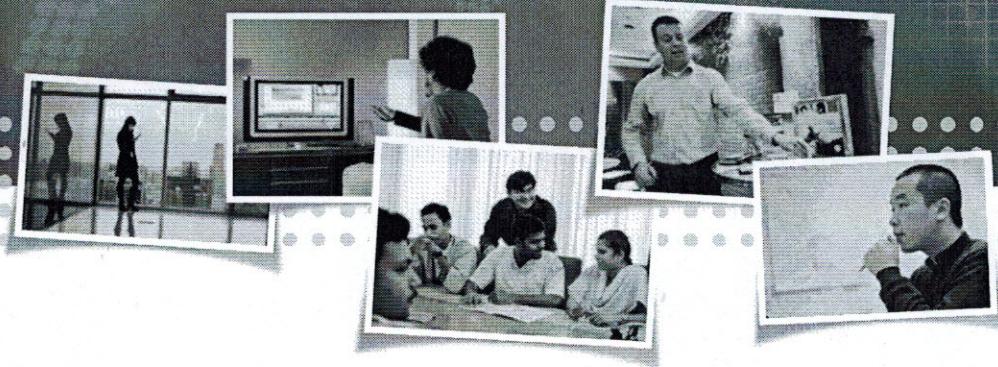


Project Scope Management

Instructor: Phùng Thành Cường Msc, PMP

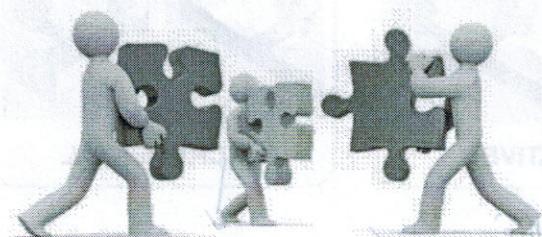


Requirement and Project work

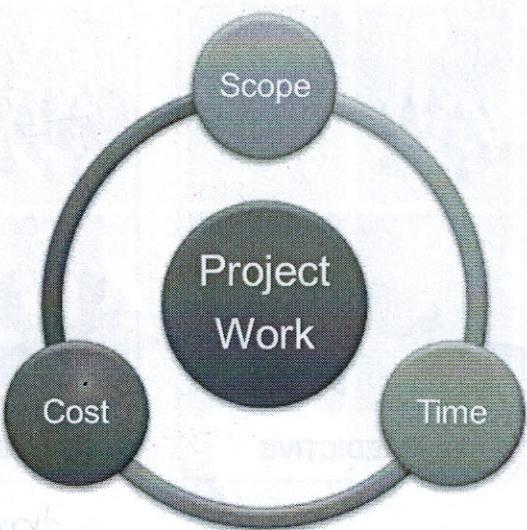
Stakeholder



Requirement



Project work



Project Triple Constraint

Project Scope Management Processes



Initiating	Planning	Executing	Monitoring & Controlling	Closing
	5.1 Plan Scope Management		5.5 Validate Scope	
	5.2 Collect requirements		5.6 Control Scope	
	5.3 Define Scope			
	5.4 Create WBS			

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overlay Ban chay var for predictive

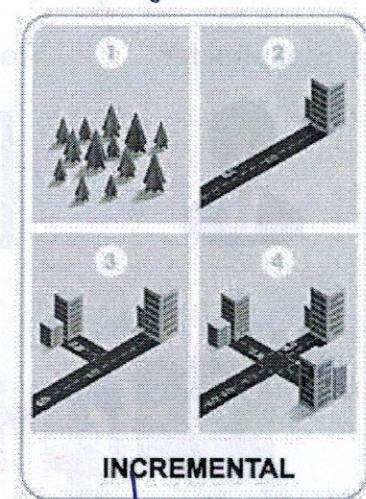
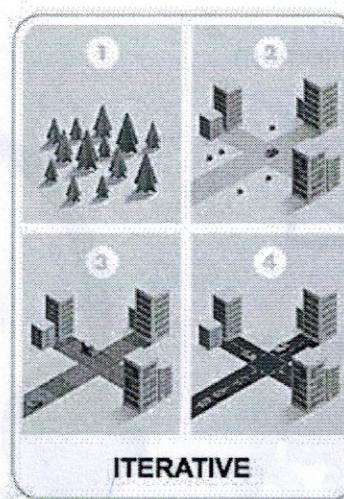
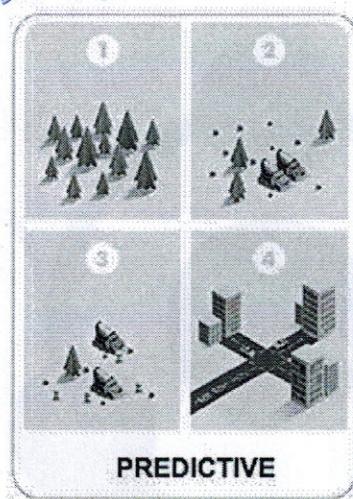
Types of project lifecycle *tính giải pháp dự*



Basis truc tinh van dan ra



Chuyen phao nhau



Đến khi
phát hành

làm tốt từng phần

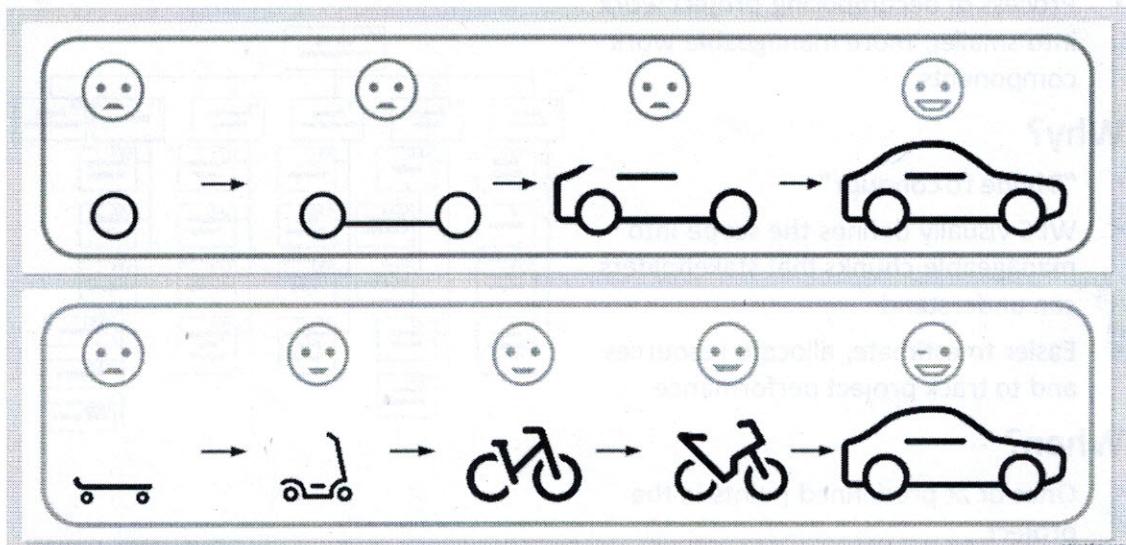
Làm tốt dần lên

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Types of project lifecycle

PHIA

↑ giài quyết bài: **Predictive vs Agile/Adaptive** - thời gian / lối đi



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Characteristics of project lifecycles

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Characteristics				
Approach	Requirements	Activities	Delivery	Goal
Predictive	Fixed	Performed once for the entire project	Single delivery	Manage cost
Iterative	Dynamic	Repeated until correct	Single delivery	Correctness of solution
Incremental	Dynamic	Performed once for a given increment	Frequent smaller deliveries	Speed
Agile	Dynamic	Repeated until correct	Frequent small deliveries	Customer value via frequent deliveries and feedback

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5.4 Create WBS

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Làm rõ khái niệm Scope / Cố định Job AD /
chi phí? / But RQ

What?

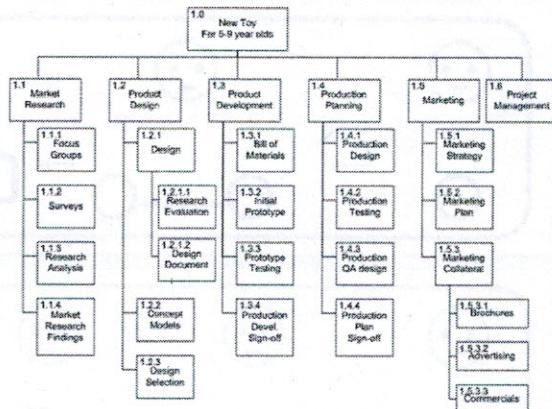
- Process of decomposing project work into smaller, more manageable work components.

Why?

- "Divide to conquer"
- WBS visually defines the scope into manageable chunks that stakeholders can understand
- Easier to estimate, allocate resources and to track project performance

When?

- Once or at predefined points in the project.

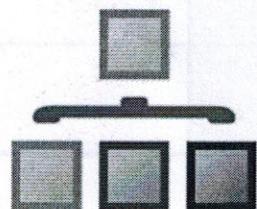
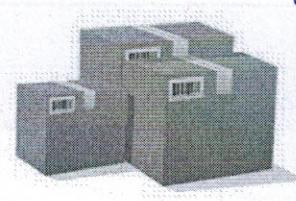


5.4 Create WBS

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How?

- Identifying and analyzing the deliverables and related work
- Structuring and organizing the WBS
- **Decomposing** the upper WBS levels into lower-level detailed components
- Verifying that the degree of decomposition of the deliverables is appropriate.
- Developing and assigning identification codes to the WBS components
- Get approved and baseline project scope documents



Kết quả là nó -> phong cách

phong cách

và thời gian
nợ phải

phi công, thời gian

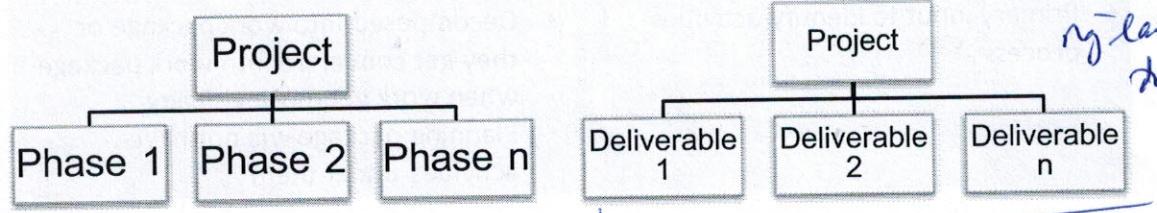
Scope Baseline -> chia

5.4 Create WBS - Tools & Techniques

PHIA

1. Decomposition

- The technique involves breaking down the project into smaller, more manageable components of work.
- WBS can be organized by :
 - Project phases
 - Major deliverables and subprojects
 - Combination approach
- WBS may be created through:
 - Top-down:** use WBS templates or organization-specific guidelines.
 - Bottom-up:** constructed from the inputs of project team members who actually do the work (team buy-in)



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5.4 Create WBS - Tools & Techniques

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1. Decomposition

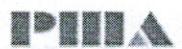
- The lowest level of WBS components always are deliverables
- Note: Plan deliverables (outcomes), not actions !

↑ Mô tả cái Mô
Kết quả nhận được:

What WBS is Not	What WBS is
<ul style="list-style-type: none">A WBS is not an exhaustive list of work.	<ul style="list-style-type: none">It is instead a comprehensive classification of project scope.
<ul style="list-style-type: none">A WBS is neither a project plan, a schedule, nor a chronological listing.	<ul style="list-style-type: none">It specifies what will be done, not how or when.
<ul style="list-style-type: none">A WBS is not an organizational hierarchy	<ul style="list-style-type: none">It may be used when assigning responsibilities.

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In the context of Schedule Management



Rolling wave planning: is a project planning technique that involves progressive elaboration to add detail to the Work Breakdown Structure (WBS) on an ongoing basis.

- **Near term deliverables:** are decomposed into activities necessary to produce the deliverables. Deliverables are also called as **Work packages**.
- **Long term deliverables:** are more broadly defined, called as **Planning packages**.

Work package	Planning package
<ul style="list-style-type: none">• Lowest level element of WBS• No further decomposition (in term of Scope management)• Primary input to identify activities process	<ul style="list-style-type: none">• Lowest level element of WBS at a given point of time• Will get decomposed into work packages at later stage• Decomposed into work package or they get converted into work package when work get more visibility• Planning package will not have activities under them

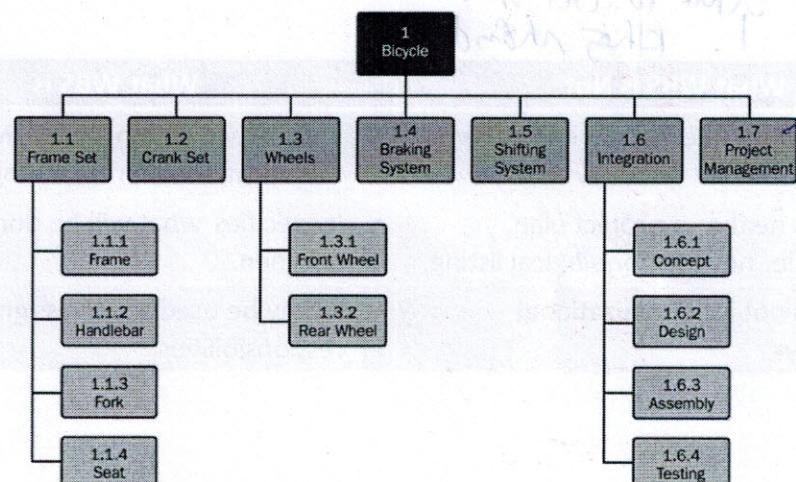
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5.4 Create WBS - Tools & Techniques



1. Decomposition

- **Rule of 100%:** The sum of the work at the "child" level must equal 100% of the work represented by the "parent", and the WBS should not include any work that falls outside the actual scope of the project



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5.4 Create WBS - Tools & Techniques

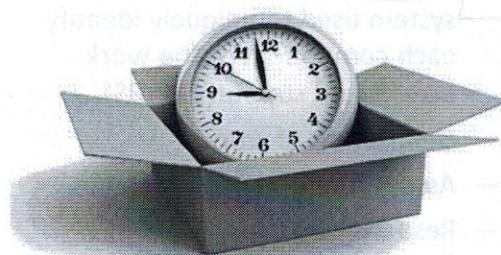
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1. Decomposition

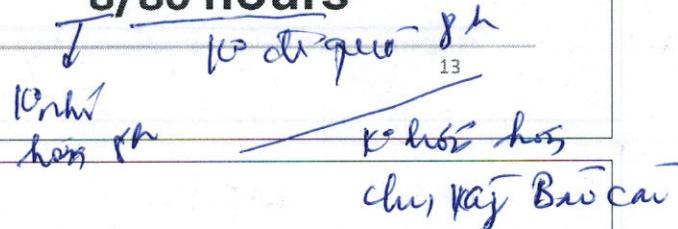
- The level of decomposition is often guided by the degree of control needed to effectively manage the project.
- The level of detail for work packages will vary with the size and complexity of the project.
- Excessive decomposition can lead to nonproductive, micro-management effort

Rule of thumb (Heuristic):

- No workpackage should be more than a single reporting period
- No work package should not be less than 8h and not be bigger than 80h of work



8/80 hours



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5.4 Create WBS - Outputs

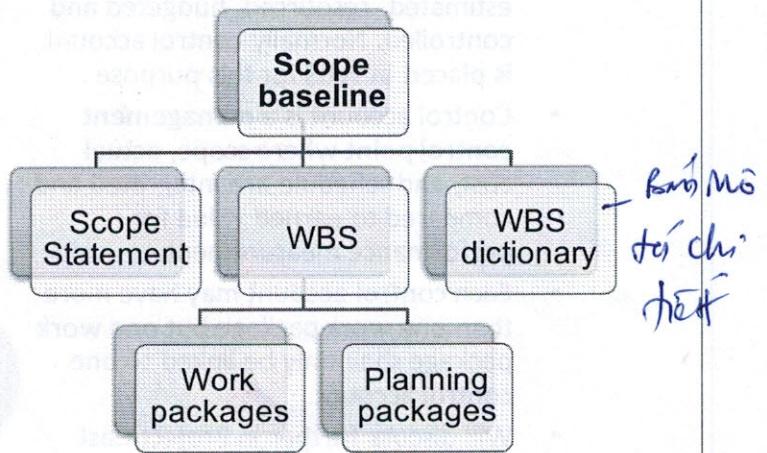
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1. Scope Baseline

- The approved version of a scope statement, WBS, and its associated WBS dictionary
- Scope baseline is a component of the project management plan.
- It can be changed only through formal change control procedures and is used as a basis for comparison.

2. Project Documents Updates

- Assumption log. additional assumptions or constraints
- Requirements documentation.

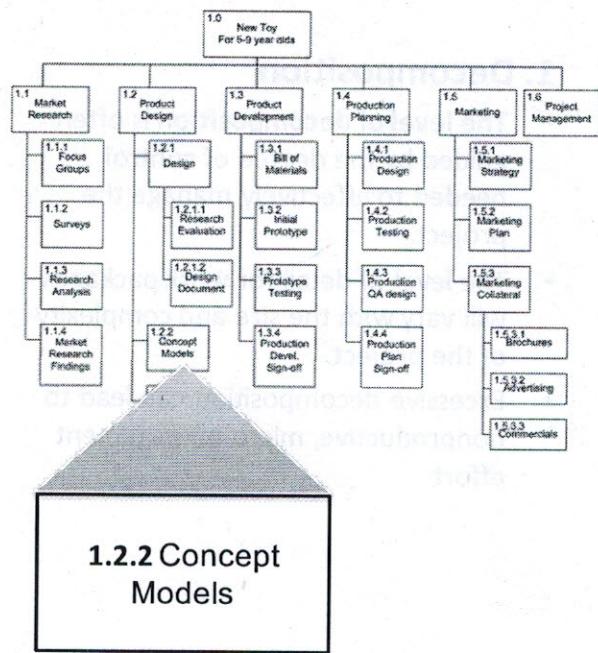


work factory work cần làm trong thời gian ngắn

5.4 Create WBS - Outputs

WBS dictionary

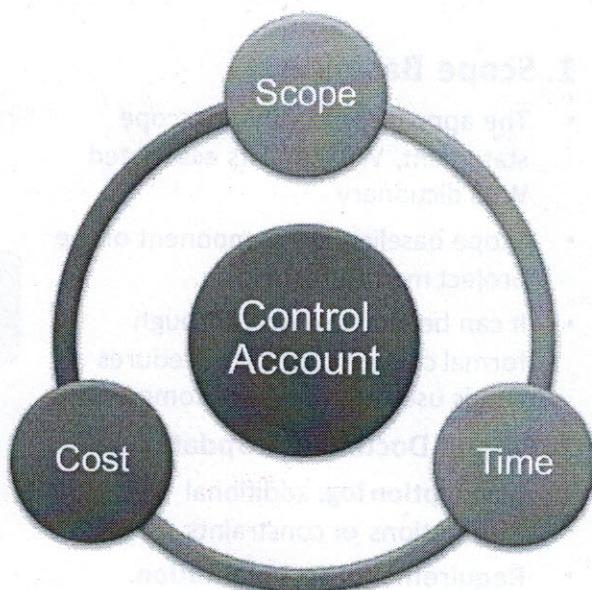
- Document that supports the WBS where detail work descriptions are documented.
- Information in the WBS dictionary may includes:
 - **Code of accounts:** a numbering system used to uniquely identify each component of the work breakdown structure (WBS).
 - Description of work
 - Assumptions and constraints
 - Responsible organization
 - Schedule milestones...



5.4 Create WBS - Outputs

Control Accounts

- Each item in WBS need to be estimated, resourced, budgeted and controlled. Normally control account is placed in WBS for this purpose .
- Control account is a **management control point** where scope, actual cost, and schedule are integrated and compared to earned value for performance measurement.
- Each control account may have more than one work package but one work package shall only be linked to one control account.
- Will discuss further in Project Cost Management Chapter



5.4 Create WBS - Inputs

1. Project management plan

- Scope management plan
 - How to create the WBS
 - How the WBS will be maintained and approved.

2. Project documents

- Requirements documentation
 - What needs to be produced.
- Project scope statement
 - The work that will be performed or is excluded.
 - The specific internal or external restrictions or limitations

3. Enterprise Environmental Factors

- Industry-specific WBS standards. Eg. ISO/IEC 15288 on Systems Engineering

4. Organizational Process Assets

- Policies, procedures, and templates for the WBS

5.4 Create WBS

Inputs	Tools & Techniques	Outputs
<ul style="list-style-type: none">1. Project management plan2. Project documents<ul style="list-style-type: none">• Scope statement3. Enterprise environment factor4. Organizational process Assets	<ul style="list-style-type: none">1. Decomposition2. Expert judgment	<ul style="list-style-type: none">1. Scope baseline<ul style="list-style-type: none">• Scope statement• Wbs• WBS dictionary2. Project documentation Updates

5.6 Control Scope

What?

- Process of monitoring the status of the project and product scope and managing changes to the scope baseline.

Why?

- Maintain the scope baseline

When?

- Throughout the project.

How?

- Determining the cause and degree of variance relative to the scope baseline
- Deciding whether corrective or preventive action is required.



5.6 Control Scope

*Danh bạ các thay đổi
lawn thay đổi*

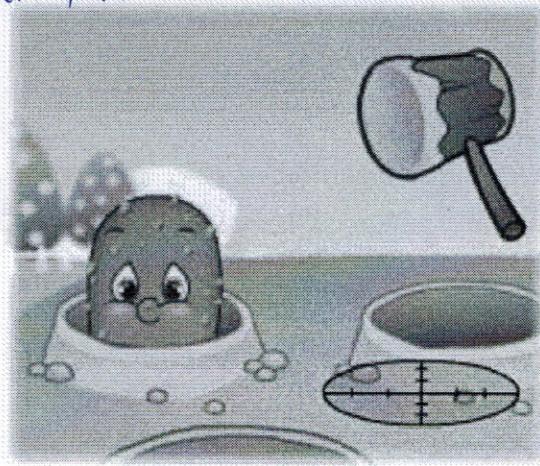
Sửa [scalek]

Process of Making Changes

1. Understand the change
2. Prevent unnecessary changes
3. Identify root cause of change
4. Look at the impact of the change
5. Create a change request
6. Perform Integrated Change Control
7. Adjust the project management plan and baseline
8. Notify stakeholders affected by the change
9. Manage the project to the new project management plan

- No Scope Creep

Bí quyết



Slope creep: year has off plus 10° degree goes by

Lais that -

solve

5.6 Control Scope - Tools & Techniques

1. Data analysis

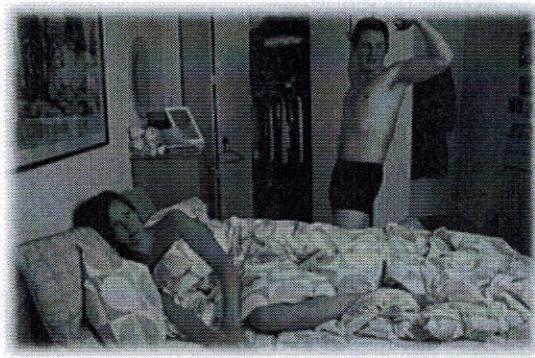
• Variance Analysis

1. Assess the magnitude of variation from the original scope baseline .
2. Determine the cause and the degree of variance relative to the scope baseline
3. Decide whether corrective or preventive action is required

• Trend analysis.

- examines project performance over time to determine if performance is improving or deteriorating.

• No Gold Plating



5.6 Control Scope - Outputs

1. Work Performance

Information

- Planned vs. actual technical performance or other scope performance measurements: the categories of the changes received, the identified scope variances and their causes, how they impact schedule or cost, and the forecast of the future scope performance.
- This information provides a foundation for making scope decisions.

2. Change requests

- Preventive, corrective actions or defect repairs.

SUCCESS



5.6 Control Scope - Outputs



3. Project management plan updates

- Scope management plan
- Scope baseline
- Other baselines (schedule, cost, performance measurement ..)

4. Project document updates

- Requirements documentation
- Requirements traceability matrix
- Lessons learned register

5.6 Control Scope - Inputs



1. Project Management Plan

- Scope Management Plan
- Requirements Management Plan
- Change Management Plan
- Configuration Management Plan
- Scope Baseline
- Performance measurement baseline.

2. Project documents

- Requirements documentation
- Requirements traceability matrix
- Lessons learned register

3. Work Performance Data

- Such as number of deliverables have started , their progress and which deliverables have been finished

4. Organizational process assets

- Existing formal and informal scope, control-related policies, procedures, guidelines; and
- Monitoring and reporting methods and templates to be used.

5.6 Control Scope

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Inputs	Tools & Techniques	Outputs
1. Project management plan 2. Project documents 3. Work performance data 4. Organizational process assets	1. Data analysis	1. Work performance information 2. Change requests 3. Project management plan updates 4. Project document updates

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5.5 Validate Scope

: verifies the deliverable

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What?

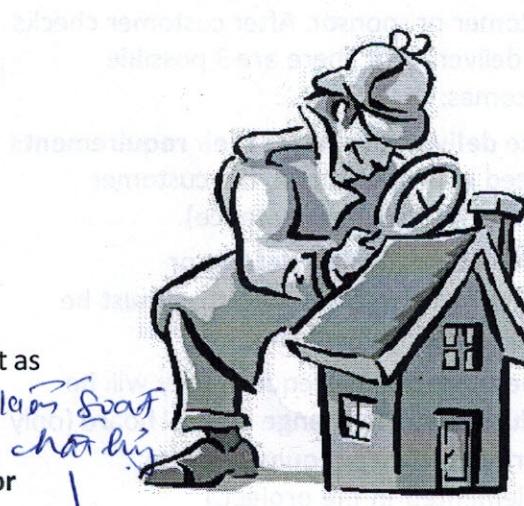
- Process of validating completed deliverables with stakeholders and formalizing their acceptance.

Why?

- Decrease the reworks, increase likelihood of closing the project.

When?

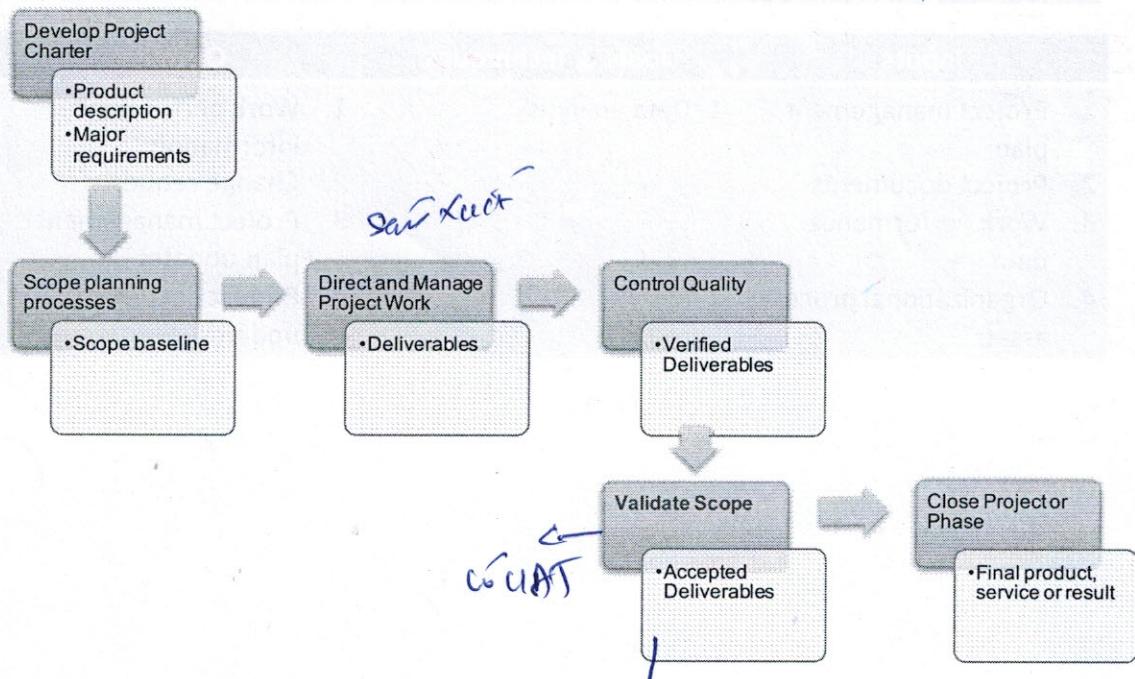
- Periodically throughout the project as needed.
- Usually performed after Control Quality, and before Close Project or Phase.



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Deliverables flow

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5.5 Validate Scope

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How?

- Project team presents project deliverables to customer or sponsor. After customer checks the deliverables, there are 3 possible outcomes:
- If the **deliverable meets their requirements** agreed in project scope, the customer accepts it (**formal acceptance**).
- If the **deliverable has defects** or requirements are not met, they must be fixed by the project team.
- If there are change request, they will be evaluated by the change control board (only approved change requests will be implemented in the project.)



5.5 Validate Scope: Tools and Techniques

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1. Inspection

- Sometimes called: reviews, product reviews, audits, and walkthroughs.
- A point-by-point review of the requirements and the associated deliverable/ work



2. Decision Making

- Voting:** to reach a conclusion when the validation is performed by the project team and other stakeholders



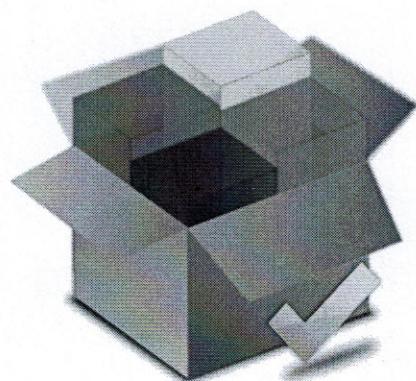
Tìm chi nhược điểm của sản phẩm
Tìm chi nhược điểm của sản phẩm.

5.5 Validate Scope: Outputs

PHIA

1. Accepted deliverables

- Deliverables that meet the acceptance criteria are formally signed off and approved by the customer or sponsor.



2. Work Performance Information

- Information about accepted deliverable and not-accepted deliverables and the reasons why.

3. Change requests

- Defect repair - *yêu cầu sửa lỗi*

4. Project documents updates

- Requirements documentation.
- Requirements traceability matrix.
- Lessons learned register.

5.5 Validate Scope- Inputs



1. Project Management Plan

- **Scope management plan**
- **Requirements management plan**
- **Scope baseline:** The scope baseline is compared to actual results to determine if a change

2. Project documents

- **Requirements Documentation:** requirements with their acceptance criteria
- **Requirements Traceability Matrix:** links requirements to their origin
- **Quality Reports**
- **Lessons learned register**

3. Verified deliverables

- Verified deliverables are project deliverables that are completed and checked for correctness through the Control Quality process.

4. Work performance data

- the degree of compliance with requirements, number of nonconformities, severity of the nonconformities, or the number of validation cycles performed in a period of time.

5.5 Validate Scope



Inputs	Tools & Techniques	Outputs
1. Project management plan 2. Project documents 3. Verified deliverables 4. Work performance data	1. Inspection 2. Decision-making	1. Accepted deliverables 2. Change requests 3. Work performance information 4. Project document updates

Key Outputs

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Process	Key Outputs
5.1 Plan Scope Management	<ul style="list-style-type: none"> Scope Management Plan Requirements Management Plan
5.2 Collect Requirements	<ul style="list-style-type: none"> Requirements Documentation Requirements Traceability Matrix
5.3 Define Scope	<ul style="list-style-type: none"> Project Scope Statement
5.4 Create WBS	<ul style="list-style-type: none"> Scope Baseline Scope Statement WBS, <ul style="list-style-type: none"> Work Packages, Planning Packages WBS Dictionary
5.5 Validate Scope	<ul style="list-style-type: none"> Accepted Deliverables
5.6 Control Scope	<ul style="list-style-type: none"> Work Performance Information Change Request

Trello .

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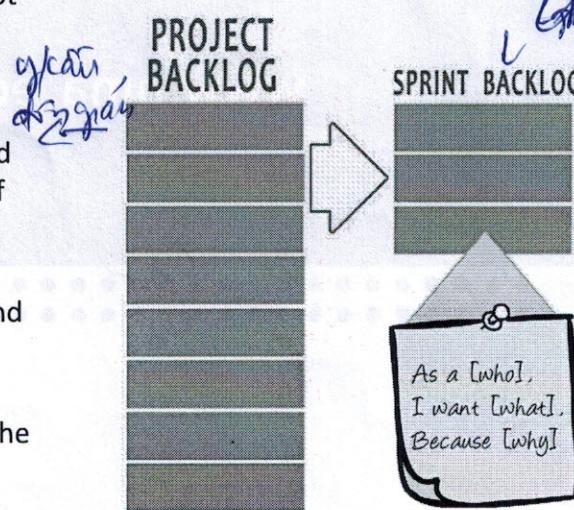
Recommendation for complex environment

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cetaphical /

- chu ý
- In complex environment with evolving requirements or emergent requirements, the scope is often not understood at the beginning of the project or it evolves during the project.
 - Spend less time trying to define and agree on scope in the early stage of the project and
 - Spend more time establishing the process for its ongoing discovery and refinement.
 - Build and review prototypes and release versions in order to refine the requirements.
- de lam sao
ý kien ..

- In agile approaches, the requirements constitute the backlog.



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để sau o day dien gai

Review



- Scope management process
- Scope management plan
- Requirements management plan
- Requirements documentation
- Requirements traceability matrix
- Requirements gathering techniques
- Project scope statement
- Definition of scope management
- Product scope
- Project scope
- Constraints
- Assumptions
- Product analysis
- Work breakdown structure (WBS)
- How to create a WBS
- Benefits of a WBS
- Uses of a WBS
- WBS dictionary
- Decomposition
- Work package
- Control account
- Scope baseline
- Accepted deliverables
- Product backlog
- User Story

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