

# Work Breakdown Structure(WBS): Strategic Approach to Project

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# A Project is the Pursuit of a Solution

**What is a project**, except the pursuit of an end solution?  
The best way to conceptualize the end of a software project is to create a **work breakdown structure (WBS)**.



# Introduction: Why Do Projects Fail?

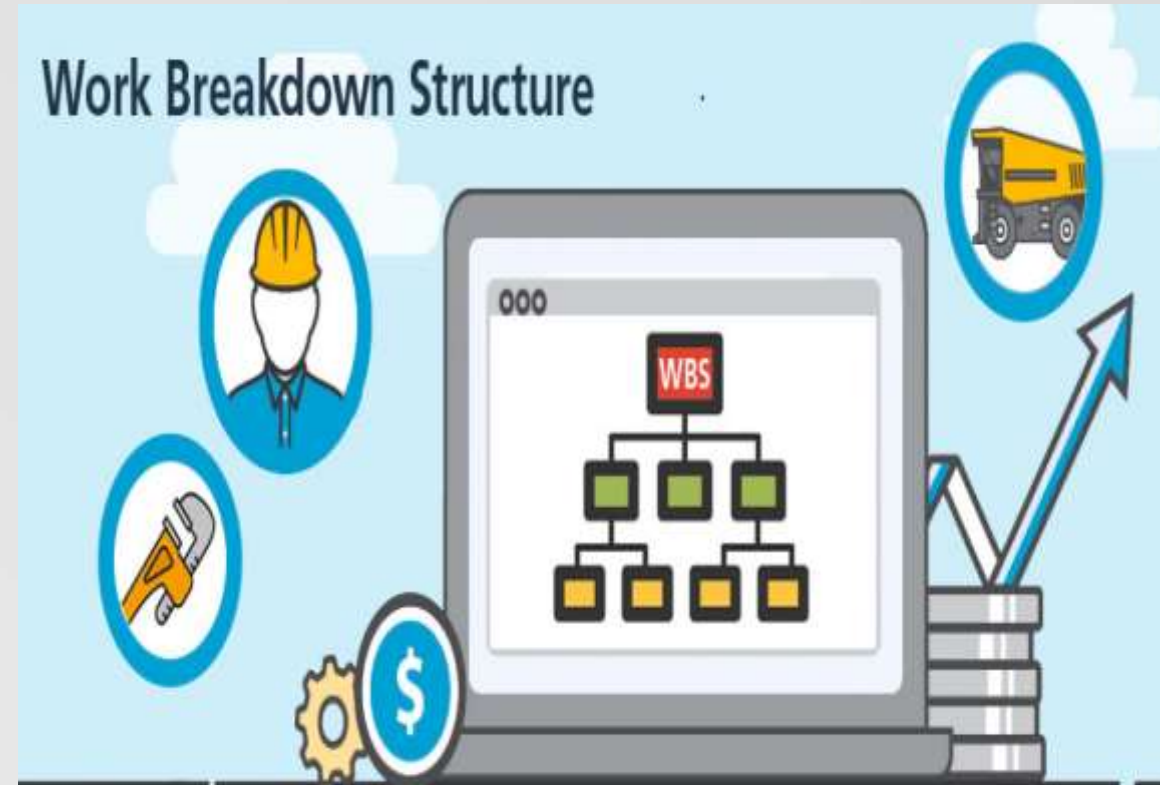
- **Fact:** 70% of projects fail due to poor planning.
- **Main Problem:** Unclear tasks, confusion, missed deadlines.
- **Solution:** **Work Breakdown Structure (WBS)** provides a roadmap.



# Mastering Project Success with Work Breakdown Structure (WBS)

Imagine setting out on a road trip without a GPS. You have a destination in mind but no clear path to get there. That's what running a project without a **Work Breakdown Structure (WBS)** looks like—confusing, chaotic, and prone to detours.

A **WBS** is the **project roadmap**, breaking down complex goals into manageable tasks, ensuring clarity, accountability, and efficiency.



# What is WBS?

A work breakdown structure (WBS) in project management and systems engineering is a tool used to define and group a project's discrete work elements in a way that helps organize and define the total work scope of the project.

The WBS provides the project manager & team with the necessary framework of tasks going forward to create detailed cost estimates & to provide a major input to project task scheduling at the most detailed and accurate level possible. By going through the WBS motions, the project manager and team will have a good idea whether or not they have captured all the necessary tasks, based on the project requirements that are going to need to happen to get the job done.



# Importance of WBS in Software Project Management

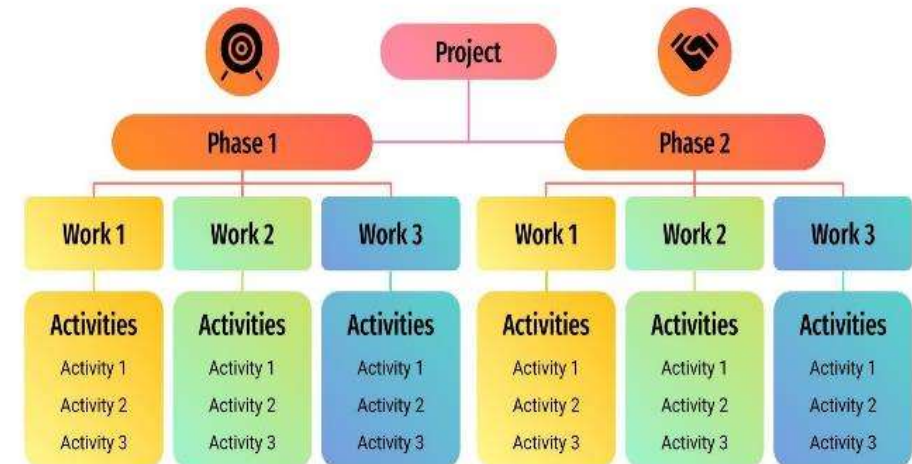
- Ensures clear project scope
- Enhances team coordination & accountability
- Reduces risks & ambiguities
- Aids in resource allocation & budgeting
- Simplifies tracking & progress monitoring



# How WBS Works: The Breakdown Process

- **Step 1:** Identify the final project deliverable.
- **Step 2:** Break it into major components.
- **Step 3:** Further divide into smaller sub-components.
- **Step 4:** Assign work packages to teams.
- **Step 5:** Validate and review with stakeholders.

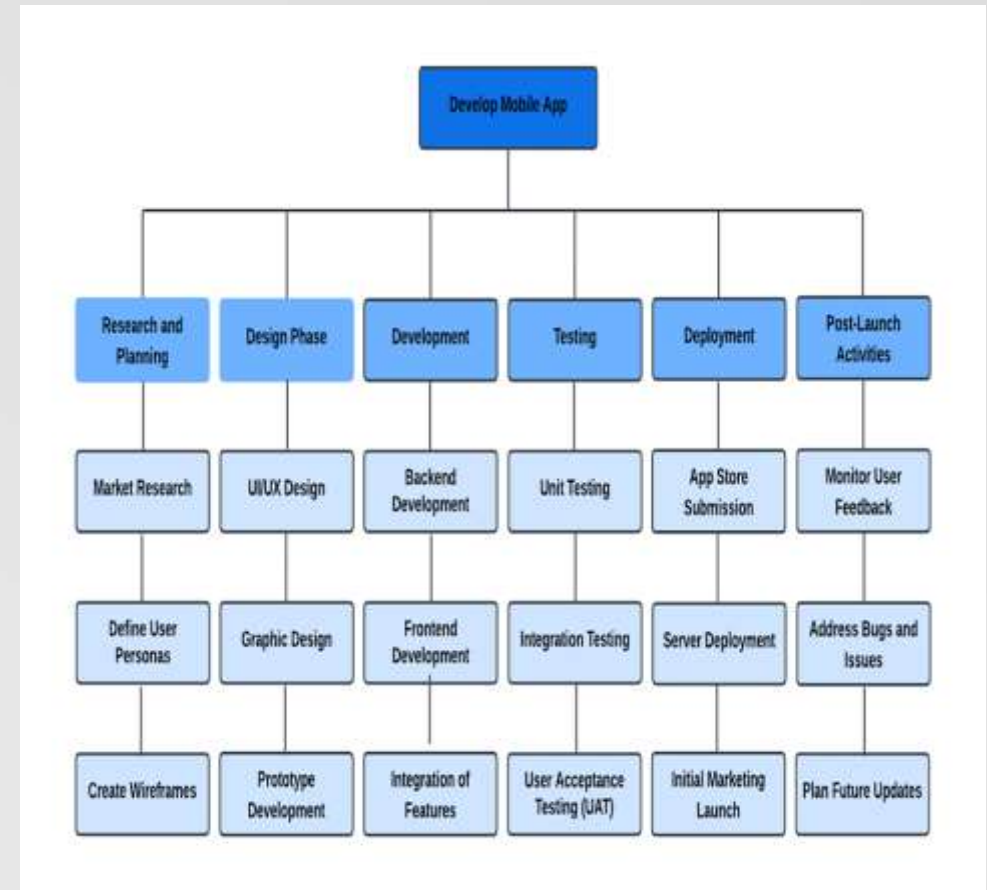
## Work Breakdown Structure (WBS) Infographics





# WBS in Software Development

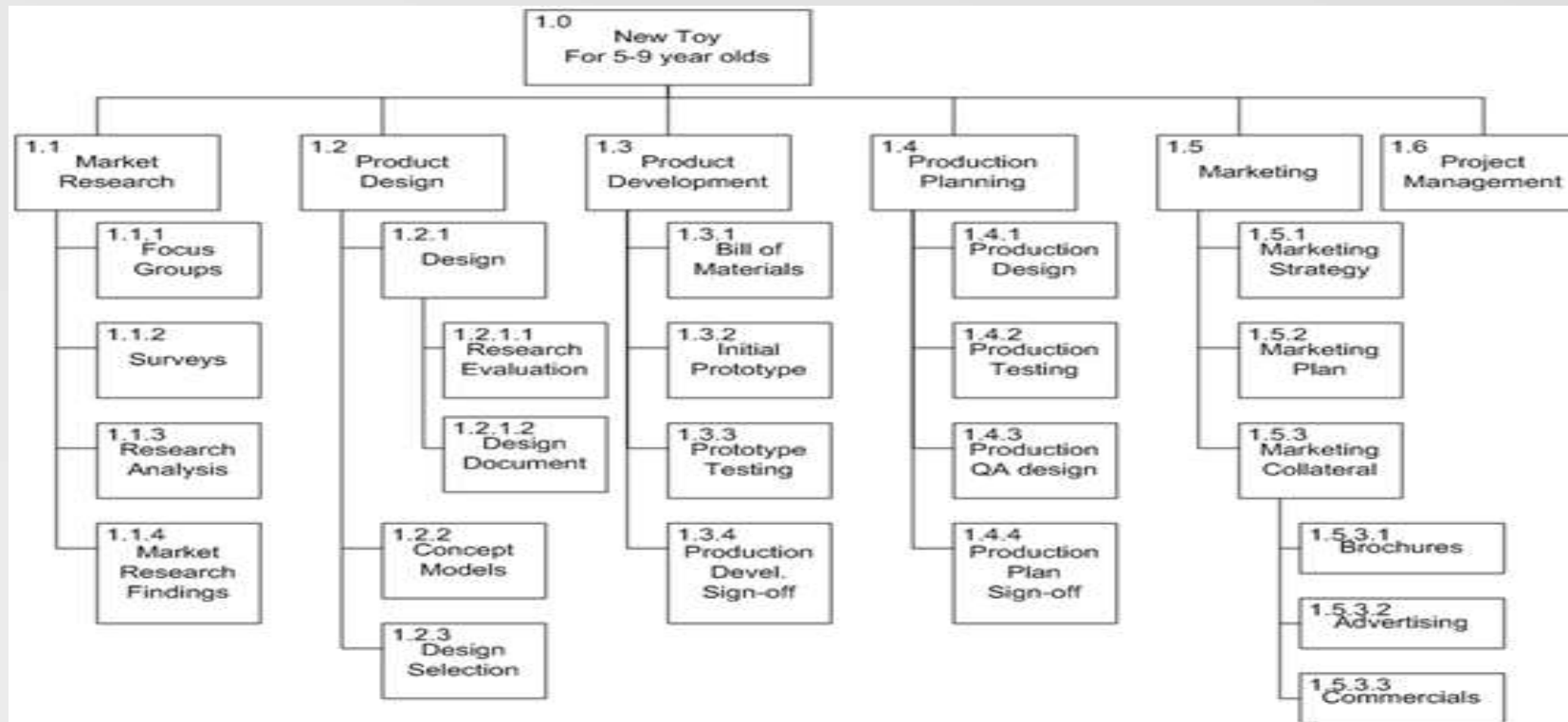
- **Real-World Example:** Developing a new mobile app
- **Breakdown:**
  - **Main Deliverable:** A fully functional app
  - **Sub-deliverables:** User interface, backend, security, database, testing, deployment
  - **Work Packages:** UI design, API development, performance testing, etc.
- **Outcome:** A structured, manageable workflow that avoids bottlenecks and delays.





# WHY WBS is essential managing projects

Tasks are split into manageable chunks of work to track the activities and if any is delayed then immediate action can be taken rather than waiting for days



# Key Benefits to developing WBS

## WBS forces the team to create detailed steps

The exercise alone encourages a dialogue that will help clarify ambiguities, bring out assumptions, narrow the scope of the project, and raise critical issues early on.

## WBS lays the groundwork for schedule and budget

A well-defined WBS enables resources to be allocated to specific tasks, helps in generating a meaningful schedule, and makes calculating a reliable budget easier.

## WBS creates accountability

The level of detail in a WBS makes it easier to hold people accountable for completing their tasks. With a defined WBS, people cannot hide under the “cover of broadness.” A well-defined task can be assigned to a specific individual, who is then responsible for its completion.

## WBS creation breeds commitment

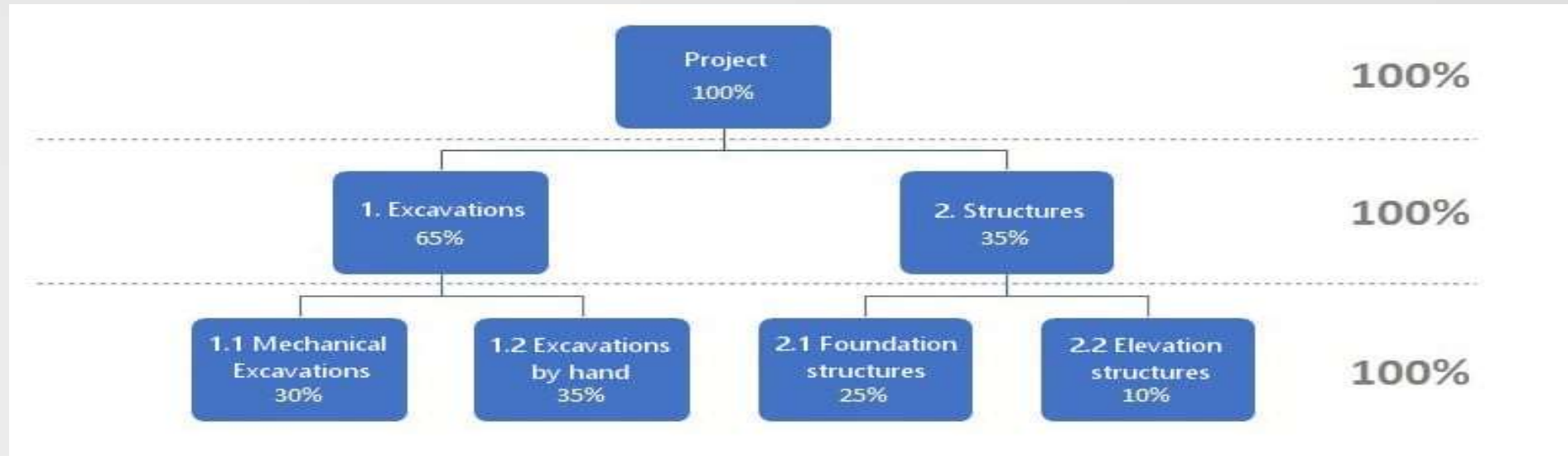
The process of developing and completing a WBS breeds excitement and commitment. Although the project manager will often develop the high-level WBS, he will seek the participation of his core team to flesh out the extreme detail of the WBS.



# Guidelines for making an Effective Work Breakdown Structure

## WBS and the 100% rule

A WBS must include 100% of the work defined by the project and all the necessary – internal, external and contract aspects – to the realization of the project, including the management of the project itself. The rule applies to all hierarchy levels: the sum of the “child” levels (lower node) must be equal to 100% of the work represented by their “father” (upper node). The rule also applies to the level of activity: the work represented by the activities in each work package must be 100% of the work necessary to complete the entire package.





# Approaches to WBS

**Top-Down Approach:** The project is divided into sub-projects. This is done until the task can be defined and estimated. This approach is more popular and is known for giving an accurate WBS.

**Bottom-Up Approach:** In this approach, the lowest level activities are to be put down first. This could be a tedious process and requires a lot of brainstorming.

## **3. Mutually Exclusive Activities**

An activity shouldn't be repeated twice in a WBS. This could lead to confusion during execution and would also require additional resources.

## **4. Level of Detail**

One must know when to stop breaking down an activity. Stop breaking down the task when the estimate of the desired level of accuracy can be attained.

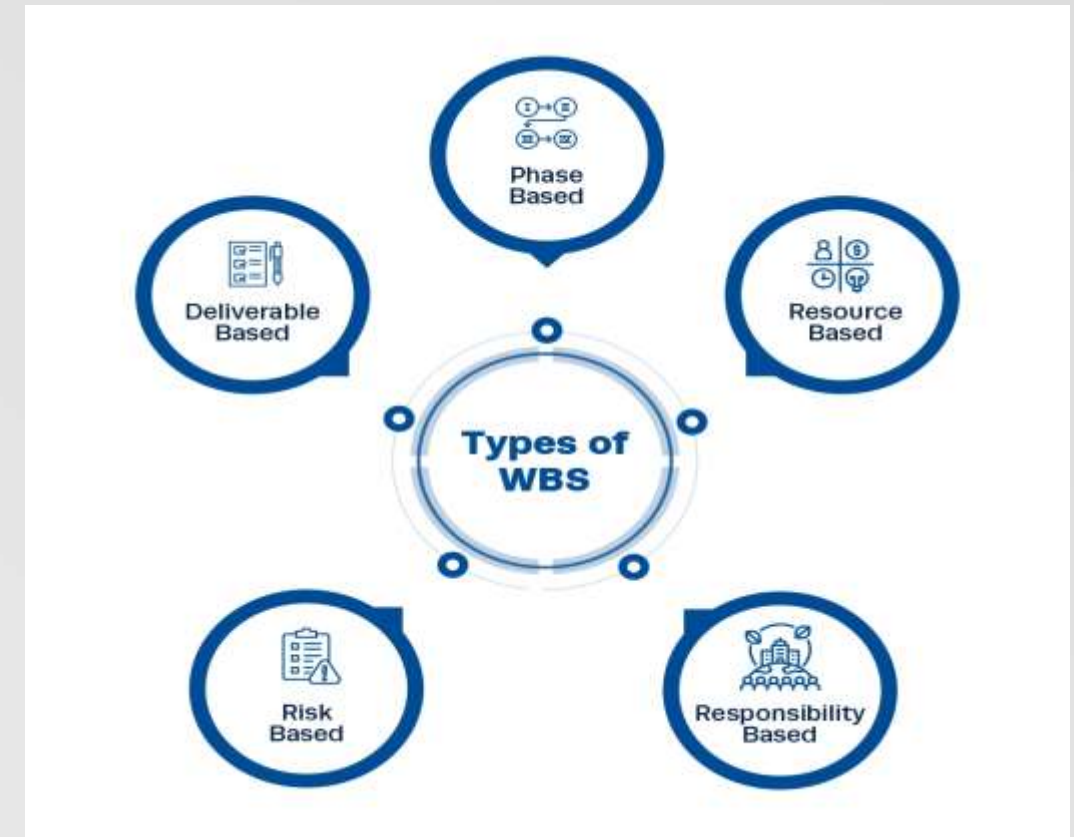
## **5. Absence of Symmetry**

Not all activities have the same number of sub-activities. Thus, a Work Breakdown Structure doesn't have to be symmetric or have the same bottom level.



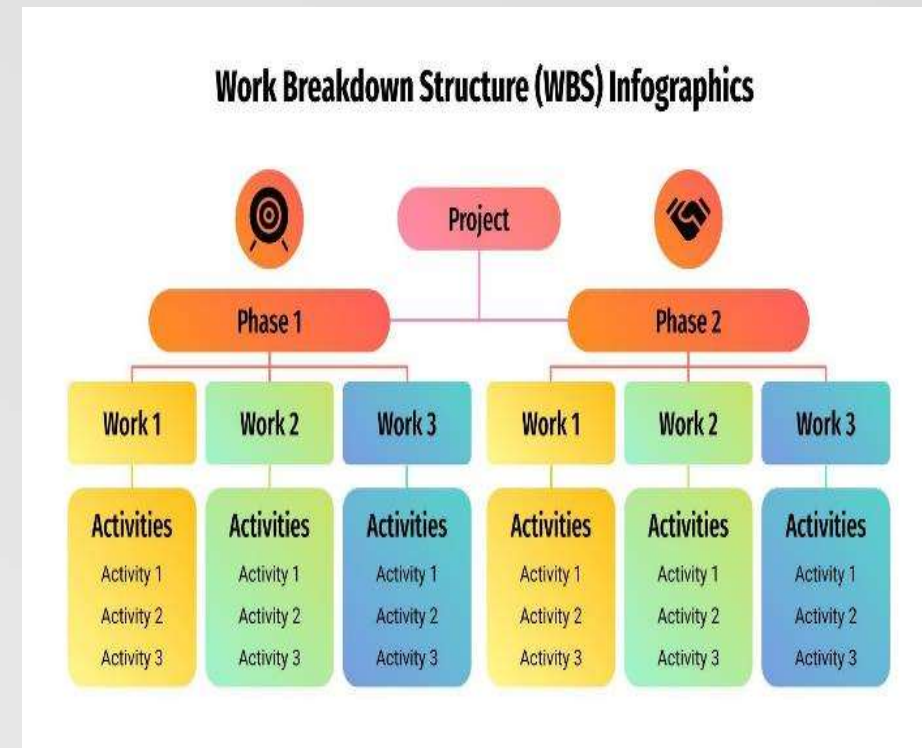
# Different Type of WBS Structure

- Phase-based structures
- Deliverable-based structures
- Responsibility-based structure
- Resource Breakdown Structure
- Risk Breakdown Structure



# Best Practices for Creating a WBS

- ✓□ Define clear deliverables before breaking down work.
- ✓□ Use a **consistent format** for easy understanding.
- ✓□ Avoid **overcomplicating**—keep work packages manageable.
- ✓□ Get **team input** for accuracy & feasibility.
- ✓□ Regularly review & update the WBS.



# Common Mistakes & How to Avoid Them

- ✗ **Mistake 1:** Creating a task list instead of deliverables.  
✓ **Fix:** Focus on **outcomes**, not just actions.
- ✗ **Mistake 2:** Breaking down tasks too much or too little.  
✓ **Fix:** Keep work packages **small but meaningful**.
- ✗ **Mistake 3:** No team involvement.  
✓ **Fix:** Engage key stakeholders **early**.





# A Tool to Solve WBS Challenges: Microsoft Project

- **Why Use It?**
  - Helps create & visualize WBS easily.
  - Tracks dependencies & deadlines.
  - Allocates resources efficiently.
  - Identifies risks & bottlenecks.
- **Other Tools:** Trello, Jira, Wrike, Monday.com

The logo for Jira Software, featuring a blue diamond icon with a white 'J' inside, followed by the text 'Jira Software' in a sans-serif font.The logo for Microsoft Project, featuring a green square icon with a white 'P' and a downward arrow, followed by the text 'Microsoft Project' in a white sans-serif font.The logo for Wrike, featuring a green checkmark icon followed by the text 'wrike' in a bold, lowercase sans-serif font.The logo for Monday.com, featuring a colorful, multi-colored square icon followed by the text 'monday.com' in a lowercase sans-serif font.The logo for Trello, featuring a blue square icon with a white 'T' inside, followed by the text 'Trello' in a bold, sans-serif font.

# WBS & Risk Management

- Identifies **potential risks** at each level.
- Helps in **resource allocation** for risk mitigation.
- Reduces last-minute surprises by preemptive planning.



# WBS in Agile & Scrum

- **WBS is adaptable!**
- Helps in **breaking down user stories into sprints.**
- Enhances clarity in **iterative development.**
- Aligns well with **backlog management.**



# Monitoring & Controlling Projects with WBS

- ✓ **Progress Tracking:** Identify delays early.
- ✓ **Resource Management:** Avoid bottlenecks.
- ✓ **Scope Management:** Prevent scope creep.
- ✓ **Budget Control:** Avoid cost overruns.



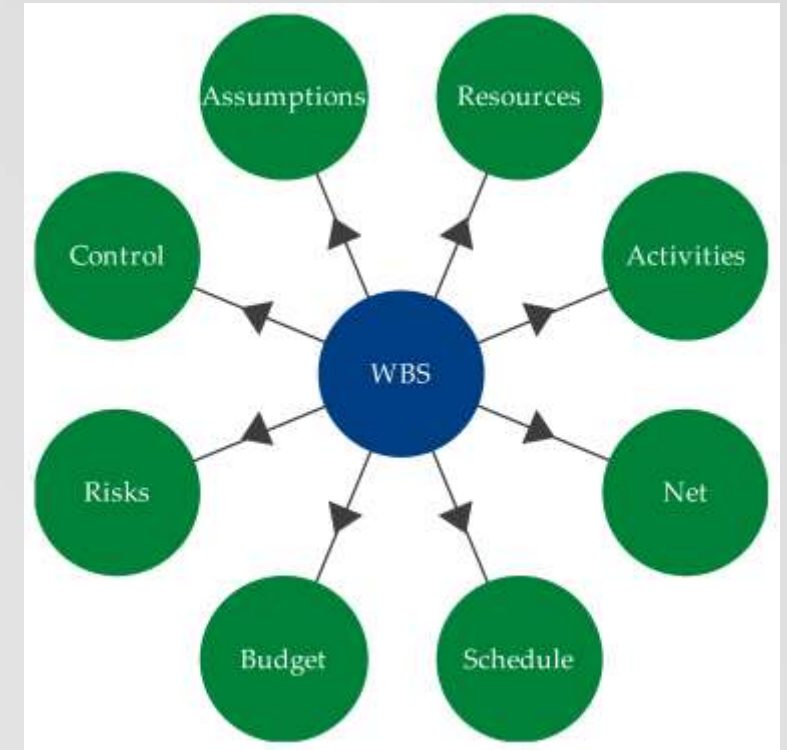
# The Role of Creativity in WBS

- **Avoid rigid structures—be flexible!**
- **Encourage innovative solutions for better breakdowns.**
- **Balance structure with flexibility.**
- **Use visuals (mind maps, charts) for better clarity.**
- **Encourage team-driven innovation in defining tasks.**



## Key Takeaways: Why WBS Matters

- ✓ Provides a clear roadmap.
- ✓ Enhances efficiency & accountability.
- ✓ Reduces risks & surprises.
- ✓ Ensures on-time, on-budget project completion.



## Conclusion: Your Next Steps

- WBS is NOT an extra step—it's a necessity!

**“If you can’t describe what you are doing as a process, you don’t know what you’re doing”.**







# References

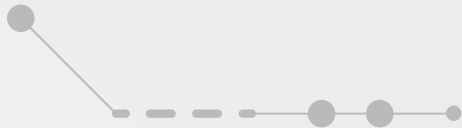
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**THANK YOU!**