

Introduction to Project Management

"Time waits for no one... and nowhere is that more true than when managing a project"

- Jim Macintyre

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Introduction- What Defines a Project?

- A sequence of tasks
- A beginning and an end
- Bounded by time, resources and desired results.

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Introduction – What is project management?

- Project Management
 - Ensures project scope and objectives are clear
 - Defines expected timelines
 - Uses resources more efficiently
 - Identifies problem areas and risk
 - Improves communication
 - Eliminates duplication of effort
 - **Tracks projected benefits against customer requirements**

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Introduction – What is the Role of the project manager?

- Takes overall responsibility for coordinating
- Makes sure the desired end results is achieved
- Final product is on time and within budget.

What traits make a good project manager?

- Enthusiasm for the project
- Ability to manage change effectively
- Tolerant attitude toward ambiguity
- Team building and negotiating skills
- Customer first orientation
- **Adherence to business priorities**

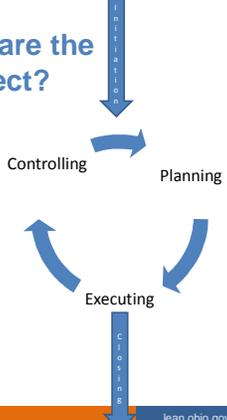


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Introduction– What are the phases of a project?

Five Phases of Project Management

1. Initiating
2. Planning
3. Executing
4. Controlling*
5. Closing



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Initiation



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Initiation – Define the Problem and Scope

- Define the problem the project will address
- Define the boundaries of the process under examination
- Document these definitions

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Initiation – Prioritize Your Project

Where to Start?

Criteria	H	M	L	Score
Impact on customer satisfaction <i>Affects customer - 9: Directly 3: Indirectly 1: No Affect</i>	9	3	3	1
Impact on Business Y <i>Affects site Business Y - 9: Directly 3: Indirectly 1: No Affect</i>	9	3	3	1
Impact on improving Employee Value <i>Affects employee value - 9: Directly 3: Indirectly 1: No Affect</i>	9	3	3	1
Value added to Agency <i>9: >\$100K 3: \$50K - 100K 1: <\$50K</i>	9	3	3	1
Leveragability <i>9: >5 projects 3: 2-5 projects 1: <2 projects</i>	9	3	3	1
Feasibility <i>9: High 3: Medium 1: low</i>	9	3	3	1
Resources <i>Measurement system & data availability - 9: Available now 3: within 60 days 1: > 60 days</i>	9	3	3	1

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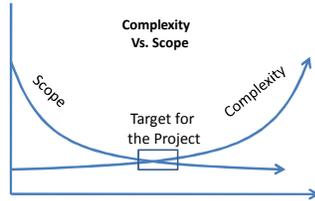
Initiation – Define and Managing Project Scope

Set
SMART
Goals

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Initiation – Balance Scope and Complexity

Project Goals



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Initiation – Consider Constraints and Risks

- Constraints and Risks are a Major Factor
- Project Constraints/ Risks
 - Anticipated – bad work issues, departure of team member, environment
 - Unexpected mid-project – disasters, hurricane, tsunami, unqualified resource
 - Poor planning or lack of support
- Be willing to be flexible
- Brainstorm contingency plans
.....(what would I do if....)

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Initiation – Identify and Select the Team

- Define the project prior to picking your team.
- Select the Team based on
 - What skills you need
 - Match skills and talents to project needs
 - Who will be the core team members
 - Acquire resource time and commitments

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“If they know nothing of what you are doing, they suspect you are doing nothing.” Robert J Graham

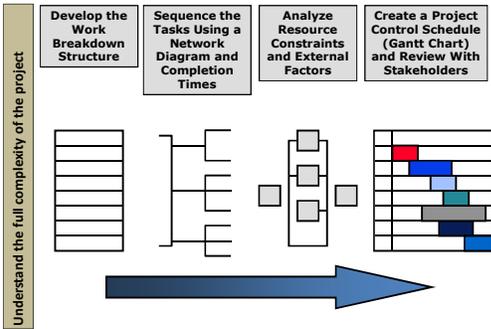
DMAIC



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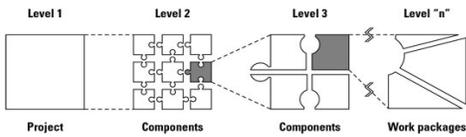
Planning – Workflow Overview



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18 Planning- Work Breakdown Structures



A WBS is...

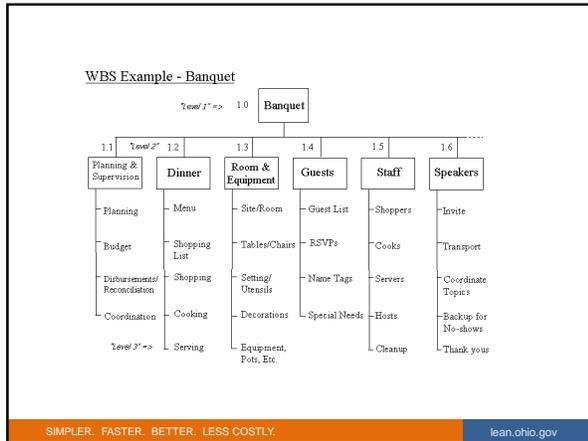
A hierarchical chart that...

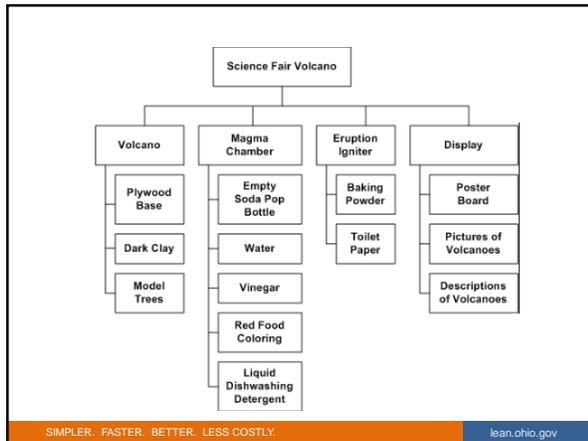
Divides the project into manageable tasks

Use the 100% rule

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Create your own WBS

- Consider getting ready for work in the morning....
 - What are your key deliverables to get you out the door?
 - What does it take to achieve those deliverables?

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Planning – Network Diagrams

Critical path (in bold) = 57 minutes All times are in minutes

Completed picnic-at-the-lake network diagram

A Network Diagram is:

- A logical representation of tasks that defines the **sequence** of work in a project.

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Planning – Network Diagram Example

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Create your own Network Diagram

- Using your WBS for getting ready for work in the morning....
 - Create a network diagram
 - Are there tasks that can be completed simultaneously?
 - How long does each major task take?

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Planning – Identify the Critical Path

The Critical Path is:

- The longest path through the network diagram
- If this path is delayed, the entire project is delayed

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Planning – Use PERT Charts to identify the Critical Path

- Focuses on time estimates
 - Include documentation tasks because this can be very time consuming!

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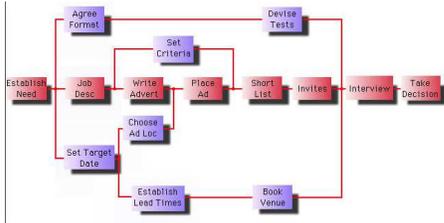
Planning PERT Chart Example

DAI 506 RESEARCH AND DEVELOPMENT PERT CHART

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Planning – Critical path

Example for hiring a new employee:



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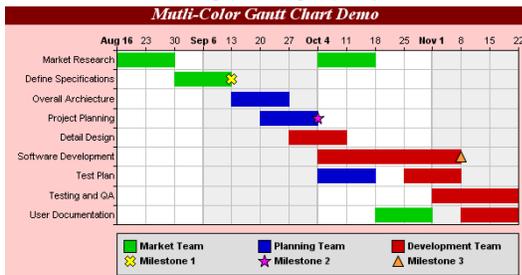
Identify the critical path

- Using your Network Diagram
 - Estimate the duration of each task
 - What is your critical path?

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Planning – Gantt Charts



A Gantt chart is:

- A visual overview of project timelines, including the critical path.

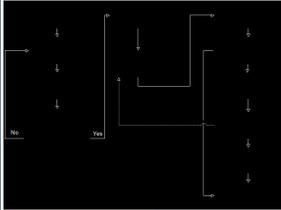
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Execution

DMAIC

Measure, Analyze, Implement



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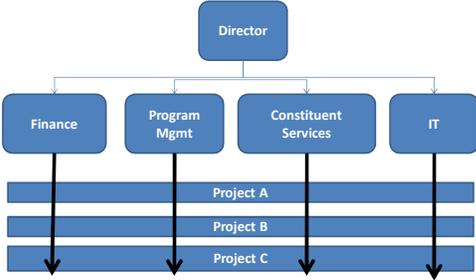
Execution – Are your ducks in a row?

- You have a reasonable scope?
– CHECK!
- You have a solid plan?
– CHECK!
- You have the right resources?
– CHECK!
- Your team is assembled?
– CHECK!



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Execution – Define your Team Organization



Matrix Organization

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**Execution –
Plan your Communication Strategy**

- Vertical Communications
- Horizontal Communications
- Diagonal Communications

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**Execution –
Get the Ball Rolling through a Kickoff Meeting**

The Formal Kickoff Meeting



- Based on project size
- Celebratory and informative
- **Introduce project goals and objectives**
- Sponsors should attend

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**Execution –
The Kick off Meeting Contents**

- At the kickoff meeting
 - Establish meeting model
 - Introduce team members
 - Review plans, priorities and schedules
 - Discuss project tools
 - Engage in collective problem solving
 - Assign roles, responsibilities and next steps
- **Schedule regular project meetings to ensure the project stays on track**

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Execution – Kickoff “Deliverables

- A summary of project objectives and milestones
- An org chart of the project
- A description of key personnel on the project and their roles
- A personal task list
- The authority to do the job and understand the limits of that authority
- The schedule
- Due dates for reports, meetings, and other recurring activities
- Samples of required reports, forms and other documents
- Procedures for reporting problems and suggesting changes to the project
- Contact information for key project personnel and vendors

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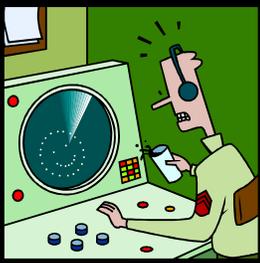


Execution – Exercise Project Control

- Control requires knowledge of project status
 - Engage in frequent, regular monitoring
 - Compare against the original plan and update as needed
 - Reports are good tools for synthesizing information
 - Informal discussions reveal a more accurate accounting of project status
- Adapt the project schedule, budget, and work plan as necessary to keep project on track
 - Document project progress and changes and communicate them to team members
- Stay engaged
 - Quality communication is key
- Always include the team in decision making
 - Ask for their suggestions
- **If the project is in serious trouble ask for expert advice before it's too late**

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Control Phase/ Control Plans DMAIC



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Process Control – Are we there yet?



- Plan has been completed? – CHECK!
- DMAIC model has been followed? – CHECK!
- Project plan yielded desired results? – CHECK!

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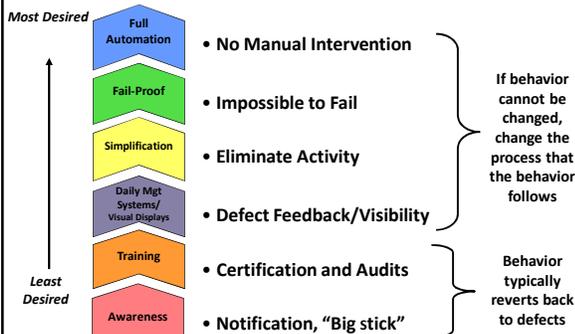
Control – Transition through A-I-2-C

- In Analyze, you try to identify the critical X's
- In Improve, you optimize the settings for those X's
- In Control, you identify how to lock those X's at the desired settings and how to know if they vary from those settings
- **Control is about holding the gains**

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Control – Methods to ensure you won't have to fix this again



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Control Phase

- The control phase helps implement the project solution
 - Maintains process improvements are maintained
 - Identifies new process problems quickly so they are corrected
 - Disseminates lessons learned
 - Identifies replication and standardization opportunities

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Control – Implementation Plan

- An element of your project plan
- Component that drives to full implementation
- Follows standard PM methodology
- Pitfalls
 - Allowing the sponsor/champion to rush the completion to the detriment of establishment of solid control methods
 - Not engaging enough resources to facilitate the broader execution

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Control – Creating the Implementation Plan

Task	Who	When
Assist with project requirements and testing	Compliance Division & ISD	In-Progress until complete
Prepare work procedures based on new VTAPS release	Compliance Division Team Lead & Staff	Go Live minus 2 weeks
Training staff on new process and system	Compliance Division Team Lead & Staff	Go Live minus 2 days
VTAPS Implementation/Go-Live	ISD & Compliance Division	* Go Live Date TBD
Monitor process through new reporting tools	Compliance Division Team Lead	Go-Live plus 30 days
Evaluate and (if appropriate) change rule to eliminate the need for Clerks to send in paper exemptions	Compliance Division Team Lead & Team Sponsor	Evaluate Go-Live plus 60 days, rule change takes 90 – 120 days
Communications to Title Offices, Dealerships, BMV and Taxpayers	Compliance Division Team Lead & Staff	As needed
Follow-up Meetings to Monitor New Process	Green Belt Facilitators	30, 60, 90, 180 days, and 1 year after implementation

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Control – Control Plans

- Control plans exist to ensure the process *consistently* meets customer requirements
- They should provide *predictive* information, so adjustments can be made before defects

Formal control plans are one of the major differences between Six Sigma and other previous quality initiatives.

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Control Example – In Control

This represents a well functioning process!



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Control Example – Out of Control

This does not!



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Control - Control Plan Elements

- *Who* is going to be keeping the process functioning properly?
- *When* are they going to do the monitoring of the input variables?
 - *How* are they going to monitor the input variables?
 - *Where* will the monitoring be conducted?
- *Where* should the plan reside?
 - *When* will the plan be updated?
- *What* will be done if the monitoring detects a condition outside of the customer's specifications?

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Control- Using FMEA to Develop the Plan

FAILURE MODE & EFFECTS ANALYSIS (FMEA)				
Process Name: Left Front Seat Belt Install	Process Number: SBT 445	Date: 1/1/2000	Revision: 1.3	
Failure Mode	A) Severity Rate 1-10 10 = Most Serious	B) Probability of Occurrence Rate 1-10 10 = Highest Probability	C) Probability of Detection Rate 1-10 10 = Lowest Probability	Risk Preference Number (RPN) AdjDC
1) Select Wrong Color Seat Belt	5	4	3	60
2) Seat Belt Buck Not Fully Tightened	9	2	8	144
3) Trim Cover Clip Misaligned	2	3	4	24

- Review the RPN's for the key factors
 - Look at the severity, frequency of occurrence or detectability of each factor
- If the factors identified in the FMEA have an impact on your process, use the control plan to specify the details of the monitoring

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Control- Using Process Mapping to Develop the Plan

- In *Define*, a simple form of process mapping, typically SIPOC, is used to identify key input and output variables
- In *Control*, detailed process mapping will be used to record the improved process
 - Process mapping clearly shows the sequence of events, handoffs and the job descriptions of people performing all tasks

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Control – A Example of a Simple Plan

	What	Who	When	Where
Measure	Money Collected	Denise	Every Month	SharePoint Site
Monitor	Money Collected	Bill Owen	Every Six Months	Email from Denise
React	Money Collected	Bill Owen	Every Six Months	Memo
Revise	Money Collected	AOS and Attorney General	Once a Year	Meetings

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Control- A Sample of a more Complex Plan

Process Control Plan

Process		Key Process Input Variables	Key Process Output Variables	Process Specification (e.g., USL, Target)	Capacity (Cpk, Ppk) and Ane	Measurement Technology	MSA Risk Rating	P/T	Sample Size	Sample Frequency	Control Method	Reaction Plan
	Supplier	Material quality	Production rate	100% Target	1.33 (Cpk)	Visual/AI	High	10	100%	100%	Stop production	Investigate to find root cause and correct
	Process Owner 1	Machine settings	Process stability	±0.010 (USL)	1.33 (Cpk)	Visual/AI	High	10	100%	100%	Adjust machine	Investigate to find root cause and correct
	Process Owner 2	Operator skill	Process consistency	±0.010 (USL)	1.33 (Cpk)	Visual/AI	High	10	100%	100%	Retrain operator	Investigate to find root cause and correct
Customer	Customer requirements	Customer satisfaction	100% Target	1.33 (Cpk)	Visual/AI	High	10	100%	100%	100%	Stop production	Investigate to find root cause and correct

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Develop a Control Plan

- Lets go back to our example of getting ready in the morning
 - What is one “process” that you might be able to error proof?
 - How would you measure that?
 - How would you monitor it over the long term?
 - What would be your reaction if it went out of control?
- Use the simple template from slide 55

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Control- Common Red Flag Conditions

- Adjustments
- Constant equipment changes
- Lots of critical measurements
- Many parts / mixed parts / multiple transactions types
- Multiple steps
- No (or ineffective) standards

- Rapid repetition
- High volume
- Environmental conditions
 - Material / process handling
 - Housekeeping
 - Foreign matter
 - Poor lighting
 - Noise
 - Distractions
 - Rain / snow
 - Cold / Hot

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Control – Reaction Plan

- What will be done if one of the variables is out of control or out of specification?
 - Actions should be the responsibility of people closest to the process
 - The reaction plan can refer to an SOP and identify the person responsible for the reaction procedure

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Control- Reaction Plan

There are better ways of reacting.



- **PREVENT** - Root cause identified and permanently corrected
- **CORRECT** - Root cause is identified and corrected temporarily
- **COMPENSATE** - Making adjustments - without identifying root cause

Compensating actions are usually less successful
Preventative actions will last longer

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Control – Transition Communication Plan

- Get the word out via a series of transition communications
 - Who needs to know and what do they need to know?
 - When do they need to know?
 - How will communications be shared within the hierarchy?
 - Which key stakeholders need to be included in the communications?
 - How will the project team transfer its knowledge to the process owner?

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Control – Communications and Training Plans

Message	Audience	What	Responsible Party	When/Where
Training of new procedures & exemption definitions	Taxation Supervisors and staff of those who process exemptions	Training sessions and Quarterly Meetings/ TAXI / Spectrum	Compliance Division Team Lead	At Northland facility after new system goes live
Updated taxpayer educational material	Taxpayers/ Public	Taxation website and updated letters	Compliance Division Team Lead	On-line/on demand/ when letters sent
Updated program material	Title Offices, Dealers	Taxation website, bulletins and e-mail messages	Compliance Division Team Lead	As needed/ electronic

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Control – Last thoughts on Control Methods

- Changes in the process require changes to the control method
- Control methods identify person/position responsible for control of each critical variable and details about how to react to out-of-control conditions
- Control methods include a training plan and process auditing system
- Lengthy methods can be incorporated by reference

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The Final Lap!



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Project Closing— Did we forget anything?



- Plan has been completed?
– CHECK!
- DMAIIC model has been followed?
– CHECK!
- Project plan yielded desired results?
– CHECK!
- Process is in Control and has been transferred to process owner?
– CHECK!
- You are ready for a new challenge
– CHECK!

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Closing – Major Steps

- Transition to control plan
- Reassign staff
- Release equipment and materials for other projects
- Conduct final accounting
- Assemble final documentation
- Conduct the final team meeting and report
- Leverage opportunities

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Questions?

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