Capitalizing in Migrating Web-Service Environments

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Capitalizing in migrating web service environments requires focused diligence in tactical and strategic considerations in achieving Net-Centric efficiencies and operational utility.

Net-Centric strategies present challenges and not **easily *integrated*** into engineering, acquisition, testing, management, and funding disciplines.

Applying

'Adopt or Buy' (adapt and use) strategies to existing web-services to meet acquisition criteria may ignore or delay essential 'business rules' and use; thereby not exploiting technologies for ***greater net-centric capability end-goals*** in the field.

Evaluating

a single or group of web-services in a ***transitioning*** environment may well ***stovepipe*** web-services as system/system function replacement and ***focus testing*** on program; which yield less than optimum net-centric operational efficiencies.

Deploying

web-services without exploitation of the web-service in a given mission-to-task consideration may ***hinder*** product operational usage and ***foster*** miss-use or non-use.

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Where we are		Where we need to be
Familiar		Less familiar
What we use	*FOCUS*	What we use and how we use it
Technology affects on system capability	*SOLUTION*	Technology + method + people affect on operational capability
Developers' perspective	*PERSPECTIVES*	Warfighter perspective
Hardware and software must be developed together	*CENTRAL RULE or CONCEPT*	Materiel and non-materiel must be developed together
SoS assessment - OT&E focus on the system	*APPROACH*	MCP assessment - Holistic focus on all components
System centric	*CENTRICITY*	Capability centric (Warrior)

Focus on urgent operational need -- solution stakeholders must forge a single 'integrated' enterprise to reduce risk in satisfaction of that need.

Changing the Business Model Requires:

(1) Willingness to empower teams working together to achieve more than organizations working alone

(2) Focus on Operator or Warfighter as central driver – solution need originator and evaluator

(3) Commitment to providing meaningful services rather than inflexible "products"

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CAPITALIZING REQUIRES KNOWING THE CENTER OF GRAVITY (COG) OF THE PROBLEM THAT YOU ARE TRYING TO SOLVE

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CAPITALIZING REQUIRES MEETING MUTUAL INCLUSIVE PERSPECTIVES – PROGRAM MANAGERS, DEVELOPER, TESTER, AND END USER

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CAPITALIZING AND PROVIDING A NET-CENTRIC MISSION/TASK CAPABILITY REQUIRES INTEGRATING THREE INSTRUMENTS: TECHNOLOGY, PROCESS, AND PEOPLE

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"Coevolved MCP (Mission Capability Packages) response to the problems that can arise when new technologies… are introduced but are not accompanied by changes in other areas, such as training or doctrine." For years, the belief has been that "computer technology was not cost-effectives because there was a lack of empirical evidence to show improvement in productivity."

David Alberts and Richard Hayes, 2007

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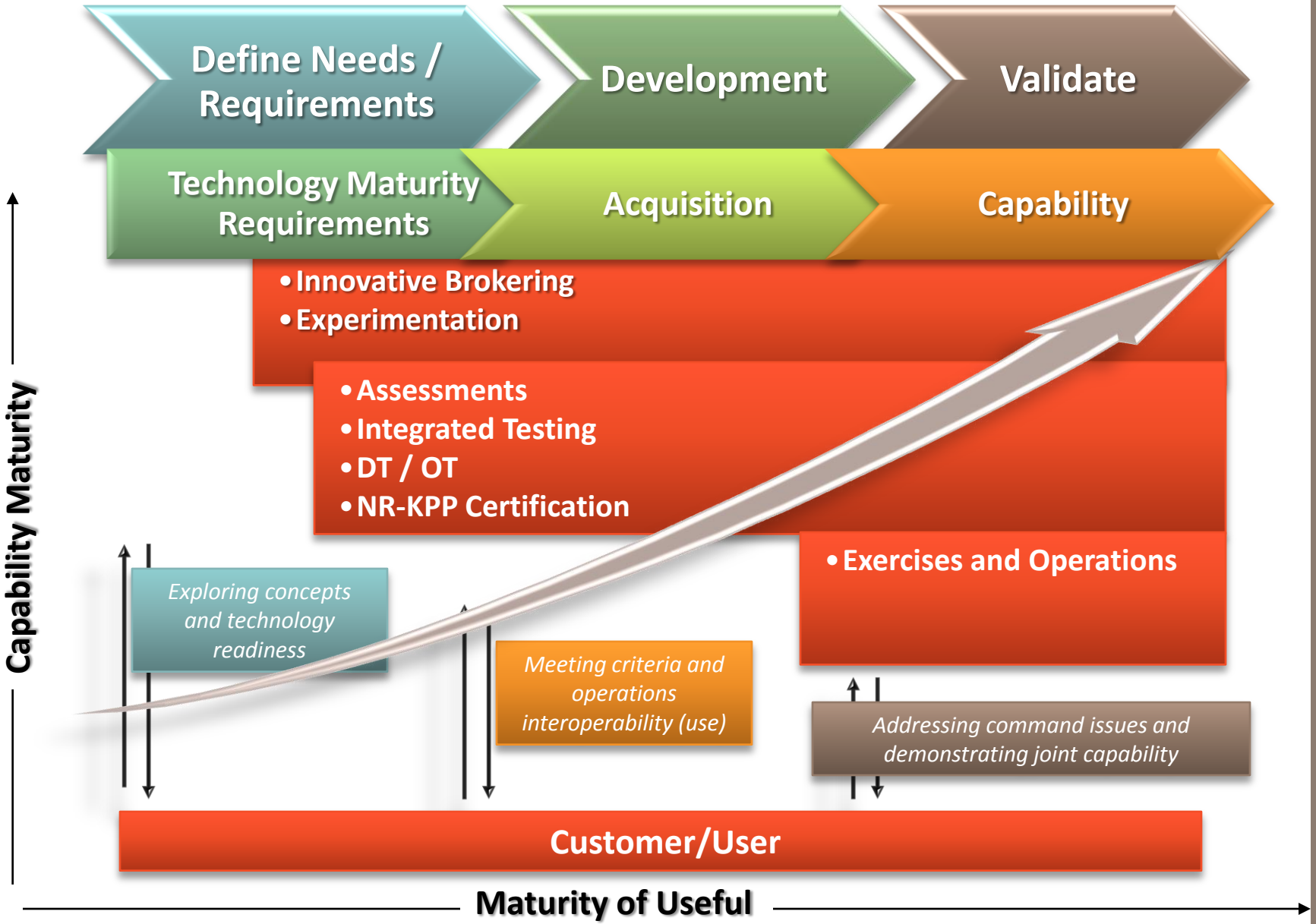
Meeting the challenges require integrating view point and instruments through life cycle progression of experimentation, integrated testing, and exercises & operations.



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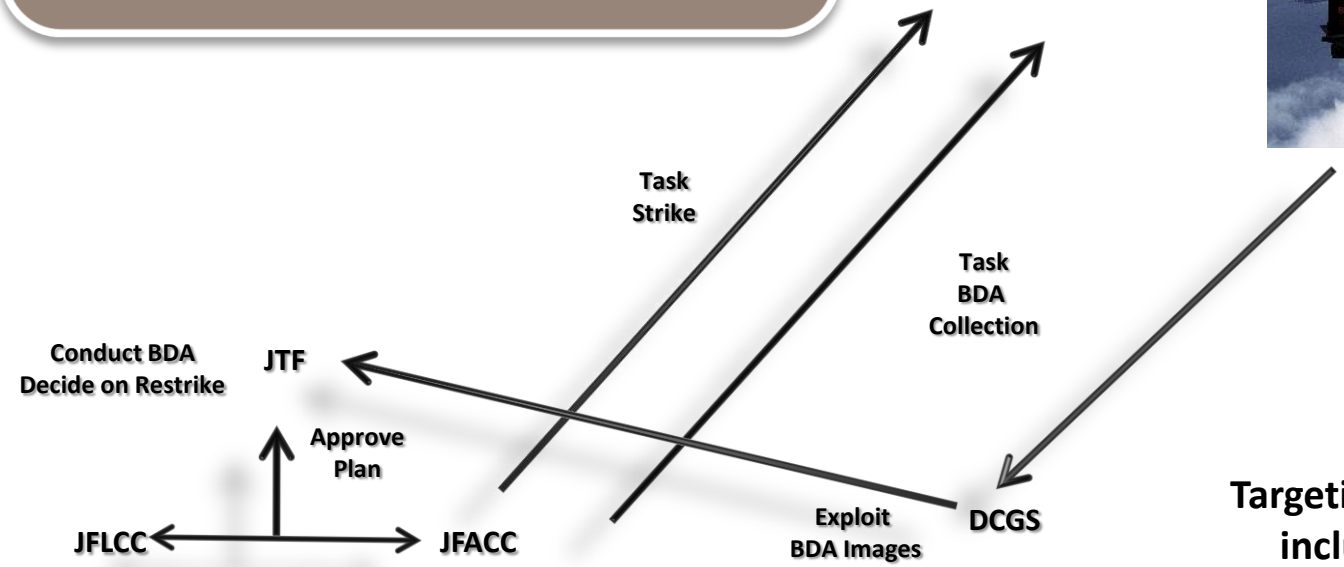
An Operational Mission Thread is an operational and technical description of the end to end set of activities and systems that accomplish the execution of a mission



Targeting Mission Thread includes part of the Collection Management Mission Thread to provide the set of ***end to end activities***

Both operational and technical products are used to document a mission thread

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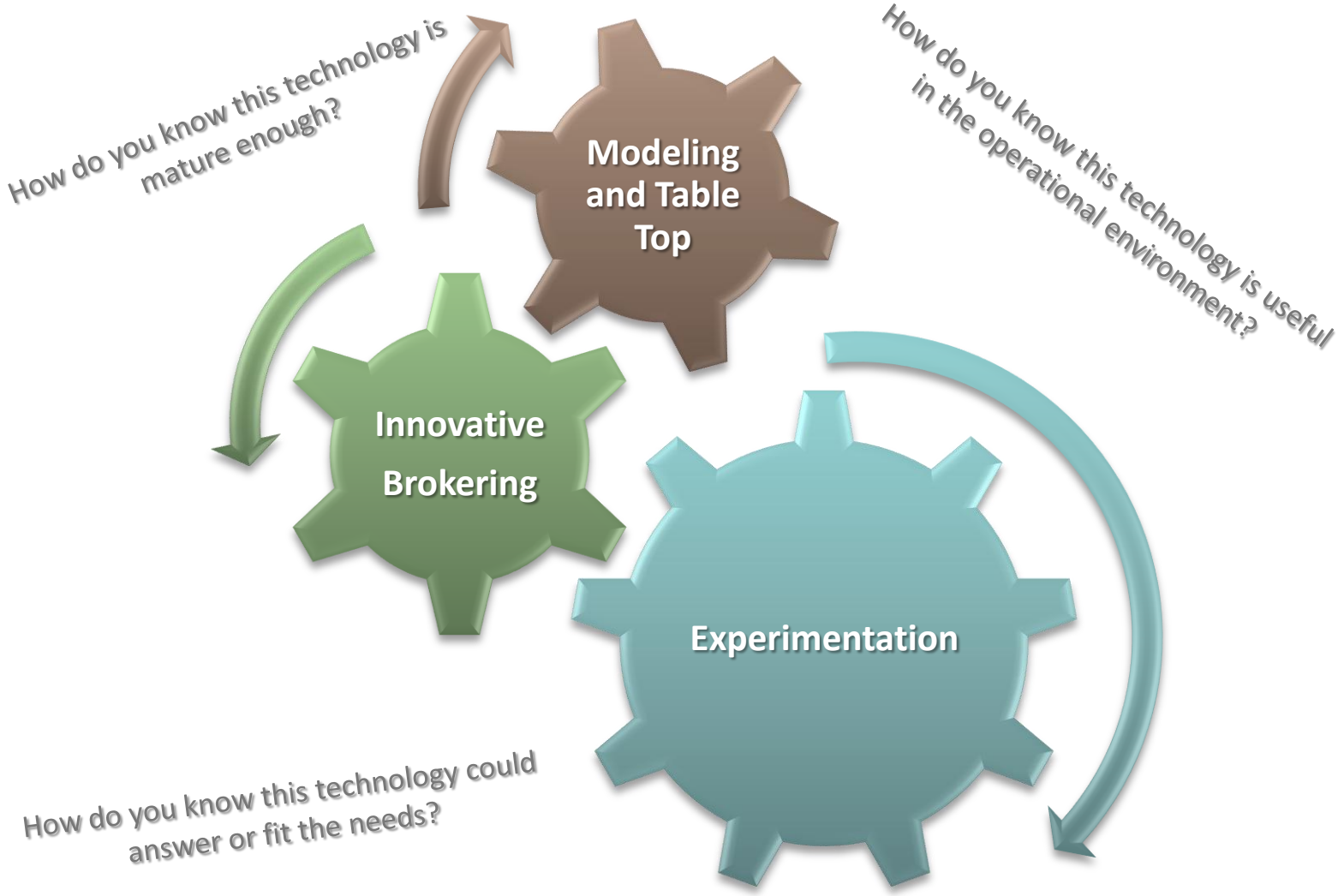
Engagement Opportunities – How do you know?



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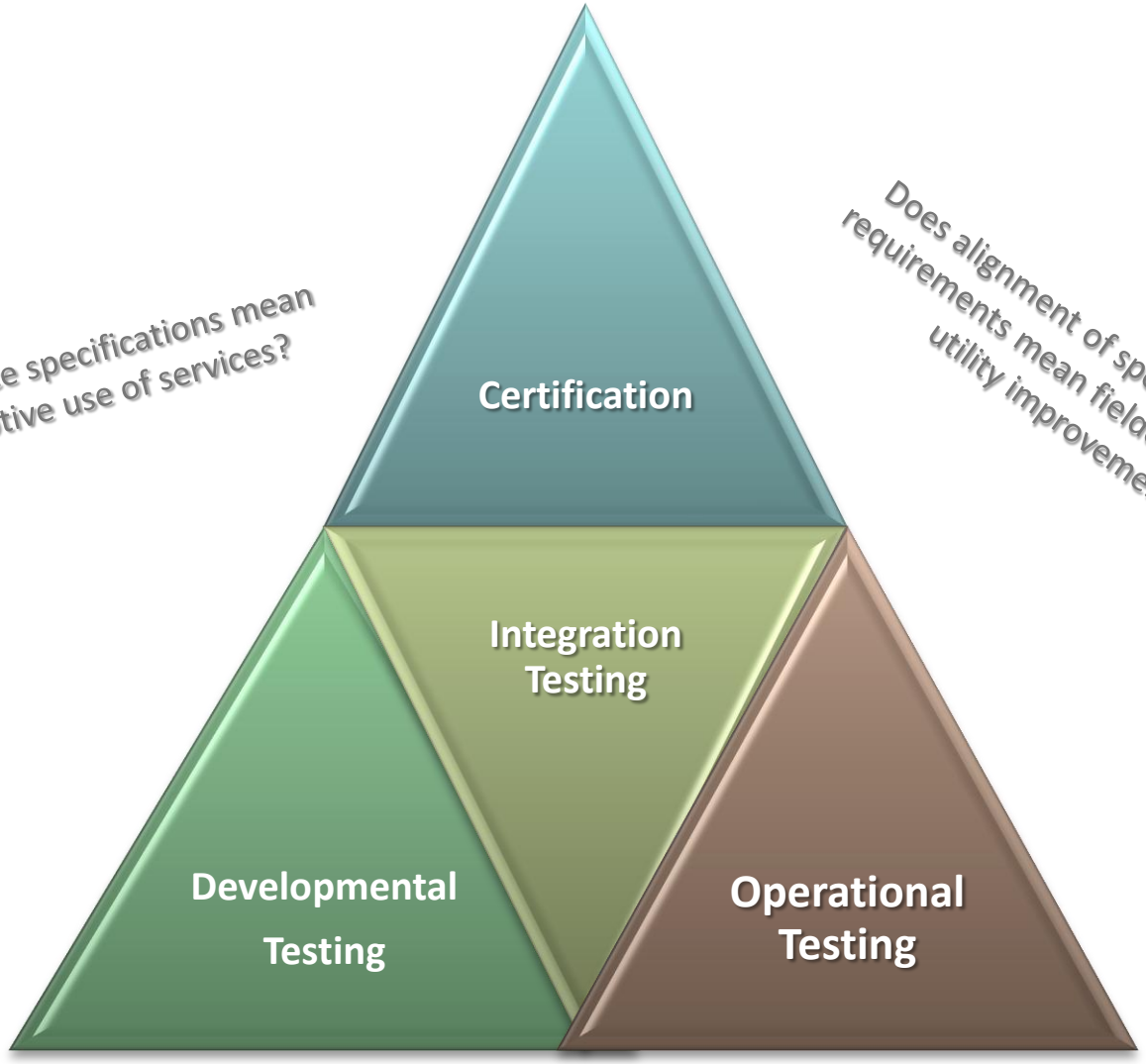
Engagement Opportunities – What does this mean?



Do these service specifications mean timely, adaptive use of services?

Does alignment of specifications and requirements mean fielded operational utility improvement?

Does this standard or format mean these services are compatible to required data sources?

Do standards, format, and specifications implementation mean interoperability to current systems, applications, and components?

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Engagement Opportunities – Can you show me?

Can you show the operational efficiencies of services implemented with adapted doctrine in operational scenario?

Can you show that this command priority issue has been successfully addressed?

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Testing & Assessment

Exercise

Critical Questions	Measures/ Metrics	Focus	Traditional Approach
Do services provide html/xhtml display of Blue Force friendly forces location?	Information Display	Individual solution/services (technical specification)	Developmental Testing
Does information exchange between services (solutions) comply with message format and standards (i.e., XML, NR-KPP, security)?	Response time, Transition load, and Web-service availability	Between solution/services : Technical interface level (technical specification)	Developmental and Technical Interoperability
Do services (solution) meet information exchange specifications?	Message Format Standards and data/Taxonomy standards	Individual solution/services (technical specification)	Developmental and Technical Interoperability
Do services provide access to and display friendly force location from automated track feeds?	Requirement Statement	Individual solution/services meet requirements	Operational Testing
Do services provide access, generate, and display overlay information?	Requirement Statement	Individual solution/services meet requirements	Operational Testing
Do group of services improve Common Picture Overlay interoperability?	Priority C2 Related Issue	Group of material solutions, C2 environment, and business rules	Operational Testing, Assessments
Does group of services increase Common Picture Track Management Capability?	Priority C2 Related Issue	Group of material solutions, C2 environment, and business rules	Operational Testing, Assessments
Do solutions address C2 System Interoperability for DoD, Coalition, Multi-national, Agencies, and NGOs	Command or Theater Operations Issue	Group of MCP solutions, C2 environment, and business rules	Assessments, Exercises
Do solutions increase Joint net-centric operations with interagency, multinational, and operational forces	Command or Theater Operations Issue	Group of MCP solutions, C2 environment, and business rules	Assessments, Exercises

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- ***Capitalizing requires knowing the Center of Gravity (CoG) of the problem you are trying to solve***
- ***Capitalizing requires meeting mutual inclusive perspectives – program manager, developer, tester, and end-user***
- ***Capitalizing and providing a net-centric mission/task capability requires integrating three instruments: Technology, Process, and People***
- ***Drive capitalization with appropriately timed 'engagement' questions***