficult to determine than lag indicators. They are predictive and therefore ***do not provide a guarantee of success.***
- lead indicators frequently require ***an investment*** to implement an initiative prior to a result being seen by a lag indicator.

Lead & Lag Indicators

- It is always good practice to use a **combination of lead and lag indicators**. The reason for this is obvious; a lag indicator without a lead indicator will give **no indication** as to how a result will **be achieved** and provide no early warnings about tracking towards a strategic goal.
- **We tend to settle for lag indicators, however, do not underestimate the importance of lead indicators.**

Strategic Objectives	Lead Measure	Lag Measure
Financial perspective Usually, this section concerns itself with key financial data such as revenue, cost of sale, gross margin, expenses and net profit, however it can also include financial initiatives such as risk assessments and cost-benefit data.		
Improve return on investment	Add three more products to the portfolio this year	Return on investment
Broaden revenue portfolio		Revenue growth
Reduce overall costs		Expense costs

Strategic Objectives	Lead Measure	Lag Measure
Customer Perspective The company seen from the customer's viewpoint. Unsatisfied customers will look for other suppliers to meet their needs. Customer satisfaction is a lead indicator that can predict potential future loss.		
Increase customer satisfaction	More account management	Customer satisfaction score
Increase company awareness	Number of press articles	Customers call us
Decrease customer attrition	Improved customer service	Number of customers

Strategic Objectives	Lead Measure	Lag Measure
Internal Processes Perspective The ability to determine how well the business is running and whether the products and/ or services meet the needs of its customers and are aligned to the companies' objectives.		
Create innovative products	Product development cycle	New product/service revenue
Improve the Knowledge base	Number of articles submitted	Knowledge base in place
Reduce operational problems	Hours spent with customer	Product/service error rate

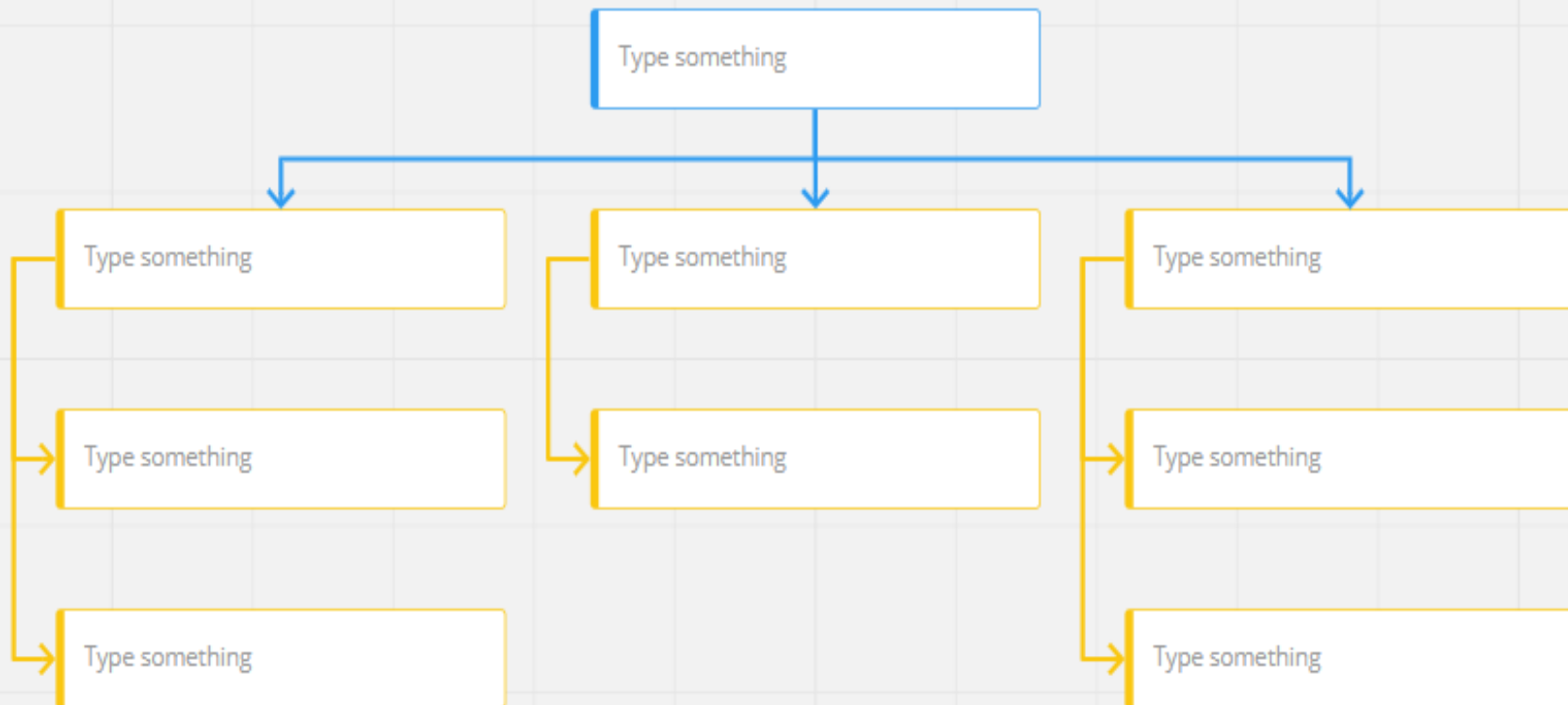
Strategic Objectives	Lead Measure	Lag Measure
Learning and Growth Perspective The main resource in most companies today is its people, it is essential, especially in a climate where technology is changing rapidly, that they grow and learn continuously. Focus must be on where best to spend ever decreasing budgets.		
Development of strategic skills	Service/product cover ratio	Employee satisfaction
Better strategic communication	Information availability	
Alignment of personal goals	Goal alignment	Revenue per employee

Develop Project Charter

- Develop Project Charter is the process of developing a document that formally ***authorizes the existence of a project*** and provides the project manager with the authority to apply organizational resources to project activities. The key benefit of this process is a ***well-defined project*** start and project boundaries, creation of a formal record of the project, and a direct way for senior management to formally accept and commit to the project.

What Is Organizational Chart?

- An **organizational chart** is a diagram that visually conveys a company's internal structure by detailing the roles, responsibilities, and relationships between individuals within an entity.
- An organizational chart graphically represents an organization's structure, highlighting the different jobs, departments, and responsibilities that connect the company's employees to each other and to the management team.



What Is Organizational Chart?

- Organizational charts can be broad-based, depicting the overall company, or can be department- or unit-specific, focusing on one spoke on the wheel.
- Most org charts are structured by using the "hierarchical" model, which shows management or other high-ranking officials on top, and lower-level employees beneath them.
- Other types of charts include the flat org chart, the matrix chart, and the divisional org chart.

What Is Organizational Chart?

- Regardless of an organization's structure, org charts are extraordinarily useful when an entity is contemplating **restructuring its workforce** or changing its management complex. **Most importantly**, *org charts let employees transparently see how their roles fit into the overall company structure.*

What Should an Organizational Chart Show?

- An organizational chart should visually show what **the hierarchical status of a particular employee relative to other individuals within the company.** For example, an assistant director will invariably fall directly below a director on the chart, indicating that the former reports to the latter.

What are the Types of Organization Charts?

What Are the Most Commonly Used Organizational Charts?

Project Management office

- A Project Management Office (also called PMO), is an office or department within an organization that defines and maintains standards for project management. The Project Management Office provides guidance and standards in the execution of projects.
- A successful PMO is a combination **of good people, processes and tools.**

Project Management office

- Apart from just **managing project** portfolios, here are the other benefits it delivers:

- ❖ **Strategic planning and governance:**

- By scoring projects using predefined criteria, the strategic selection of potential projects can be done according to the business goals of the organization.

Project Management office

❖ Best practices and process:

- PMOs implement and consolidate best practices and processes within the organization and standardize the process across all departments and services.
- Provides consistent project management guidance, methods, systems, tools and metrics for consistent project outcomes throughout the organization.

Project Management office

❖ Common language, culture and mindset

- A PMO helps disseminate a common project culture and mindset by informing, communicating and training employees about different techniques, methodologies and best practices in the industry

Project Management office

❖ Resource Management:

PMOs also manage and allocate resources effectively across all projects, by managing priorities based on timelines, budgets, resource loads and what-if analysis information and accordingly ***providing the right resources, at the right time.***

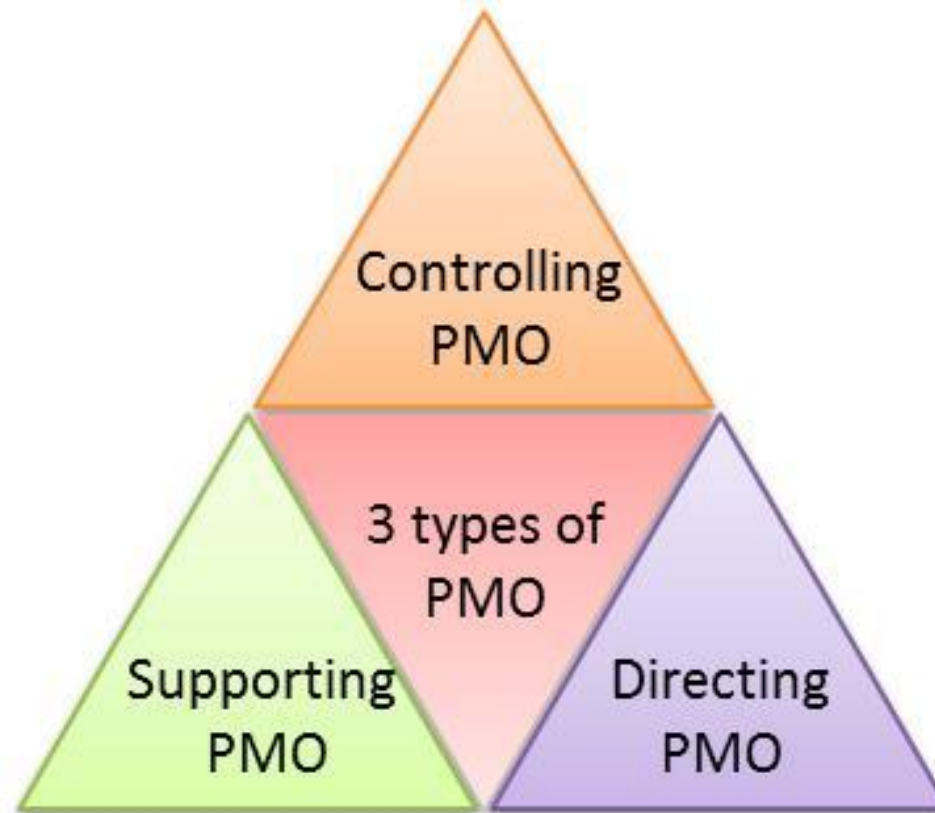
Project Management office

❖ Creating and maintaining project artifacts, archives and tool sets

PMOs provide templates, tools and software to manage project efforts.

They invest in tools for managing projects - which pays off in ensuring reliable data, which enables early visibility into project performance for *better decision-making*.

Project Management office



Project description & outcomes

PROJECT DESCRIPTION AND EXPECTED OUTCOMES TEMPLATE:

Timeframe	Goal	Activities	Expected Outcome(s)	Measure(s) of Success

Check List of Project

Task	Deadline	Status	Notes

Project description & outcomes

EXAMPLE:

(For Illustration Purposes Only)

Timeframe	Goal	Activities	Expected Outcome(s)	Measure(s) of Success
June-August 2017	Build middle school students' leadership skills	-Survey students on activities and/or areas of interest they would like incorporated into the program -Work with middle schoolers to become peer mentors to the younger students in the program -Establish a youth advisory board for the program -Regular one-on-one meetings between program staff and youth	-Students in the program will be more confident, able to clearly and effectively communicate their opinions, actively listen, and work collaboratively with their peers and adults	-Students will report positively on outcomes such as feelings of belonging, their ideas count, they have opportunities for leadership within the program -A youth advisory board will be in place
September 2017 — March 2018	Build staff knowledge and expertise on supporting middle school youth leadership skills	-Creating a staff development plan -Program staff will participate in professional development opportunities covering how to best support youth voice and on positive youth development -Regular program staff meetings to discuss the project	-Program staff will feel more confident in their knowledge of positive youth development ways	-Program staff will complete at least two professional development opportunities -Bi-monthly program meetings will take place to discuss the project
June 2017-June 2018	Engage the parents of at least 15 youth in program activities.	-Develop outreach plan to schools and the community -Begin monthly parent newsletter -Plan & host 2 open houses or other events for parents, family, and community members	-The program will have stronger relationships with parents & family of youth -The program will gain increased support from the community	-Youth will have more support at work and at home. -By the end of the first year, the program will retain at least 85% of its middle school students

Stakeholders Management

- ❖ Projects do not exist in isolation. Even if there is a defined brief, budget, program and scope of work the project is still subject to **external influences**.
- ❖ The project exists within a 'political' environment, populated by all those who have a **particular stake or interest** in the outcome of the project. This political environment and the expectations of stakeholders **represent significant risk to a project**.

Stakeholders Management

- ❖ It is unlikely that the requirements of all stakeholders will coincide and they will seek to influence the project **in order to meet their own requirements**. However if the views of project stakeholders are **not addressed** and if stakeholders are **not involved** in the development of the project, then the project is unlikely to deliver optimum value for all involved.

Stakeholders Management

- ❖ It is important that project managers strike the **right balance** between ***stakeholder involvement and isolation*** of the project from external influence in order to achieve delivery on **cost and time** but also to **maximize benefit** for the client and his stakeholders.

Reference

Johnson, G. & Scholes, K. (2002) Exploring Corporate Strategy. UK:Prentice Hall

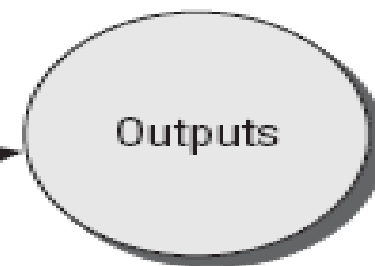
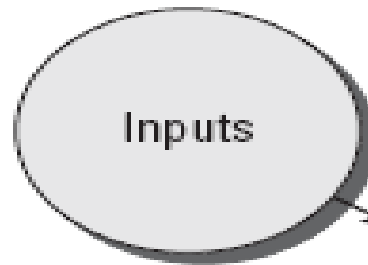
Stakeholders Management

❖ Identify Stakeholders

Identify Stakeholders is the first process of the **Project Communications** Management Knowledge Area, and part of the Initiating process group. This process **involves identifying and documenting** all the stakeholders on the project, including their interests, impact, and potential negative influences on the project. Stakeholder identification should occur as early as possible in the project and continue throughout its life.

Stakeholders Management

- Project Charter
- Procurement Documents
- Enterprise Environmental Factors
- Organizational Process Assets



- Stakeholder Register
- Stakeholder Management Strategy

- Stakeholder Analysis
- Expert Judgment



Stakeholders Management

- ❖ Stakeholders are those who have a stake or an interest in a project or strategy undertaken by an organization, they will be **affected** in some way be the project and so have an interest in **influencing it**. They may **benefit** from the project and so will be **supportive** about it; conversely, the project may **damage** their interests or they may perceive it will have a **negative** outcome for them so they will seek to **stop it**.

Stakeholders Management

There are **two groups** of project stakeholders, (**internal and external**) to the client organization. The type most usually recognized are the external stakeholders, however the management of internal stakeholders is often more problematic.

Stakeholders Management

External Stakeholders

Are the individuals or organizations who are not part of the client organization but nevertheless **have an interest** in the project. For publicly funded projects the number of stakeholders who can be identified is high.

These generally consist of:

Stakeholders Management

- Funders, whether this be a government department, grant provider or private sector partner.
- Users, whether these be passengers for a transport project or visitors .
- Regulatory authorities. Most commonly the planning authorities
- Those affected, who may be neighbors or those working or living nearby.
- The press and media are another significant group who can greatly influence perception of the project and its perceived, and actual, success.

Stakeholders Analysis

Stakeholder analysis can be used **to understand** the stakeholder environment and to prioritize management resources.

It can be undertaken as follows:-

- The first step is **to identify stakeholders**, you can't manage them if you don't know who they are, list them out. (Involve all members of the team).
- Next decide on **the level of power and interest** each individual stakeholder has to influence the project. This is not a precise art, the assessment can only be based on the perceptions of the team.

Stakeholders Analysis



Stakeholders Analysis

- You will then need to define whether the individual stakeholder groups **are positive or negative about the project**. You will probably find that those with a **high level of interest**, on the right of the matrix are either strongly supportive or otherwise, this is not surprising as their interest is high and so they have an opinion. Those on the left may have no strongly formed views

Stakeholders Management

Active Management of Stakeholders

The basic requirement is to manage the project so that positive stakeholders are in the bottom right hand corner and negative stakeholders are out of that corner. You need to remember that the **matrix is dynamic**, changes of individual within stakeholder organizations or changes to your project will be reflected in the matrix. **The following are some ideas for strategies that you or the client may wish to adopt to deal with the various groups.**

Stakeholders Management

The primary components of **a stakeholder management plan** are:

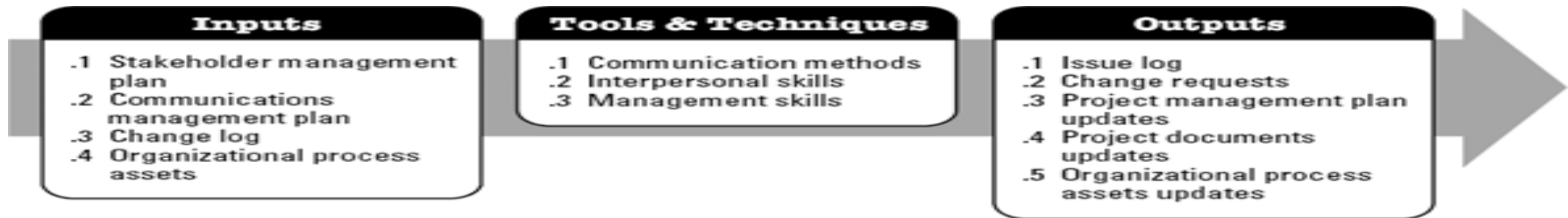
A list of all known stakeholders. Include their information.

- **Prioritization of stakeholders.** Rank stakeholders based on their ability to influence your project and how much they care about its outcome.
- **Stakeholder expectations.** You must document everything, including how they prefer to communicate and what they want to be involved with.
- **Communication rules.** The plan should outline the level, frequency, and type of communication with each stakeholder.
- **Action plans.** This is the meat of your plan — It's where you outline how you will manage stakeholder involvement and what steps to take to ensure expectations are met.

Stakeholders Management

Manage Stakeholder Engagement

Manage Stakeholder Engagement is the process of communicating and working with stakeholders to meet their needs/expectations, address issues as they occur, and foster appropriate stakeholder engagement in project activities throughout the project life cycle.



High Power, High Interest

If they are positive provide them with information to maintain their support, look after them well they are important. Don't ignore them just because they are not causing you any problems at the moment. Involve them in your project, make them part of your project steering group (if they are not already), involve them in decisions, use them to lobby other groups and make sure they voice their support. Those with high power and interest, who are negative are a big problem and you need to put effort into dealing with them

Management Strategies

Positive

- Provide information to maintain their support
- Consult with them prior to taking project decisions
- Meet with them regularly
- Consult with them, involve them and seek to build their confidence in the project and the team
- Encourage them to act as advocates for the project

Management Strategies

Negative

- Attempt to develop their support and change their view by ensuring they fully understand the project and the benefits it will deliver. Their resistance maybe due to lack of information or understanding.
- Attempt to build their confidence in you and in the team.
- Find out what is important to them.
- Demonstrate that you are doing your best to limit adverse effects on them.
- Counter any negative influence they may have on others.

High Power, Low interest

The high power, low interest group are the unexploded bombs – their interest is low, at the moment. However if the project alters or the individuals change their interest may **suddenly increase** and they will use their **power to influence the project**.

Management Strategies

- Maintain a careful watching brief, make sure that changes to the project or changes within the stakeholder organization do not suddenly increase the level of negative interest.
- Find out what is important to these groups and make sure that the project does not adversely affect this. If the project is likely to have a positive effect for them make sure they are aware.
- Beware of other negative stakeholders passing information to this group to encourage them to oppose the project.

High Interest, Low Power.

If they are positive, they are strong allies – treat them well, provide them with information, involve them, use them to lobby other groups. If they are negative, they will probably deluge you with e-mails and phone calls, you need to ensure that you don't spend too much time on them.

Management Strategies

- Positive
 - Maintain their enthusiasm and interest in the project, they are good allies.
 - Provide them with information, invite them to presentations, involve them as much as resources allow.
 - Seek their input and opinion if you can, they will be flattered by this, but ensure that you do not get too many opinions.

Management Strategies

Negative

- This is a group that you will probably know all too well, because of their high level of interest they will probably deluge you (or your client) with e-mails and other correspondence. You need to be sure that you do not spend too much time on them, remember their power is low.
- You may need to get the project sponsor or client representative to take a firm line with them they can use a lot of time and resource.

Low Power, Low Interest.

Make sure you don't **spend too much time** on them but if they are supportive provide them with information and be nice to them, their position or view may change in the future

Management strategies

- Ensure they receive the project newsletter, have access to a project website or are invited to presentations.

Final Project

Prepared by Walid Soliman

Lecture 4

SWOT Analysis



PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

What is a SWOT analysis?

A **SWOT analysis** is a simple and practical evaluation model. A SWOT diagram looks at a combination of internal and external factors, as well as assessing strengths and weaknesses. This combination of **evaluation metrics** means a SWOT analysis is particularly useful for gaining a thorough overview of a business, product, brand, or a new project early on in the **project life cycle**.

What is a SWOT analysis?

A SWOT diagram allows you to think about your own internal **strengths** and **weaknesses**. It also helps you think about external **opportunities** and **threats** that could affect your company's performance. The SWOT also helps you explore what the differentiators between yourself and **your competitors** are.

What is a SWOT analysis?

Strengths

Strengths are the areas that you excel in. What do you do better than anybody else?

What do people praise you for?

Weaknesses

Identify the areas that need improvement. Think about things you find difficult to achieve, times you've struggled to meet expectations, and areas that you don't feel

confident in. Look back at your Strengths list and think about the inverse.

What is a SWOT analysis?

Opportunities

Opportunities are areas that your business could take advantage of. When conducting a SWOT for internal company analysis, is there an unserved or underserved market that you could grow into? Are you maximizing your media coverage?

Threats

Finally, threats are potential or upcoming obstacles that you should be wary of. In this case, by threat we mean emerging competitors, changes in the market, things that would negatively affect your business

What is a SWOT Analysis?

SWOT ANALYSIS

STRENGTHS

- Same Day Delivery within the city
- Urban core has 1 hour delivery
- High-quality foods
- 200+ Drivers
- Trusted and high exposure

WEAKNESSES

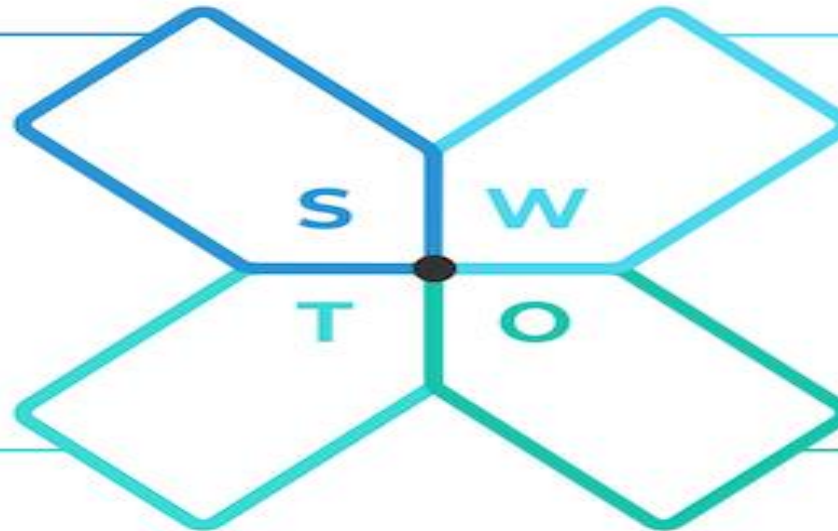
- Costly
- No monthly subscription options or scaled payment arrangement
- Inaccessible to a larger audience
- Poorly optimized SEO

THREATS

- Can operate at a loss to drive away competition
- Costly state laws to oversee grocery delivery and accountability under review

OPPORTUNITIES

- Optimize current mobile app for responsiveness and built-in feedback
- Attract a larger, wider target audience
- SEO focus can help drive a great amount of traffic and improve online rankings



Garret Ecommerce SWOT Analysis

S

Strengths



- Same Day Delivery within the city
- Urban core has under 1 hr delivery expectancy
- High-quality foods
- 200+ Drivers
- Trusted and high product sales exposure

W

Weaknesses



- Costly
- No monthly subscription options or scaled payment arrangement
- Inaccessible to a larger consumer audience
- Poorly optimized SEO tags

O

Opportunities



- Optimize current mobile app for responsiveness and built-in feedback
- Attract a larger, wider target consumer audience
- SEO focus can help drive a great amount of online traffic and improve online product sales ranking / metrics

T

Threats



- Can operate at a loss to drive away competition
- Costly state laws to oversee grocery delivery and accountability under review/evaluation

How to write a SWOT analysis

The first two letters of our SWOT, **Strengths** and **Weaknesses** are **internal factors** that you have control over, and you should look within your company or business to complete these letters.

Opportunities and **Threats** are **external factors** that you do not have control over, and you should look outside of your organization to complete these letters

Creating a SWOT Analysis

- **When creating a SWOT analysis template**, it can be difficult to find jumping off points for your evaluation. Often, you either go too big and list “impossible to fix” problems or think small and spend your time and energy focusing on things that are overall insignificant.
- **Deciding on your SWOT analysis questions** can take as much time as conducting the SWOT analysis itself! That’s why it’s important to decide an overall goal or objective that you want your SWOT to help you achieve. This could be more sales, bigger growth, or better brand recognition.

Communications Plan

What is a communications plan?

- A communications plan enables you to **effectively deliver information** to appropriate stakeholders. The plan will **identify the messages** you need to promote, to whom you're targeting those messages, and on which channel(s).
- Communication plans can help you clarify **the purpose of a product** launch or new initiative and officially determine the messages you want to deliver to your **intended audience(s)**.

How to Write a Communications Plan

1. Conduct an audit of your current communications materials.
2. Set **SMART goals** for your communications plan based on the results from your audit.
3. Identify the **audience** to whom you plan to deliver your communications plan.
4. Outline and write your **plan**, keeping your audiences in-mind.
5. Determine the **channel(s)** on which you need to deliver your messages.
6. Decide which **team members** are responsible for delivering the message.
7. Estimate **a timeline** for how long each step should take.
8. Measure the results of your plan after presenting to stakeholders and determine successes and **areas for improvement.**

Communication Plan Situation	Level of Urgency (1-4)	Stakeholder(s)/ DRI	Objectives and Goals	Required Actions, Messaging & Content	Due Date
One					
Two					
Three					
Four					
Five					
Six					
Seven					

Stakeholder Engagement Assessment Matrix

- The Stakeholder Engagement Assessment Matrix is a simple yet powerful project management technique to document desired and monitor actual engagement levels of stakeholders. It helps identify potential gaps in the involvement of stakeholders.

How to Create a Stakeholder Engagement Matrix

A stakeholder engagement assessment matrix consists of several rows, each of them representing one stakeholder (or a group of homogenous stakeholders, if applicable).

The columns indicate the level of engagement. The [Project Management Body of Knowledge](#) (PMBOK®, 6th ed) suggests the following classification:

- unaware,
- resistant,
- neutral,
- supportive,
- leading.

How to Create a Stakeholder Engagement Matrix

A populated stakeholder engagement assessment matrix looks like the following example (analogous fig. 13-6 in PMBOK®, 6th ed.):

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
Stakeholder 1	C			D	
Stakeholder 2			C	D	
Stakeholder 3				D C	
...					
Stakeholder n					

Example of a stakeholder engagement assessment matrix with desired ("D") and current ("C") levels of engagement per stakeholder.

Example of a Graphical Presentation of a Stakeholder Engagement Matrix

Stakeholders:

Stakeholder 1

Stakeholder 2

Stakeholder 3

...

Stakeholder n



Involvement:

Unaware

Resistant

Neutral

Supportive

Leading

Managing Projects

Managing a project is **no easy feat**, no matter **what the scale and scope** are. From **planning** the minutia **to handling** the ever-changing demands of clients to shipping the **deliverables on time**, there's a lot that can go wrong.

When you divide the project into manageable stages, each with its own goals and deliverables, it's easier to control the project and the quality of the output.

Managing Projects

According to the [PMBOK Guide](#) (Project Management Body of Knowledge) by the Project Management Institute ([PMI](#)), a project management life cycle consists of 5 distinct phases including **initiation, planning, execution, monitoring, and closure** that combine to turn a project idea into a working product.

Phase 1: Project initiation

- The first stage of turning **an abstract idea into a meaningful goal**. In this stage, you need to **develop a business case** and **define the project** on a broad level.
- The **project charter** is an important document consisting of details like the **project constraints**, goals, appointment of the project manager, budget, expected timeline, etc.
- Identify **key project stakeholders**—the people who are to be involved in the project. Create a stakeholder register with the roles, designation, communication requirements, and influence.

Phase 2: Project planning

- The **project planning** stage requires complete diligence as it lays out the project's roadmap.
- The second phase of project management is expected to take **almost half of the entire project's timespan**.
- The primary tasks are identifying technical requirements, developing a detailed **project schedule**, creating a **communication plan**, and setting up goals/deliverables.
- There are several methods of setting up the project's goals but **S.M.A.R.T.** and **C.L.E.A.R.** are the most

Phase 2: Project planning

- During the planning stage, **the scope** of the project is defined.
- Project managers also develop **a work breakdown structure (WBS)**, which clearly visualizes the entire project in different sections for the **team management**.
- A detailed **project timeline** with each **deliverable** is another important element of the planning stage. Using that timeline, project managers can develop a **communication plan** and a schedule of communication with the stakeholders.

Phase 2: Project planning

- Risk mitigation is another important aspect of project management that is a part of the planning stage. The project manager identify potential risks and develop a strategy to minimize them.

Phase 3: Project execution

- The **project execution** stage is where your team **does the actual work**.
- Project manager's job is to establish **efficient workflows** and carefully monitor the **progress** of your team and **maintain effective collaboration** between project stakeholders.

This ensures that everyone stays **on the same page** and the project runs smoothly without any issues.

Phase 4: Project monitoring and controlling

In the project management process, the third and fourth phases are **not sequential** in nature. The **project monitoring and controlling phase** run simultaneously with project execution, thereby ensures that objectives and **project deliverables** are met.

As a project manager, you can make sure that no one deviates from the original plan by **establishing Critical Success Factors (CSF) and Key Performance Indicators (KPI).**

Phase 5: Project closing

- The **project closure** stage indicates the end of the project after the final delivery.
- Most teams hold a reflection meeting after the completion of the project in order to contemplate on their successes and failures during the project.
- The final task of this phase is to review the entire project complete **a detailed report that covers every aspect.**

Final Project

Prepared by Walid Soliman

Lecture 6 : Teamwork



PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

RACI



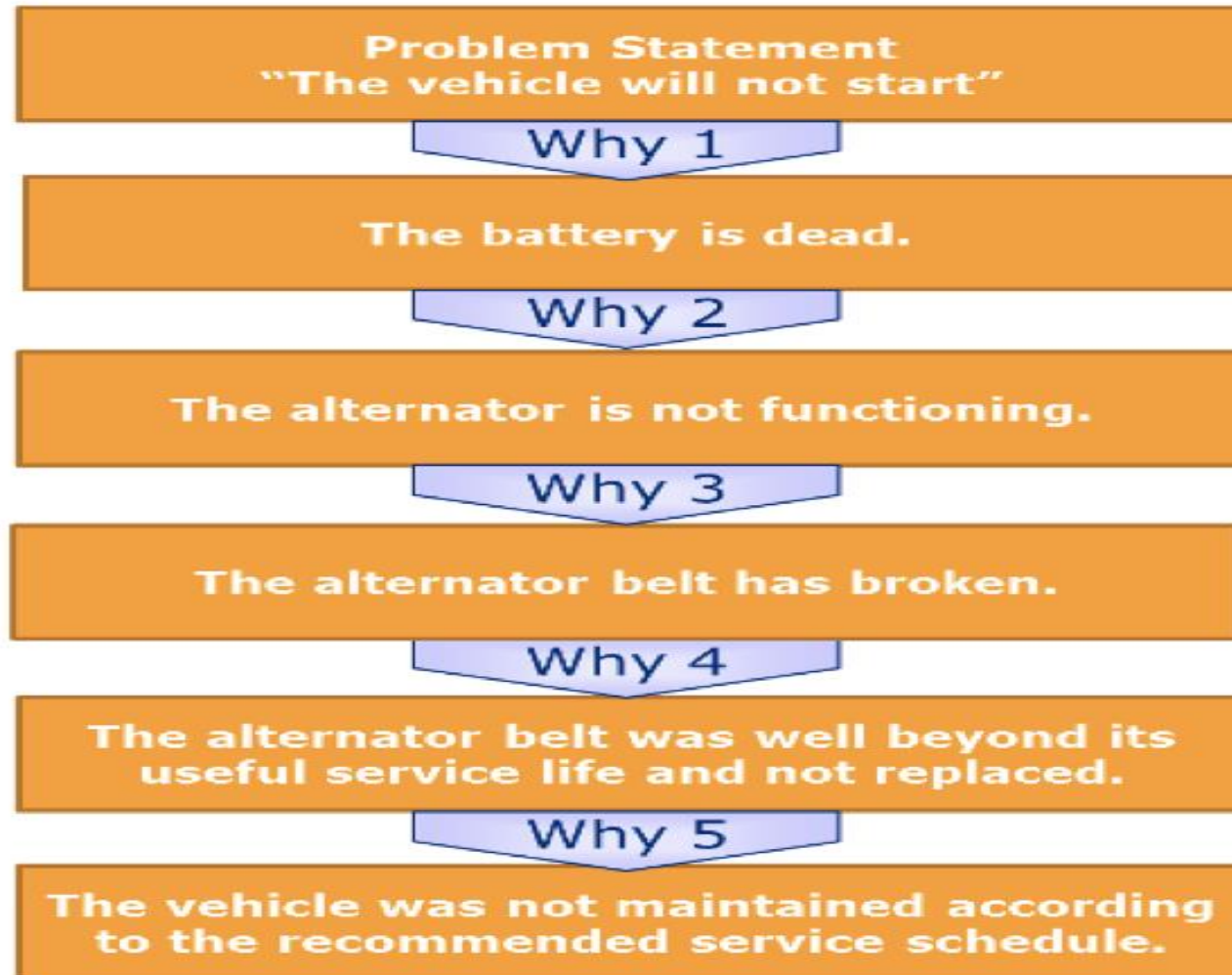
RACI



RACI

<https://www.youtube.com/watch?v=3zrUjruSAhs&t=45s>

ROOT CAUSE ANALYSIS (RCA)



RACI



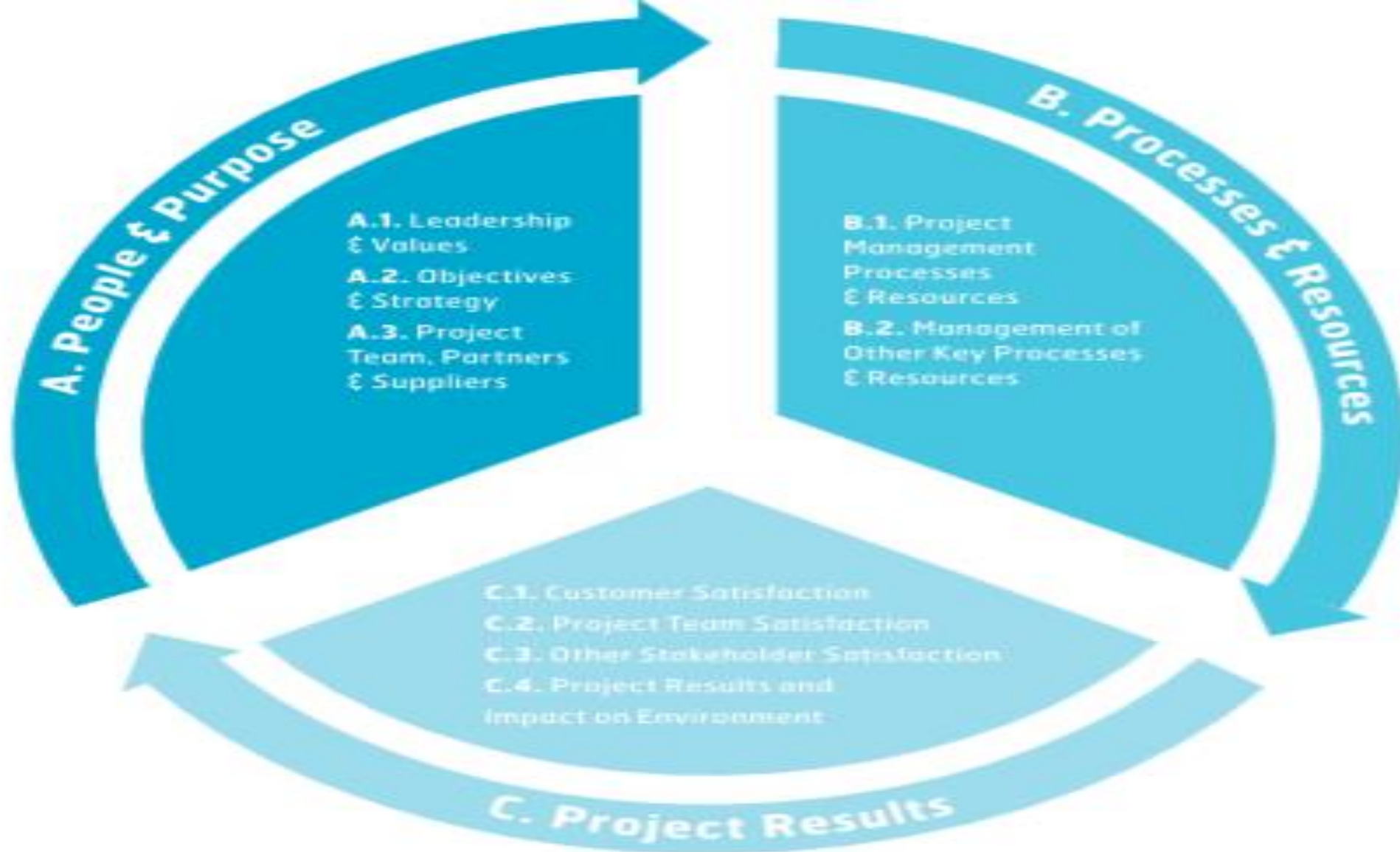


Figure 4-3: Key areas and assessment criteria of IPMA PEB

Organisation's external context



Figure 5-1: Overview of all competence elements

Final Project

Prepared by Walid Soliman

Lecture 7

Crashing and Fast tracking



PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Crashing & Fast Tracking

Every project manager knows that *schedules change constantly*. And unfortunately, schedules usually don't get shorter -- *they get longer*, your customer wants the product delivered sooner.

Crashing & Fast Tracking

Crashing and Fast Tracking are Schedule Compression Techniques:

Schedule compression is used when you want to shorten the duration of your project without changing project scope.

This is useful when you have fallen behind the original schedule a,
or if you want to finish sooner because a competitor is working on the same type of product, a
It may also be a strategic decision to complete a project more quickly than originally scheduled
based on other factors

Crashing & Fast Tracking

There are two schedule compression techniques:

Crashing: Add resources to your project so you can finish faster. Crashing almost always involves a financial cost.

Fast Tracking: Perform tasks in parallel so you can finish faster. Overlapping tasks in this way often increases risk

Crashing & Fast Tracking



Crashing and Fast- track.xspf



Crashing & Fast-Tracking Summary

- You apply them in order to shorten your schedule and to reach a certain schedule target.
- Fast tracking means executing two activities at the same time, even if they would normally not be done in this way.
- Fast tracking is free but adds additional risk to your project.
- Crashing means to add additional resources to your project.
- Crashing requires additional budget. So, you want to crash those activities that give you the biggest bang for the buck -- the most schedule compression at the least cost.
- Both techniques only make sense if you apply them to activities on your critical path.

Crashing & Fast Tracking

• You are managing a software development project. In the middle of the project, you find out that you are way behind schedule. Your company has invested a lot in this project, and if you don't deliver the project on time, it will be a total disaster. You analyze your project schedule to adjust it so that you may be able to complete the project on time with **the existing resources**. You find out that you have a lot of discretionary dependencies in your project schedule. What is the best way for you to adjust the project schedule so that you may be able to complete the project on time?

- A) Keep the discretionary dependencies intact and apply Crashing
- B) Keep the discretionary dependencies intact and apply Fast Tracking
- C) Remove the discretionary dependencies and apply Crashing
- D) Remove the discretionary dependencies and apply Fast Tracking



Final Project

Prepared by Walid Soliman

Lecture 9

Triple Constrain

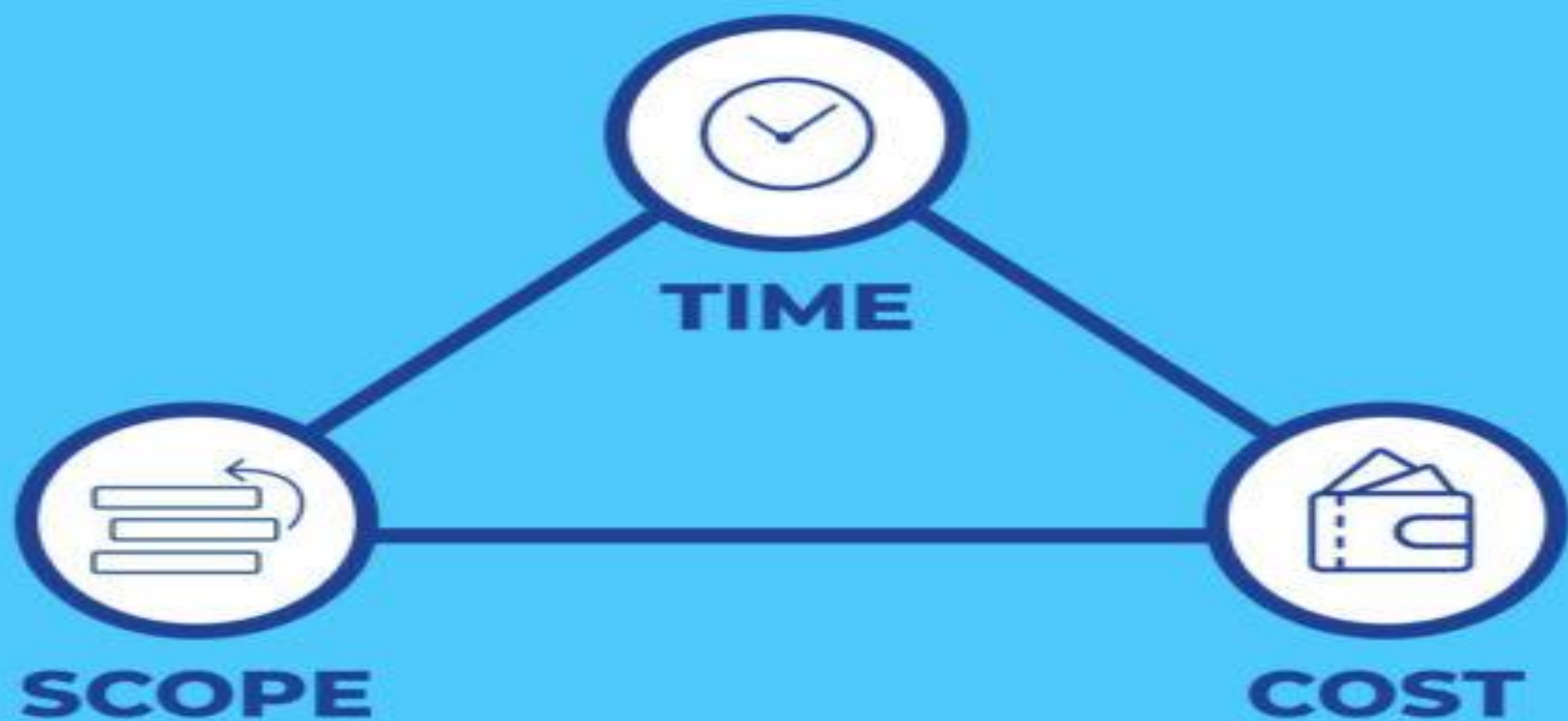


PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

THE TRIPLE CONSTRAINT



PROJECT MANAGER

Get organized. Do amazing things.

Triple Constraint

It has been given many names – the Project Management Triangle, Iron Triangle and Project Triangle – which should give you an idea of how important the Triple Constraint is when managing a project. If you're managing a project, then you're working with the Triple Constraint.

- Therefore, it can be easily argued that the Triple Constraint might be the single most important concept in the history of project management. The genius who invented this model is on par with the person who first produced the wheel

Triple Constraint

1. Cost:

The financial commitment of the project is dependent on several variables. There are the resources involved, from materials to people, which include labor costs. There are other outside forces that can impact a project, which must be considered in the cost of the work.

Triple Constraint

1. Cost:

- **Historic Data:** Using the costs of similar projects for comparison
- **Resource Costs:** Determining the rate of cost for goods and labor by unit
- **Bottom Up:** Estimating from the lowest- to the highest- level work package
- **Parametric:** Measure statistical relationship between historic data and other variables
- **Vendor Bid:** Average of some vendor bids on project
- **Reserve:** Aggregate cost of activities
- **Quality Analysis:** Estimate cost of highest quality for activities

Triple Constraint

2. Scope

As mentioned, project scope deals with the specific requirements or tasks necessary to complete the project.

Scope is important to manage on any project, whether agile software projects or well-planned waterfall projects, because if you can't control the scope of the project, you're not likely to deliver it on time or under budget.

When managing scope its critical that you prioritize your tasks, enabling you to plan and assign resources effectively. Without creating a sense of order, it's easy to become overwhelmed, enabling scope creep.



Triple Constraint

3. Time

At its basic, the schedule is the estimated amount of time allotted to complete the project or producing the deliverable. Usually, this is figured out by first noting all the tasks necessary to move from the start to the finish of the project.

A Work Breakdown Structure (WBS) is used to take the large project goal and break it down into a series of more manageable tasks. These tasks are then prioritized, dependencies are linked, and then placed on a timeline.

Triple Constraint

3. Time

A Gantt chart is one way to visualize the project schedule, with each task a point on that timeline, with task dependencies linked, and durations determined. Having historic data can help make more accurate estimates. Different websites features an online Gantt chart that gets updated automatically as your team completes their project tasks, so data is always accurate.



Work Breakdown Structure (WBS)

It is a visual, hierarchical and deliverable-oriented deconstruction of a project. It is a helpful diagram for project managers because it allows them to work backwards from the final deliverable of a project and identify all the activities needed to achieve a successful project. All the steps of a project are outlined in the organizational chart of a work breakdown structure, which makes it an essential project management tool for planning and scheduling. The final deliverable rests on top of the diagram, and the levels below subdivide the project scope to indicate the phases, deliverables and tasks that are needed to complete the project.



What Are The Levels of a WBS?

Tiers of project deliverables and tasks are created to support the planning, execution, and monitoring of projects. There are four main levels of a WBS, which are outlined below:

- **The Top Level:** The project title or final deliverable.
- **Controls Account:** The main project phases and deliverables.
- **Work Packages:** The group of tasks that lead to the controls account level.
- **Activities:** The tasks needed to complete the work package.



Why Use a WBS?

Making a WBS is the first step in developing a project schedule. It defines all the work that needs to be completed (and in what order) to achieve the goals and objectives of the project.

By visualizing your project in this manner, you and your resources can collaborate on defining mission critical tasks, their subtasks and the inter-dependencies between them.

Why Use a WBS?

A well-constructed WBS helps with important project management processes such as cost estimation, resource allocation, and risk assessment. In addition, a WBS helps avoid common project issues such as missed deadlines, scope creep and cost overrun, among others.

Why Use a WBS?

In other words, a work breakdown structure serves as your map through complicated projects.

One project may include several phases, or smaller sub-projects—and even those sub-projects can be broken down into deliverables, sub-deliverables and work packages! In doing so, you gain clarity into the details needed to accomplish every aspect of your project.

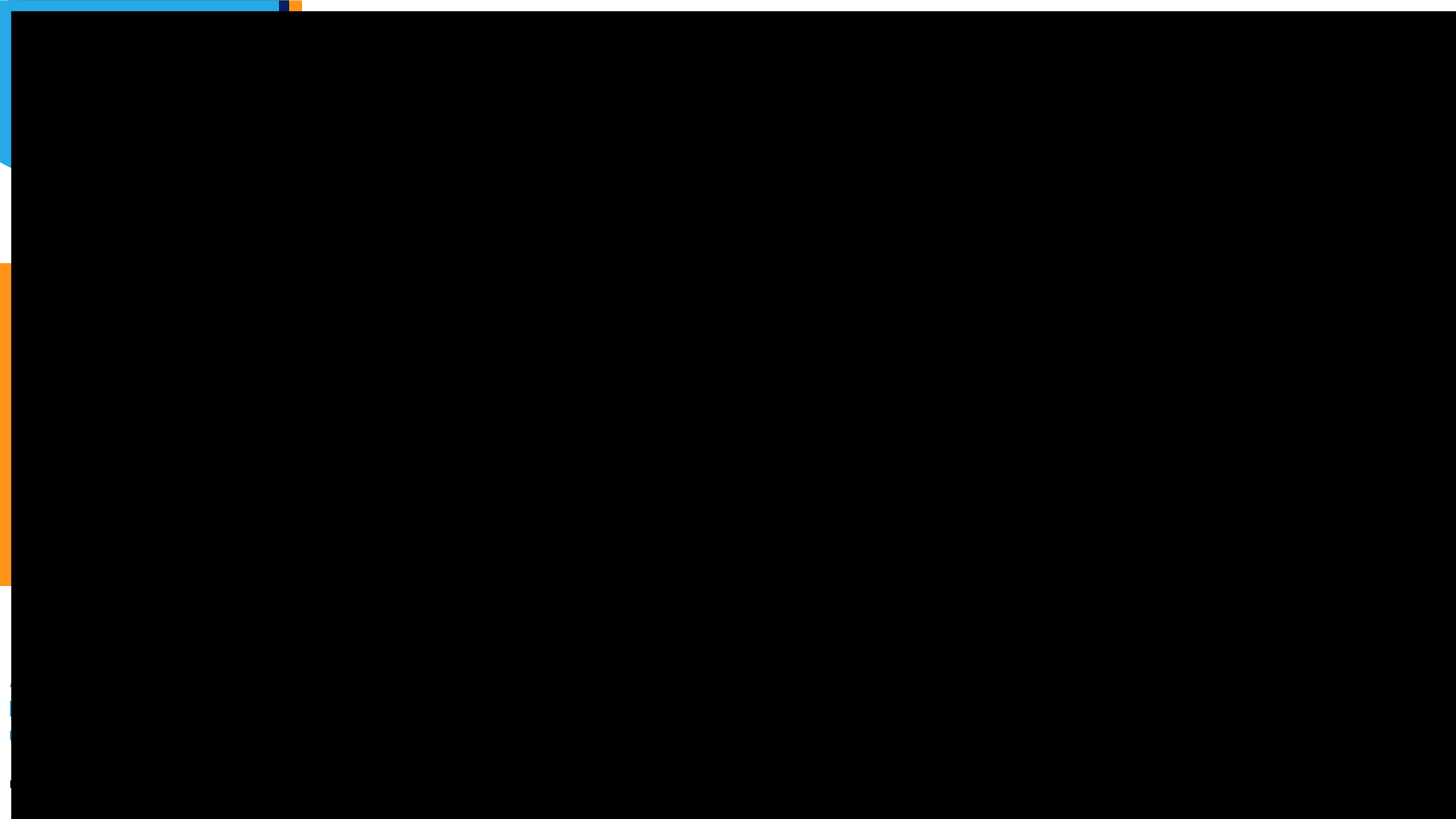
How to Create a Work Breakdown

There are five steps to creating a work breakdown structure.

1. Define the project goals and objectives. Begin with the project charter—the scope, objectives and who is participating in the project—determine what it is and describe it.
2. The next level down is the project phases: break the larger project statement of intent into a series of phases that will take it from conception to completion.

How to Create a Work Breakdown

3. What are your deliverables? List them all and note what is necessary for those deliverables to be deemed successfully delivered (sub-deliverables, work packages, resources, participants, etc.).
4. Take your deliverables from above and break them down into every single task and subtask that is necessary to deliver them. Make a list of all those tasks.
5. With the tasks now laid out, assign them to the team. Give each team member the tools, resources and authority they need to get the job done.



work breakdown structure (WBS)

While it's true that the Triple Constraint is an important part of any successful project, it doesn't determine success. Projects are made from many parts, more than the three, albeit major ones, that make up the Triple Constraint. Sometimes you can't play around with the Triple Constraint, but those three factors are always at play in the project.

Traceability Matrix

A requirements traceability matrix is a document that demonstrates the relationship between requirements and other artifacts. It's used to prove that requirements have been fulfilled. And it typically documents requirements, tests, test results, and issues.

Read More: [https://www.perforce.com/resources/alm/requirements-traceability-](https://www.perforce.com/resources/alm/requirements-traceability-matrix)

[matrix](#)

Traceability Matrix

	Requirement #1	Requirement #2	Requirement #3	Requirement #4	Requirement #5	Requirement #6	Requirement #7	Requirement #8	Requirement #9	Requirement #10	Requirement #11	Requirement #12	Requirement #13
Test Case #1			X				X				X		
Test Case #2		X		X			X						X
Test Case #3	X			X			X			X			
Test Case #4				X	X								
Test Case #5								X					
Test Case #6					X				X				



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Final Project

Prepared by Walid Soliman

Lecture 10

The Scope, Time and Quality



PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

What is Project Scope?

Scope refers to the detailed set of deliverables or features of a project. These deliverables are derived from a project's requirements. PMBOK defines Project Scope as the “The work that needs to be accomplished to deliver a product, service, or result with the specified features and functions.”

•Planning

The planning process is when an attempt is made to capture and define the work that needs to be done.

•Controlling

The controlling and monitoring processes focus on documenting tracking, scope creep, tracking, and disapproving/approving project changes.

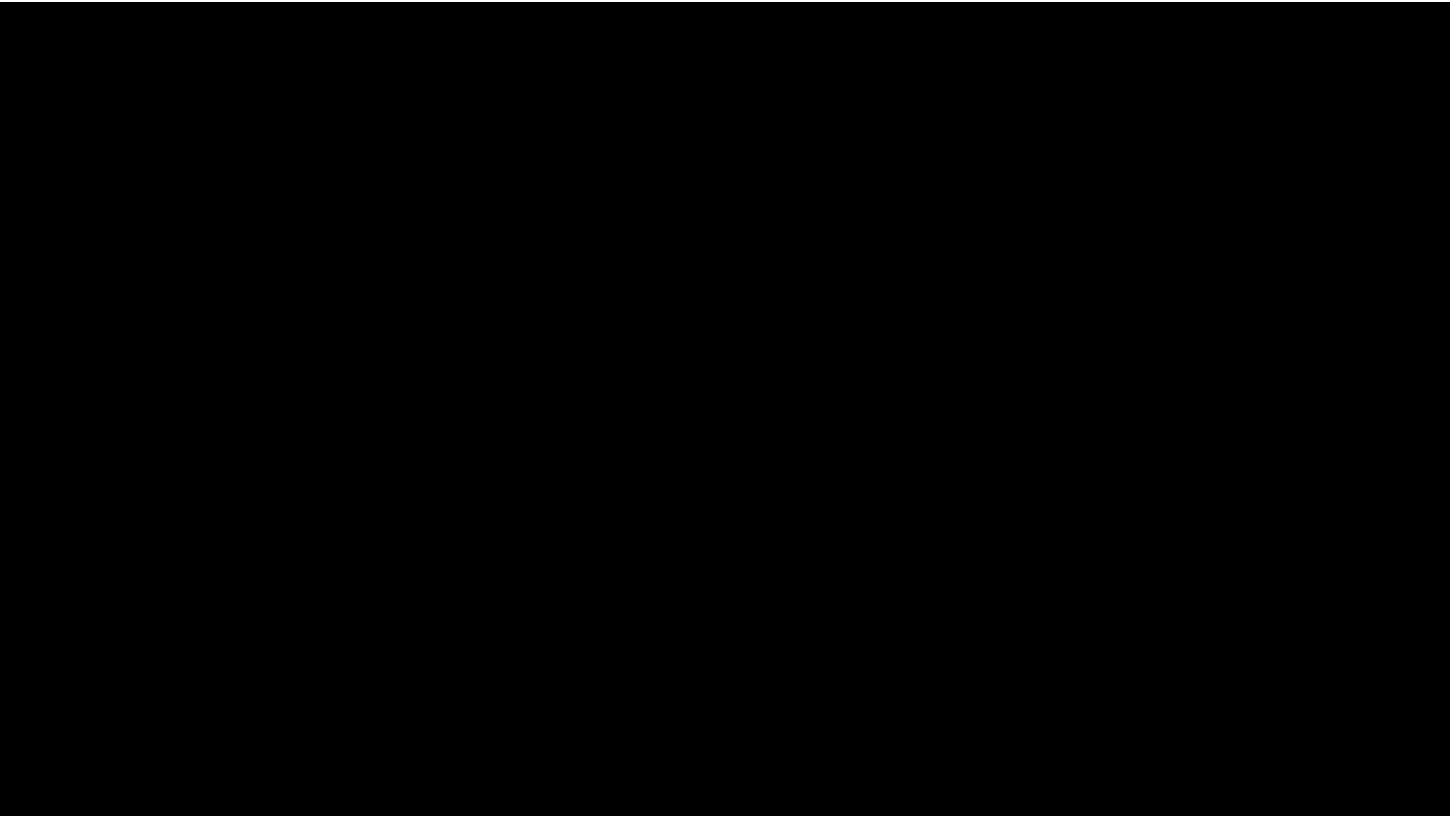
•Closing

In the final process, the closing includes an audit of the project deliverables and an assessment of the outcomes against the original plan.

Read More: <https://www.simplilearn.com/project-scope-management-importance-rar89-article>

What is Project Scope?

The documentation of the scope of the project will explain the boundaries of the project, establish the responsibilities of each member of the team, and set up procedures for how a work that is completed will be verified and approved. This documentation may be referred to as the scope statement, or the statement of work.



Project Scope Creep

Refers to how a project's requirements tend to increase over a project lifecycle, e.g., what once started as a single deliverable becomes five; or a product that began with three essential features, now must have ten; or midway through a project, the customer's needs change, prompting a reassessment of the project requirements. Scope creep is typically caused by key project stakeholders changing requirements or sometimes by internal miscommunication and disagreements.

Read More: <https://www.pmi.org/learning/library/top-five-causes-scope-creep-6675>



Product Analysis

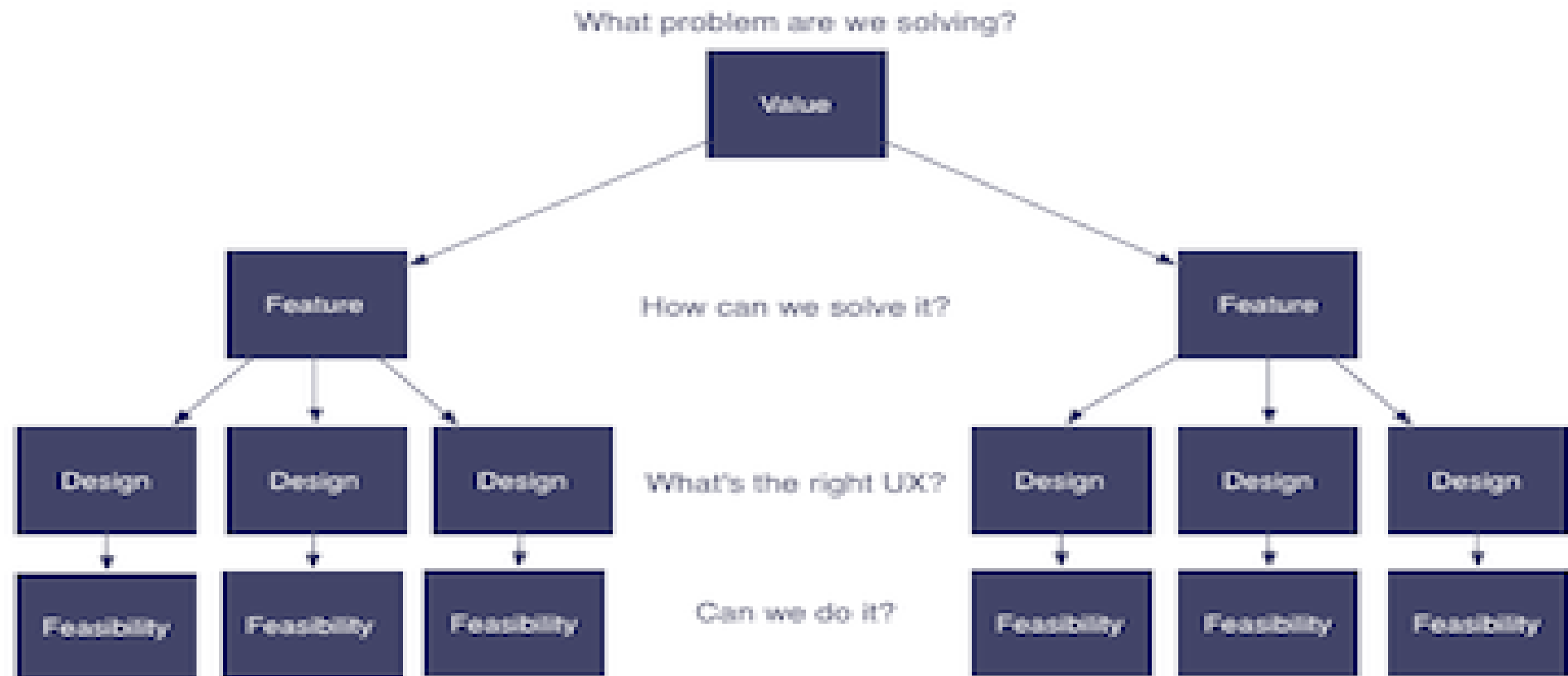
Product Analysis for projects that have a product as a deliverable, it is **a tool to define scope** that generally means asking questions about a product and forming answers to describe the use, characteristics, and other relevant aspects of what is going to be built or manufactured.

Read More:

<https://proventuresindia.com/2018/07/13/productanalysis/>



Levels of Product Analysis



Logic Diagram

Used for developing **project management** schedule and are also called **Project Schedule**

Network **Diagrams** or **Logical Network Diagrams**. It is the most powerful way to analyze **logical** relationships between different activities. It is a diagram in the field of logic.

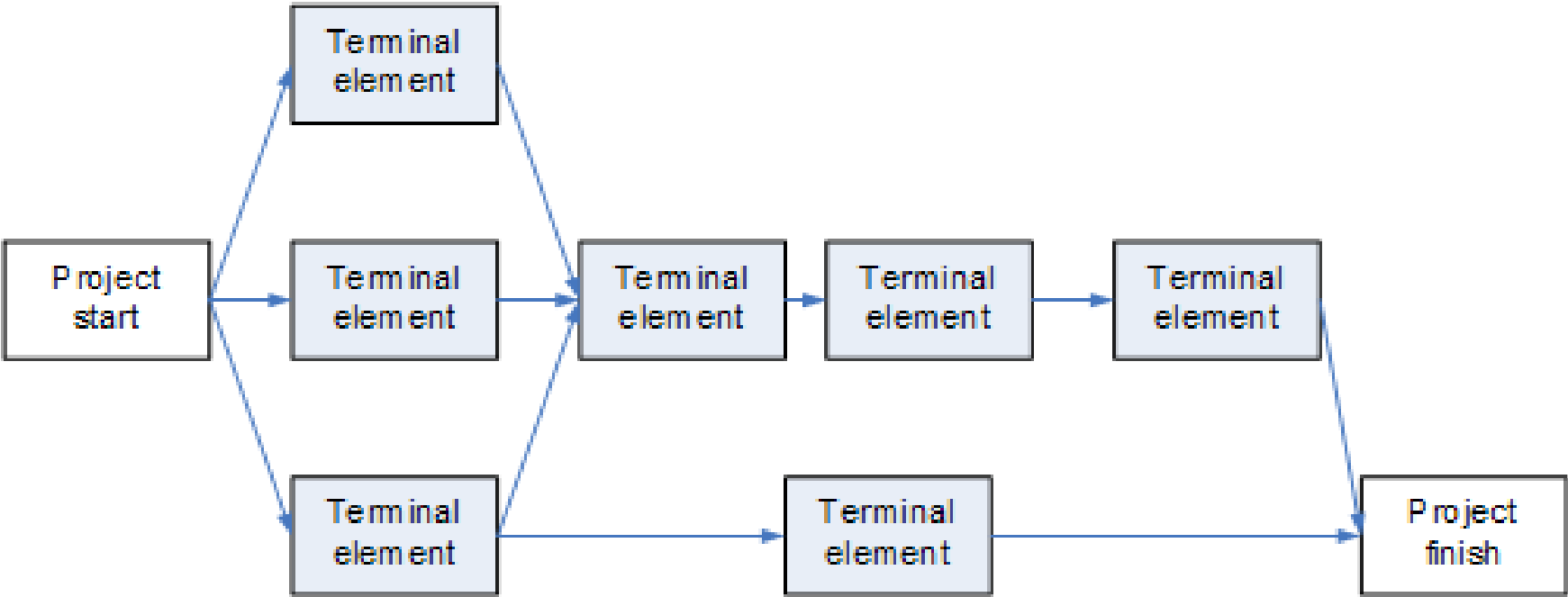
Any non-spatial, abstract diagram. A graphical representation of a program using formal logic.

Logic Diagram

A **network diagram** is a graphical representation of all the tasks, responsibilities and work-flow for a **project**. It often looks like a **chart** with a series of boxes and arrows.

A **Logic Network** indicates the sequence of activities in a **project** over time. It shows which activity logically precedes or follows another activity. It can be used to identify the milestones and critical path of a **project**. It will help you understand the dependencies in your **project**, timescale, and its workflow.

Logic Diagram



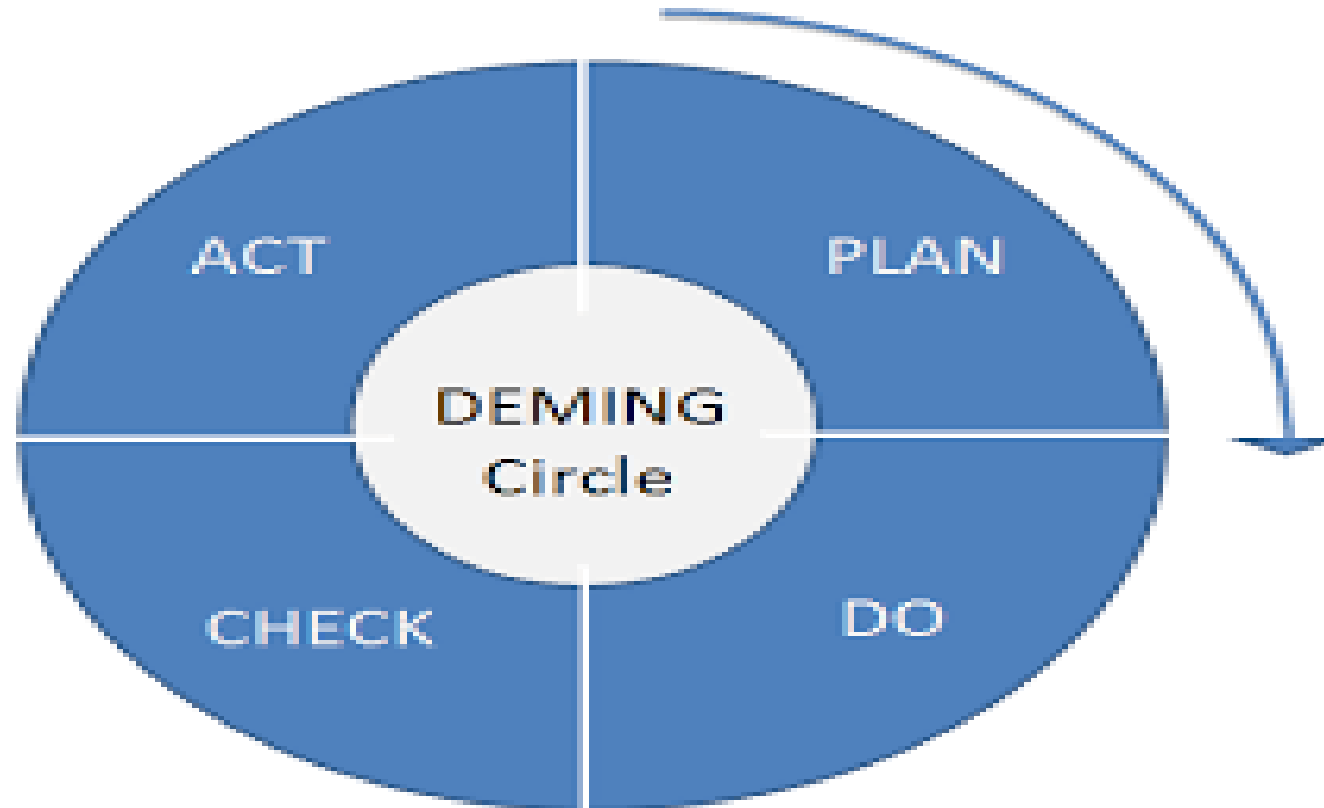
Gantt Chart

A Gantt chart is a project management tool assisting in the planning and scheduling of projects of all sizes, although they are particularly useful for **simplifying complex projects**. Project management timelines and **tasks** are converted into a horizontal bar chart, showing **start and end** dates, as well as dependencies, scheduling and deadlines, including how much of the task is completed per stage and **who is the task owner**. This is useful to keep tasks on track when there is a large team and multiple stakeholders when the scope changes.

Gantt Chart



Deming Cycle

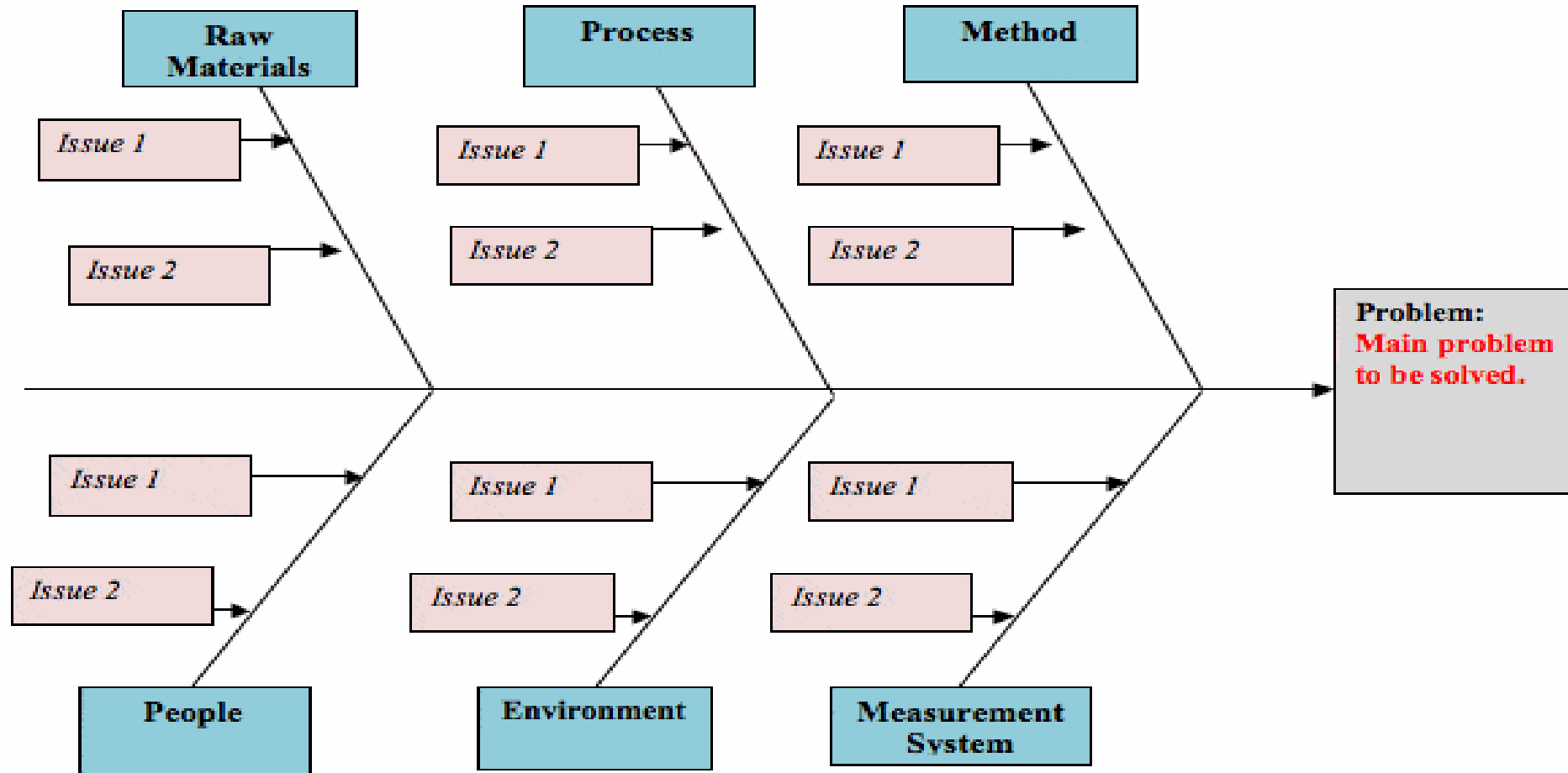


SIPOC Diagram

Pizza Process



Ishikawa Fishbone diagram



Final Project

Prepared by Walid Soliman

Lecture 12

Resources & Procurement

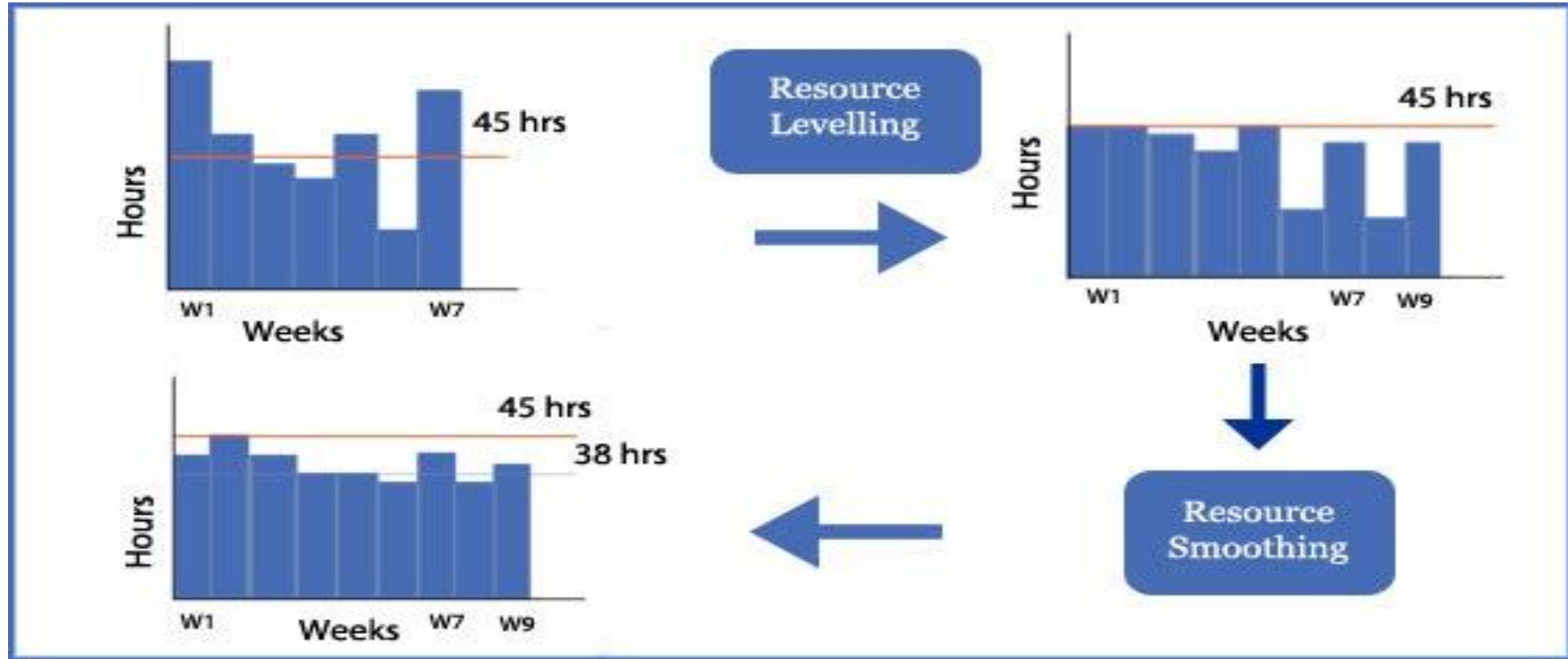


PMG 697- MPM – FALL 2021



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Resource leveling and Smoothing



What is Resource leveling?

“A technique in which start and finish dates are adjusted based on resource constraints with the goal of balancing the demand for resources with the available supply.”

We can use Resource Levelling both for human and material resources.

We need this tool when shared or critical resources are available only at:

- defined times,
- in limited quantities, or
- over-allocated



Resource leveling Example

Example: when we assign a resource to two or more activities at the same time, it is over-allocation. A resource cannot work beyond 8 hours in a day. Here, it needs resource-leveling. We need to take care of available supply and based on that we can adjust work duration.

What is Resource Smoothing?

After applying resource-leveling we have a resource-constrained schedule. But we may still need the desired level of allocation in the project plan.

Let's say our desired level of allocation per week is 38 hours. Now by doing Resource Smoothing; we try to adjust activities in such a way that we achieve this desired level of resource allocation

What is Resource Smoothing?

So we do it only wherever slack is available. We are not aiming to change the project duration; we smoothed the project schedule by playing around the free and total float.

Read More: <https://www.apm.org.uk/resources/find-a-resource/difference-between-resource-smoothing-and-resource-levelling/>

Resource leveling	Resource Smoothing
It applies the resource constraints to the project and may result in a change in project duration.	We apply resource smoothing after doing resource-leveling. Since we need to first accommodate the resource constraints before we can optimize it. Here we make use of slack and will not result in a change of project duration. Because the total allocation of a certain resource remains the same.
Resource Leveling is primarily driven by resource constraints like you do not have more than 45 hours of the given resource for a week.	Resource smoothing is more to do with desired limits like we do have 45 hours available for a given resource, but we wish that we allocate 38 hours per week, so we have some breathing space.
The allocation limits identified in resource leveling must be applied.	The desired limit identified in resource smoothing may not be applied in some cases, if we do not have slack. It is optimized within the float boundaries
When Resource Leveling changes the project dates, may also change the critical path, since constraints drive it.	Resource smoothing will not change the critical path; it tries to make the best use of slack.

Resource leveling and Smoothing

<https://youtu.be/3uZk6Y49PR8>

The scoring model

The scoring model in project management is an objective technique: the project selection committee lists relevant criteria, weighs them according to their importance and their priorities, then adds the weighted values. Once the scoring of these projects is completed, the project with the highest score is chosen.

The scoring model

- A weighted scoring model (aka weighted scorecard) is a project management technique used for weighing certain decisions, such as prioritizing project actions, prioritizing the development of product features, purchasing new software, etc.

The scoring model

- While a weighted scoring model can be used for all kinds of decisions and actions, in terms of project management, this model will help you figure out your priorities during the planning phase of the project life cycle.

The scoring model

How to create and use a weighted scoring model:

Step 1: List out your options

All you need to do is list out all the options you'd like to incorporate into your project or product without regard to the difficulty, priority, or any other factor. These options can include:

- Product features
- Project steps
- Software options
- Potential candidates for hire

The scoring model

Step 2: Brainstorm your criteria:

- figure out the criteria that will impact the weight of each option. These criteria include:
 - Cost
 - Quality
 - Time
 - Return on investment
 - Risk
 - Effort
- The criteria you use in your weighted scoring model is unique to your project or product.
- there will always be consistent measurements you'll want to take into consideration, such as cost management and return on investment. It all depends on the projects you're working on.

The scoring model

Step 3: Assign weight values to your criteria

- No two criteria carry the same importance, which proves the usefulness of a weighted scoring model. That's why you must assign specific weight values to each criterion in the form of a percentage.
- You start with 100% and then assign weighted percentages based on your own priorities, like so:
 - **Return on investment: 20%**
 - **Cost: 20%**
 - **Effort: 15%**
 - **Sustainability: 15%**
 - **Risk 10%**
 - **Time 10%**
 - **Quality 10%**

The scoring model

Step 4: Create your weighted scoring chart:

- Now that you have your options, criteria, and weights, you can begin creating your weighted matrix.
- Once you've created your chart, you can fill in your options with whatever it is you are looking to prioritize, then score each option with a value of 1 through 5, or whatever range you wish to use.
- Now that you've scored each option, you'll want to multiply each score by the weight, and then calculate the total score average for each one, like so (weighted scores are in bold)
- After you've completed these calculations, you'll find the weighted order of importance for each option.



The scoring model

Criteria	Weight	Requirement score				
		A	B	C	D	E
Value	20%	80	45	40	15	35
Risk	20%	60	85	30	20	75
Difficulty	15%	55	80	50	15	25
Success	10%	30	60	55	65	30
Compliance	5%	35	50	60	50	50
Relationships	5%	80	70	50	85	80
Stakeholder	15%	25	50	45	60	60
Urgency	10%	60	25	40	65	80
Weighted Scores	100%	54.8	60.0	43.3	38.0	52.3

The scoring model

<https://www.youtube.com/watch?v=FefJ1paq750>

Read More: <https://www.berkeleybridge.com/blog/what-are-the-scoring-models-and-how-do-they-come-about/>



The scoring model

<https://www.youtube.com/watch?v=FefJ1paq750>

Read More: <https://www.berkeleybridge.com/blog/what-are-the-scoring-models-and-how-do-they-come-about/>

