

Fostering Agency Wide Adoption and Implementation of Innovative Technology



November 13, 2019

Session Overview

- 10:10am Welcome and Introductions
- 10:15am Session Overview and Review of the Framework
- 10:20am Design Thinking and Adoption
- 11:05am Training and Exercising with Technology
- 11:35am Bringing it All Together
- 11:50am Session Adjourned

Individual Effort,
Task Focused

Rule of Two: GIS Analyst and Public Safety Professionals

Integrated Team,
Shared Mission

Governance

Governance is established to support policy, process, and procedural guidance for major geospatial programs.

Standard Operating Procedures

These procedures are adopted to promote consistent methods for using GIS in support of public safety mission objectives.

Technology

Scalable technology supports operational requirements and enhances a collaborative workflow environment.

Training and Exercises

A regular training and testing schedule is maintained to ensure operational effectiveness.

Use

Success in daily GIS use depends on progress and interplay among the other four elements on Geospatial Continuum.

Increasing Levels of Leadership, Planning, and Multiagency/Jurisdictional Collaboration
Increasing Investments in the Sustainability of Systems and Documentation



InSPIRE
Innovation Summit for
Preparedness & Resilience



Fostering Agency-Wide Adoption and Implementation of Innovative Technology

Travis Hardy
Associate Vice with Dewberry &
Consulting Facilitator to NAPSG

Some Common Technology Patterns of Use

Mapping & Visualization



Understand locations and relationships with maps and other data visual representations

Data Management



Collect, organize, and maintain accurate locations and details about assets and resources

Field Mobility



Manage and enable a mobile workforce to collect and access information in the field

Monitoring



Track, manage, and monitor assets and resources in real-time

Analytics



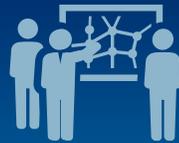
Discover, quantify, and predict trends and patterns to improve outcomes

Design & Planning



Evaluate alternative solutions and create optimal designs

Decision Support



Gain situational awareness, and enable information-driven decision making

Constituent Engagement



Communicate and collaborate with citizens as well as external communities of interest

Sharing & Collaboration



Empower everyone to easily discover, use, make, and share geographic information

Succeeding With
Technology-Driven
Innovation

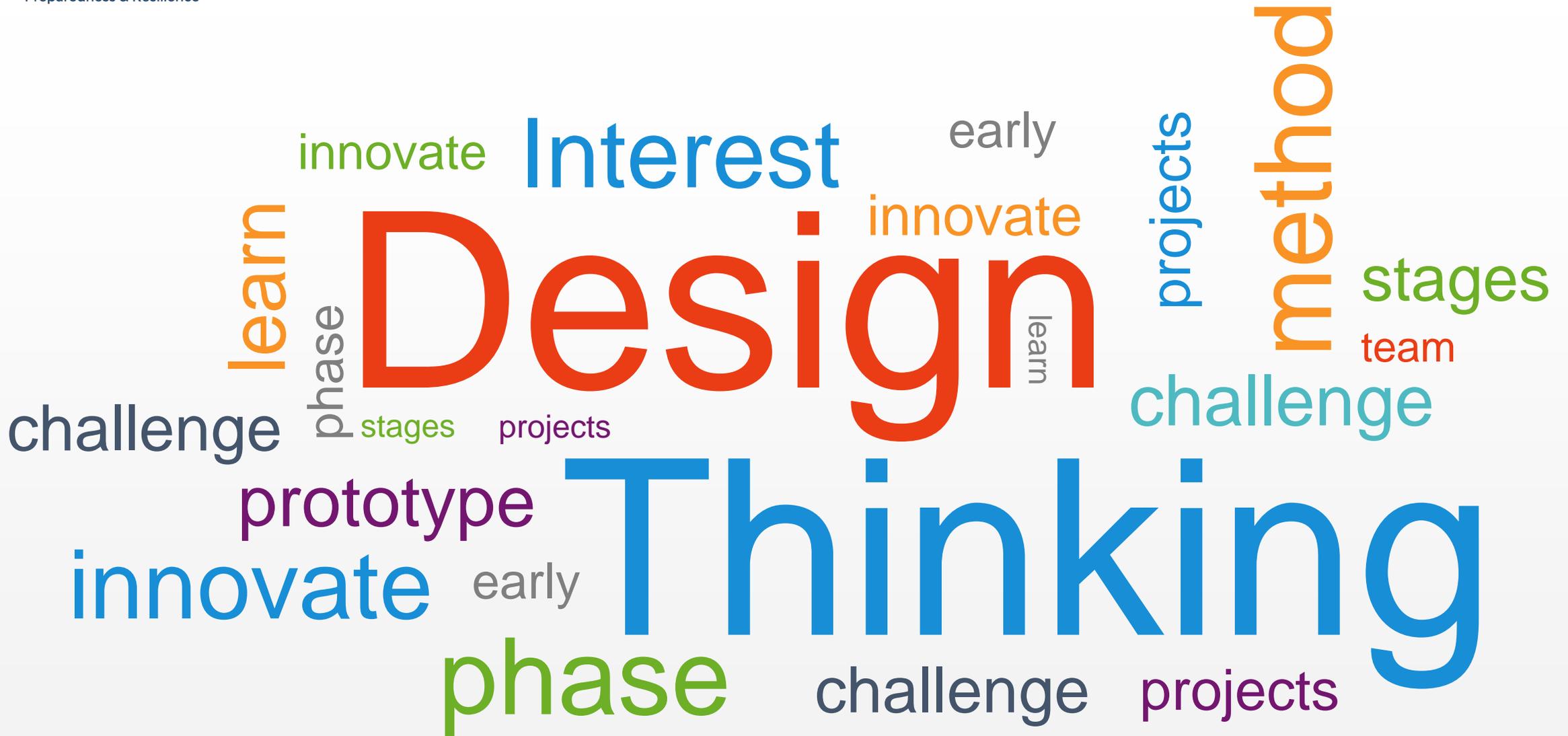
A Deputy Federal CIO once told me:

"...whether or not our GIS is successful is not a technology problem, it's a people problem..."

Ask Yourself:

What are the people issues around this technology problem?

When it looks like technology maturity is to blame, identify the fear at work. Is it fear of failure? Fear of change? Fear of risk outcomes?.



A word cloud visualization centered around the themes of 'Design' and 'Thinking'. The words are arranged in a circular pattern, with 'Design' and 'Thinking' being the largest and most prominent. Other words include 'Interest', 'method', 'challenge', 'phase', 'innovate', 'early', 'projects', 'stages', 'team', 'prototype', and 'learn'. The colors of the words vary, including shades of blue, orange, green, purple, and red.

Design

Thinking

Interest

method

challenge

phase

innovate

early

projects

stages

team

prototype

learn

What is Design Thinking?

...a powerful process of problem solving that begins with understanding unmet human needs. From this human-centered insight emerges a process for innovation that encompasses concept development, applied creativity, prototyping, and experimentation. When design thinking approaches are applied to business, the success rate for innovation improves substantially.

01
Discovery



02
Interpretation



03
Ideation



04
Experimentation



05
Evolution



Understand

Create

Deliver

Optimal



Empathy



Define



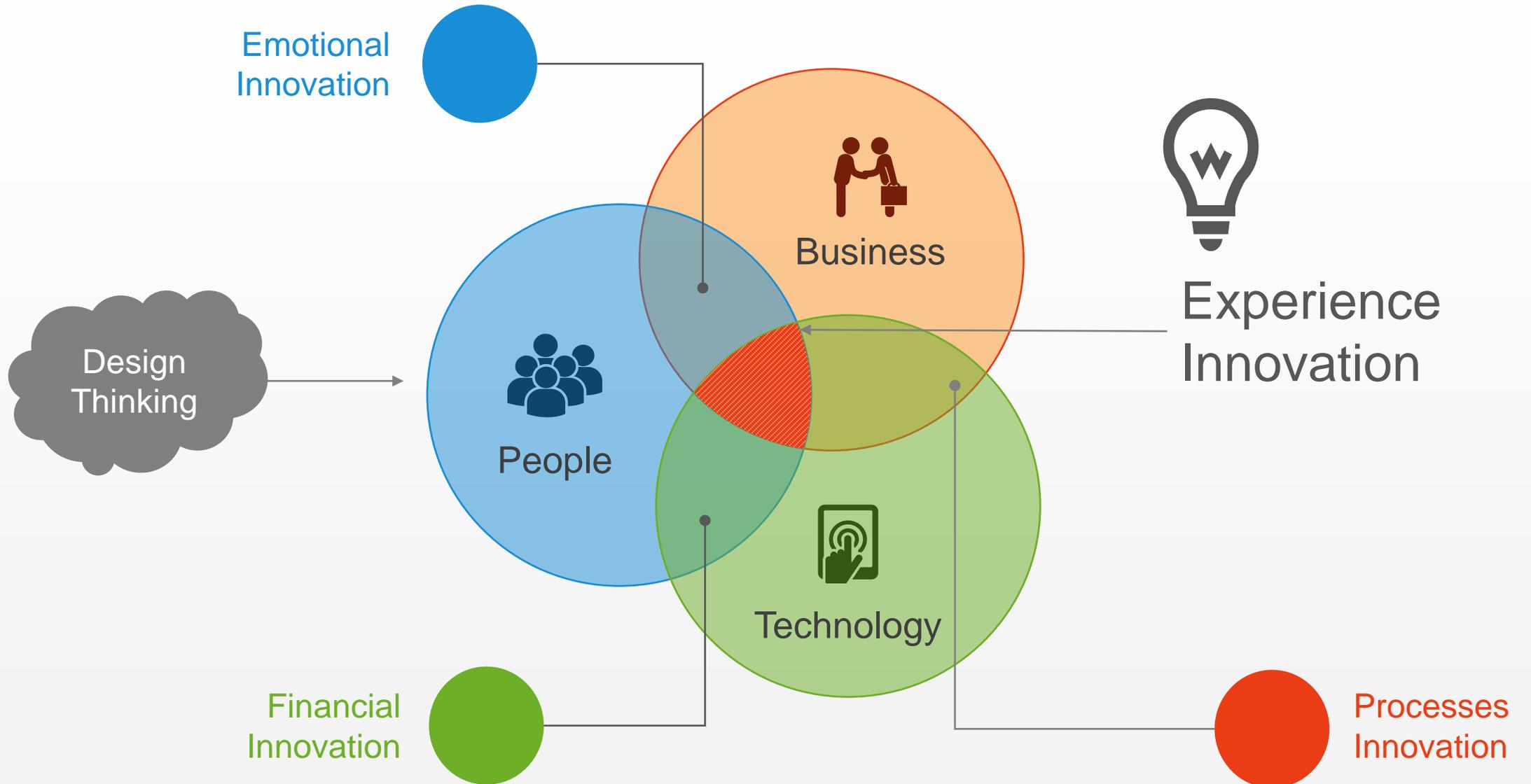
Align &
Decide



Prototype



Test



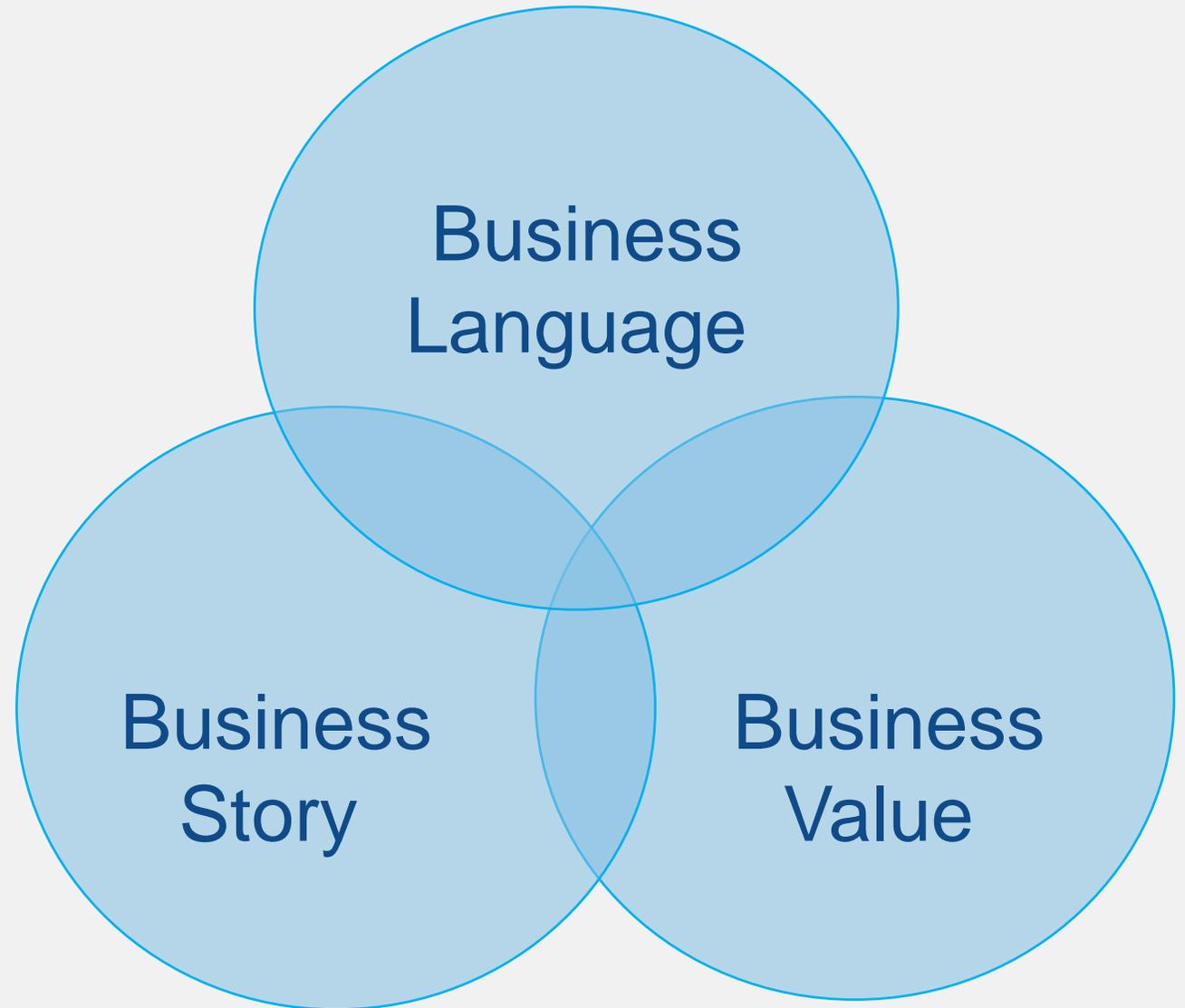


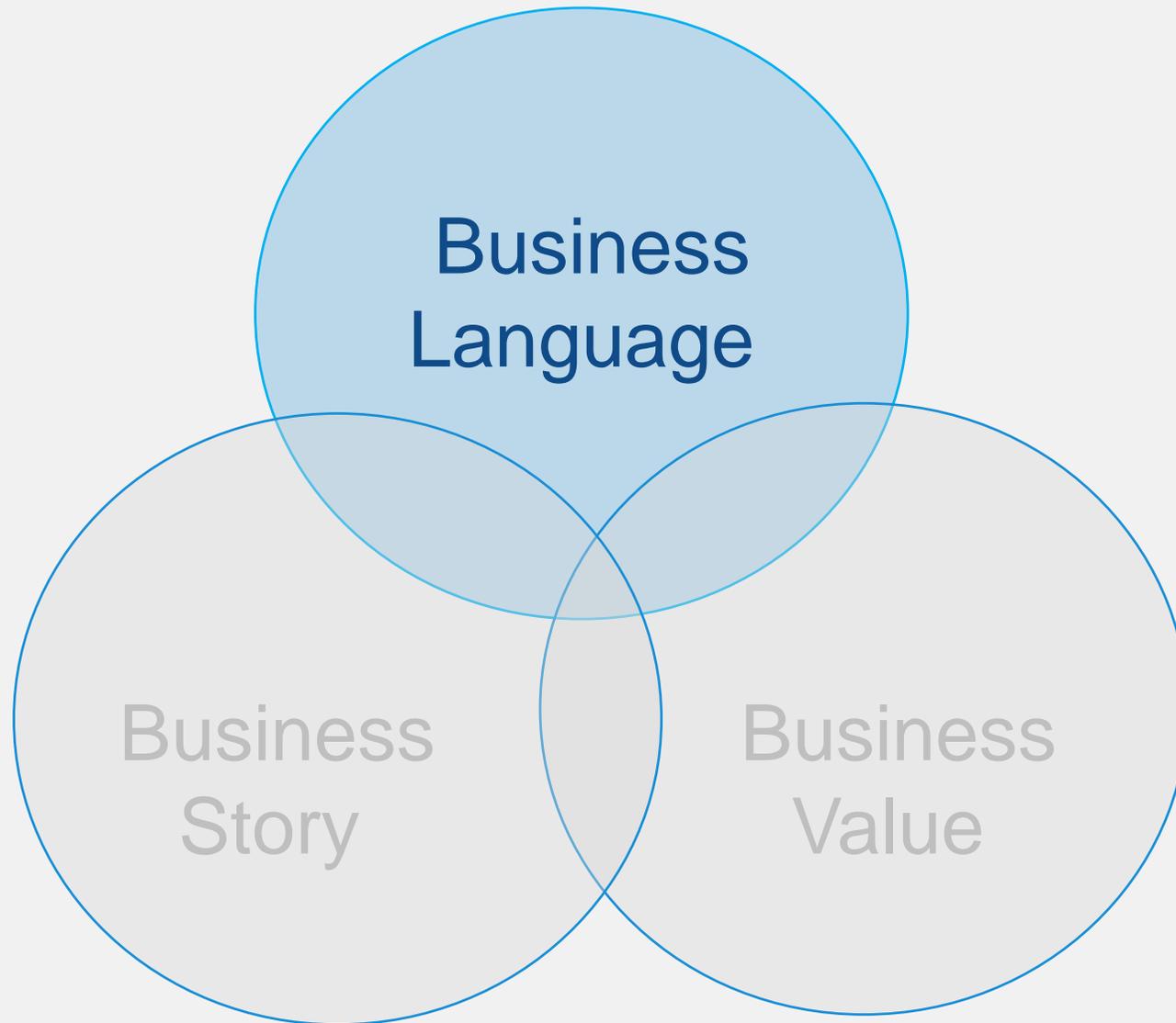
A Dual Role...

- Those who manage technological change must often serve as both technical developers and implementers.
- The person responsible for implementation—whether located in the developing organization, the user organization, or in some intermediary position—has to design the hand-off so that it is almost invisible.
- **Perhaps the easiest way to accomplish this task is to think of implementation as an internal marketing, not selling, job.**
 - This distinction is important because selling starts with a finished product; marketing, with research on user needs and preferences. Marketing executives worry about how to position their product in relation to all competitive products and pressures and are concerned with distribution channels and the infrastructure needed to support the ‘uptake’ and ‘upkeep’ of product adoption.

Key Elements for Success

- **Some Overlap**
- **No Particular Order**
- **No Particular Priority**





- **Business Leaders Speak Many Dialects**
 - Technical Disciplines
 - Business Lingo
 - **GIS Teams Speak Many Dialects**
 - GIS, Tech, Data Analysis
- _____
- **Key: Learn the Lingo for Success**
 - The Language of Business Motivation

Technology

spatiotemporal

high availability

server

layers

platform

analysis

data

compliance

advantage

automate

maps

reliability

revenue

costs

safety

Business



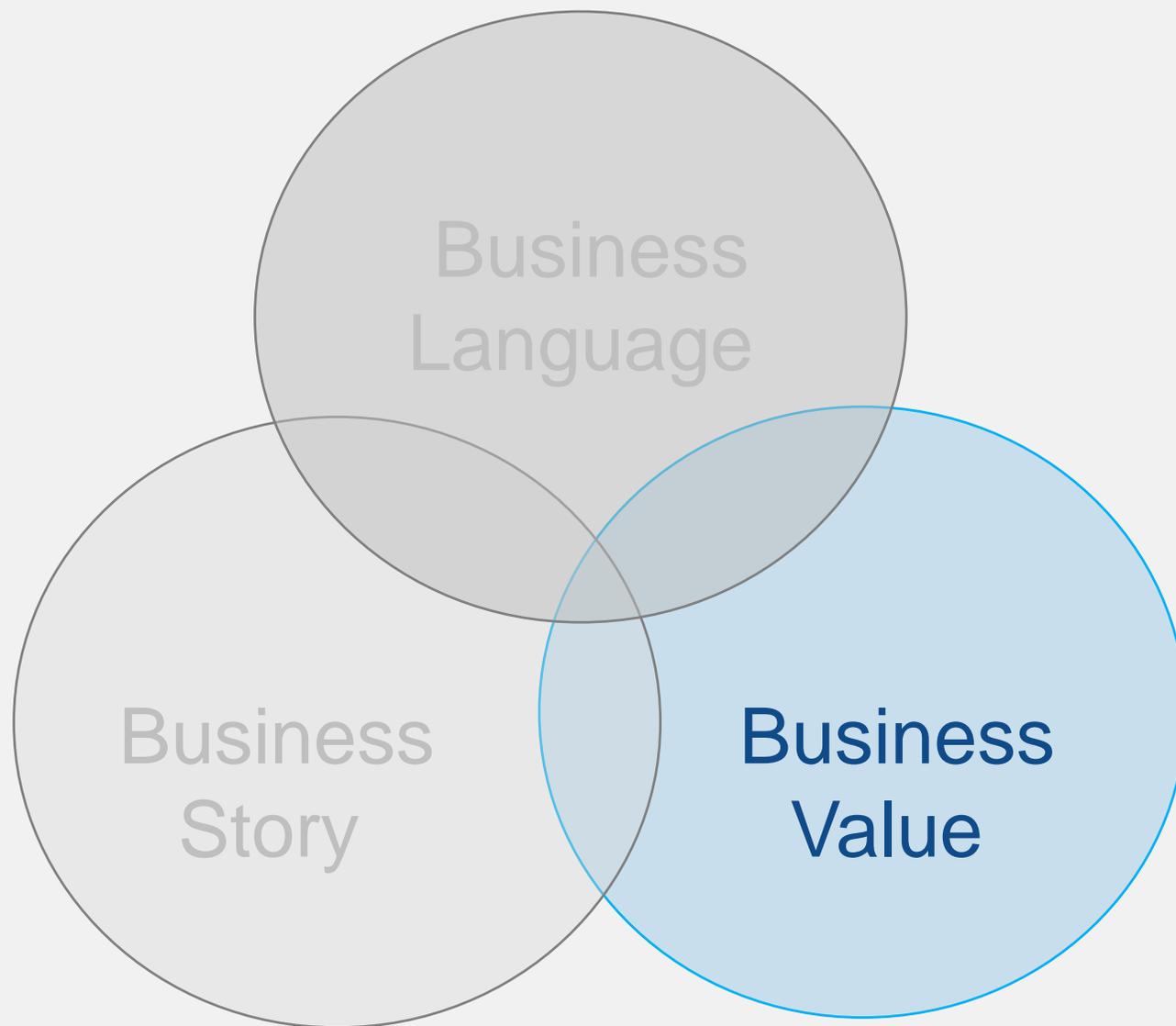
Taking A Marketing Perspective...

- Adoption of a marketing perspective encourages implementation managers to seek user involvement in the:
 - **(1) early identification and enhancement of the fit between a product and user needs,**
 - **(2) preparation of the user organization to receive the innovation, and**
 - **(3) shifting of “ownership” of the innovation to users.**
- The higher the organizational level at which managers define a problem or a need, the greater the probability of successful ‘departmental implementation’.
- At the same time, however, the closer the definition and solution of problems or needs are to end-users, the greater the probability of successful ‘organic end-user adoption’.
- Technology implementers must draw up their internal marketing plans in light of this apparent paradox.



Multiple Internal Markets

- Top management and ultimate users have to buy into the innovation to make it succeed, but marketing an idea to these two groups requires very different approaches.
 - **Senior Managers** – most concerned with likely effect to mission (Gov't) or bottom line (Corporate)
 - **Opinion Leaders** – provide 'safety' or 'technical' credibility to the rest of the end user populous. Influencer(s) that occupy their position(s) through technical or other valued proficiency other than formal title.
 - **End Users** – remaining users of the system that require ongoing support to perform the new operation with the technical innovation being implemented. Some will eventually move into the other categories.
- Perhaps even more important is to plan for the transfer of knowledge from the old operation, in which people knew the materials and the product very well, to the new process, which outsiders may initially design and run.
 - The developers of the new process (especially when it is computer software) often know their tools very well, but rarely do they understand the materials and processes to which their software is applied as well as the people on the 'plant floor' who have been working with both for years.

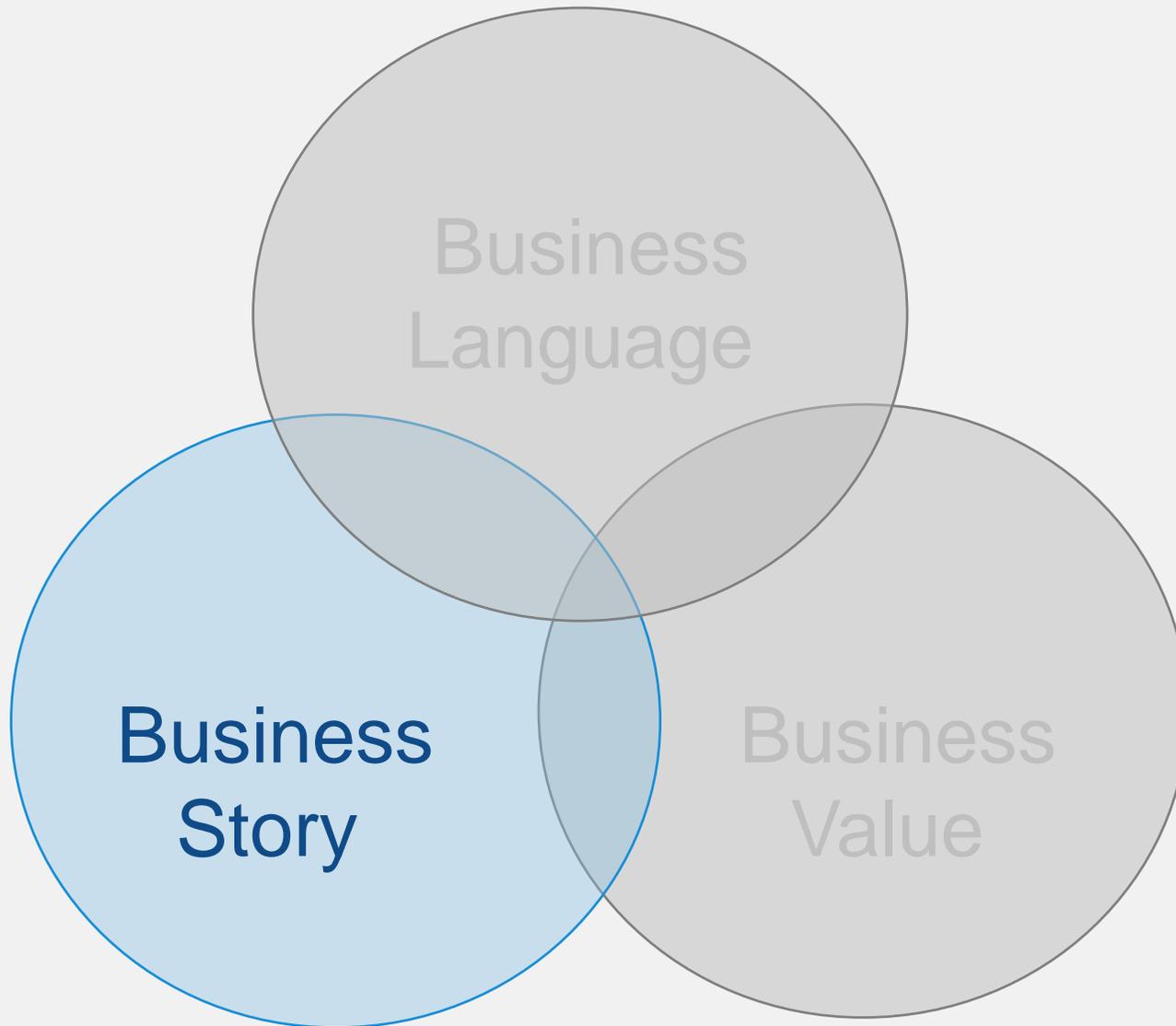


- **Tech Value is**

- **Key to Generating Business Value**
- **Not Always Self Explanatory**

- **Key: Learn to Translate**

- **Tech Terms => Business Terms**
- **Tech Contributions = Business Value**



- **Organizations Consist of Many People Performing Many Tasks**
- **Each Person is a Hero in this Story**

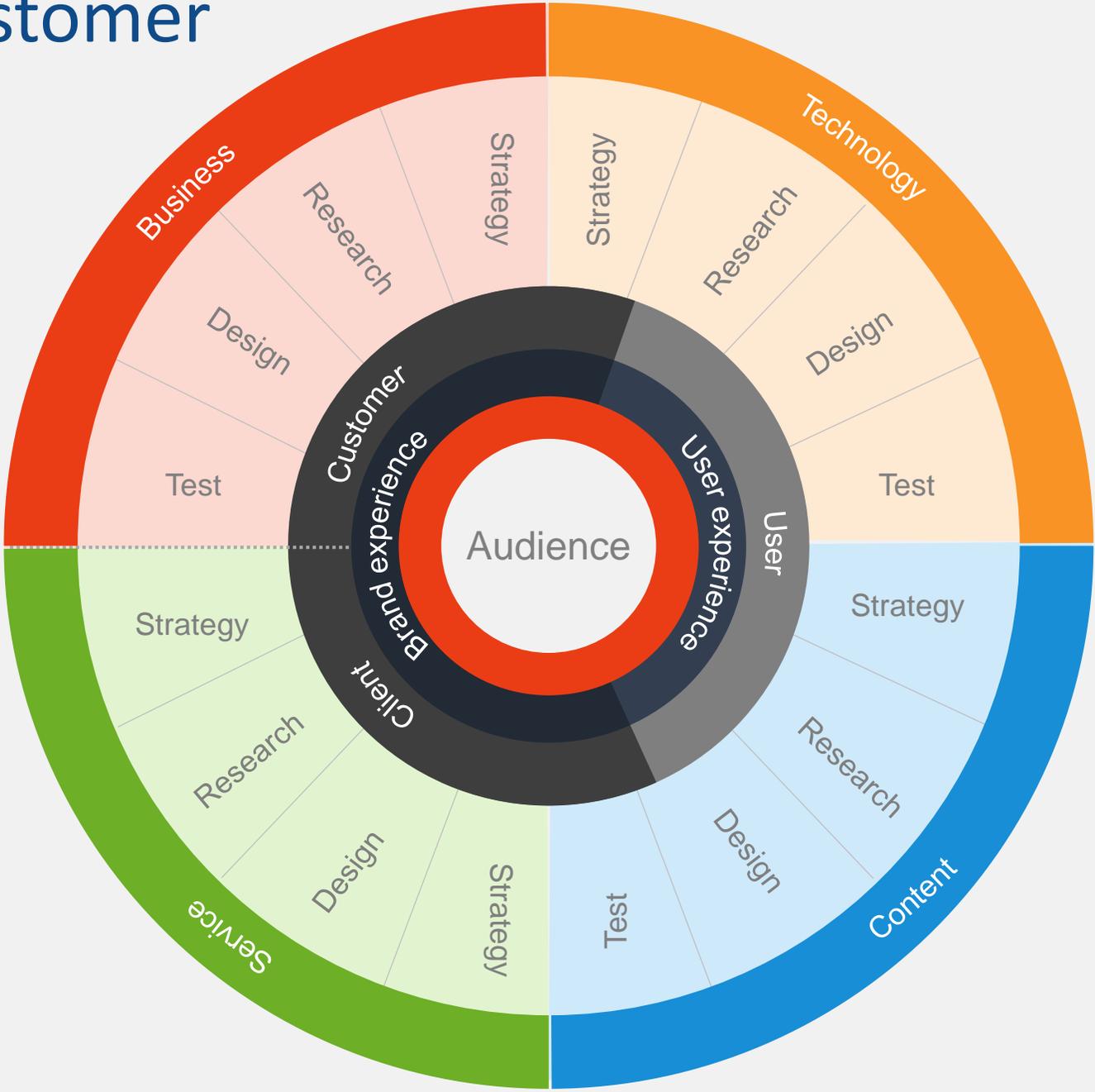
- **Key: Always ask:**
 - **Why?**
 - **Why Me?**
 - **Why Now?**



Personal Benefit

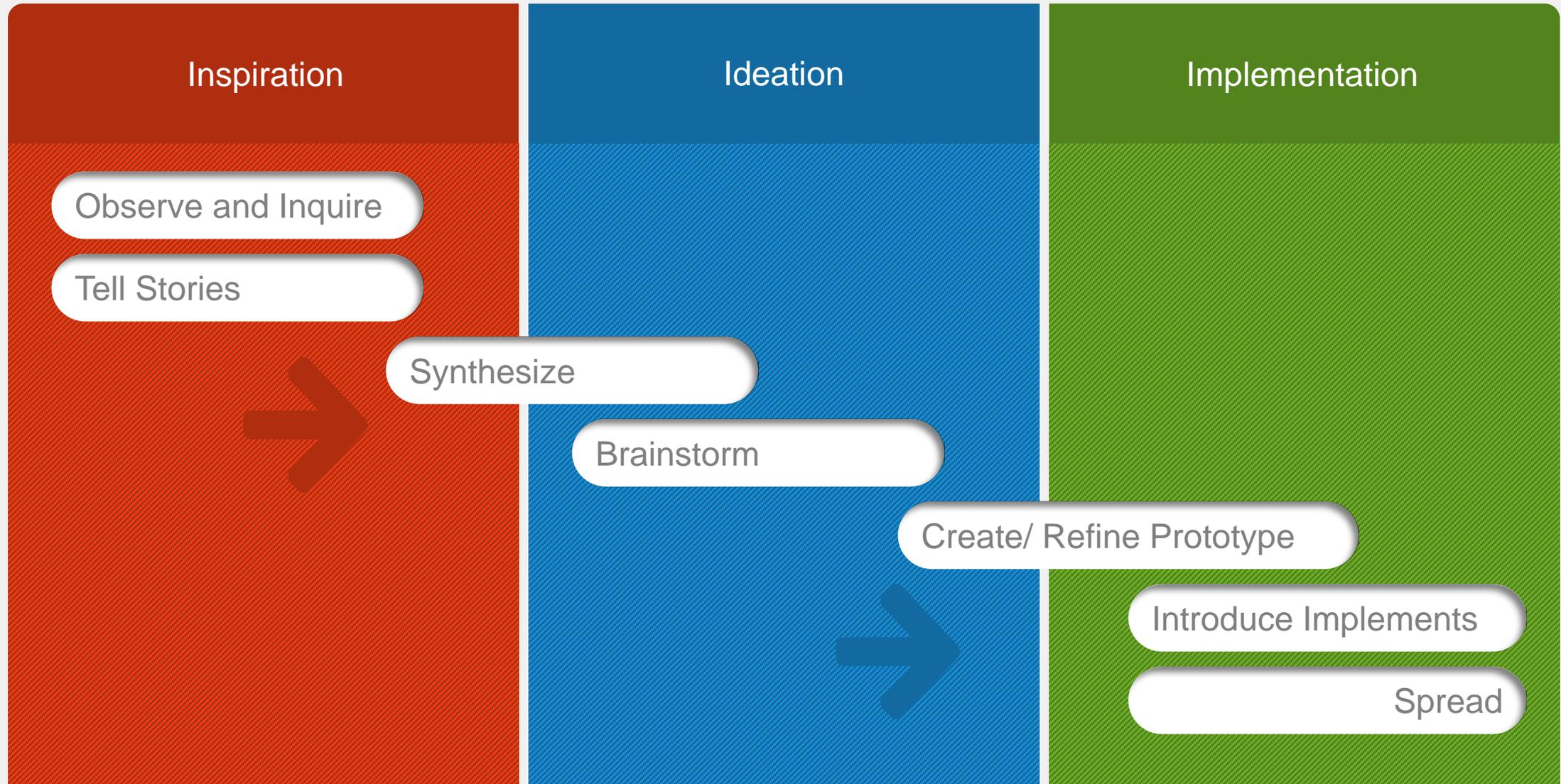
- An innovation must offer an obvious advantage over whatever it replaces, or potential users will have little incentive to use it.
 - The more visible the costs of an innovation (financial, convenience, the need to learn new skills), the greater the importance of making potential benefits and rewards apparent.
 - These benefits include expanded influence over work (stopping a production line), increased value of work (no in-process inventory), greater recognition (being part of a valued implementation team), solution of a longstanding problem, and preservation of jobs.
- A new technology may pay off for an organization as a whole but not for individuals in any form they can recognize.
- That is why it is so important to make these benefits visible through encouragement from supervisors as well as through explicit and timely feedback on how the innovation is affecting workers' output. In general, the faster the positive feedback to users, the more visible the benefits will be.

Audience/Customer Centricity





Human Centered Bias Towards Action





Words of Caution



Over Resistance to Change

- Overt resistance to an innovation often grows out of mistakes or overlooked issues in an implementation plan.
- Tacit resistance does not disappear but ferments, may grow into sabotage, or surfaces later when resources are depleted.
- The worst thing a manager can do is shrug such resistance aside on the dual assumption that it is an irrational clinging to the status quo and there is nothing to be done about it.
- Where there are product champions, there will also be innovation assassins. Assassins, moreover, can fell a project with just one well-aimed ‘bullet’, but champions need to marshal forces and nurture support to implement new technology in the face of resistance.
 - The most common reasons for opposition to a new technology are fear of the loss of skills or power and absence of an apparent personal benefit.



Over Resistance to Change (cont...)

- Overt resistance to an innovation often grows out of mistakes or overlooked issues in an implementation plan.
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- The worst thing a manager can do is shrug such resistance aside on the dual assumption that it is an irrational clinging to the status quo and there is nothing to be done about it.



Beware of the Hedgers

- Besides the champions and assassins in an organization, there will always be some “hedgers,”
- Individuals who refuse to take a stand against an innovation so that others can address their objections but who also refuse to support the new technology.
 - They straddle the fence, ready to leap down on either side to declare that they had foreseen the value of the innovation all along or that they had known it would fail from the start.
- Like product assassins, hedgers can be found at any level in an organization, and dealing with them effectively requires a sequence of actions.
 - The first, and the easiest, is to persuade top management to take some kind of quick symbolic action in support of the innovation. Whether the action takes the form of a memo, a speech, or a minor policy change, it must send a signal that top management will stand behind this technology even in a budget crisis.

Promotion vs Hype *(i.e. Perception vs Reality)*

- Many a technology developers will confess bewilderment that innovations do not win automatic acceptance. It may be overly optimistic to believe that an innovation will sell itself, but it is equally dangerous to oversell the new system. Novel and exotic technologies are especially vulnerable to hype..
- Articles in the media about robots and artificial intelligence, for example, have often raised expectations far higher than the actual performance of some current technologies. Potential users quickly grow disillusioned when much touted innovations perform below expectation. When one computer maker developed artificial intelligence software to be used in manufacturing, the outside world thought it was a finished product long before it was out of the “vaporware” stage. Months before they had their hands on the software, intended users faced questions from their customers about how they liked it.



The Many & The One

- If an innovation is to succeed, the implementation team must include:
 - (1) **Sponsor** - usually a fairly high-level person who makes sure that the project receives financial and manpower resources and who is wise about the politics of the organization;
 - (2) **Champion** - who is lead marketer, diplomat, and problem solver for the innovation;
 - (3) **Project Manager**, who oversees administrative details; and
 - (4) **Integrator** - who manages conflicting priorities and molds the group through communication skills.
- Since these are roles, not people, more than one person can fulfill a given function, and one individual can take on more than a single role.
- Even if all these roles are filled, however, **the project can still stall if the organization does not vest sufficient authority in one person to make things happen.**
 - TAKE NOTE: One of these individuals—usually the sponsor or the champion—must have enough organizational power to mobilize the necessary resources, and that power base must encompass both technology developers and users.



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Thank You! *(Any Questions?)*

Travis Hardy
Associate Vice with Dewberry &
Consulting Facilitator to NAPSG InSPIRE

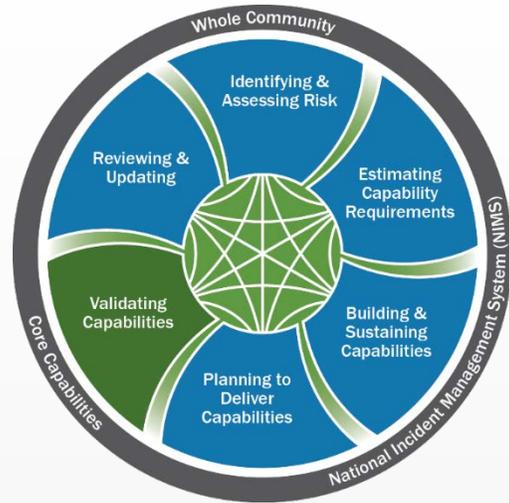


Preparedness Toolkit (PrepToolkit)



FEMA

Preparedness Toolkit (PrepToolkit)

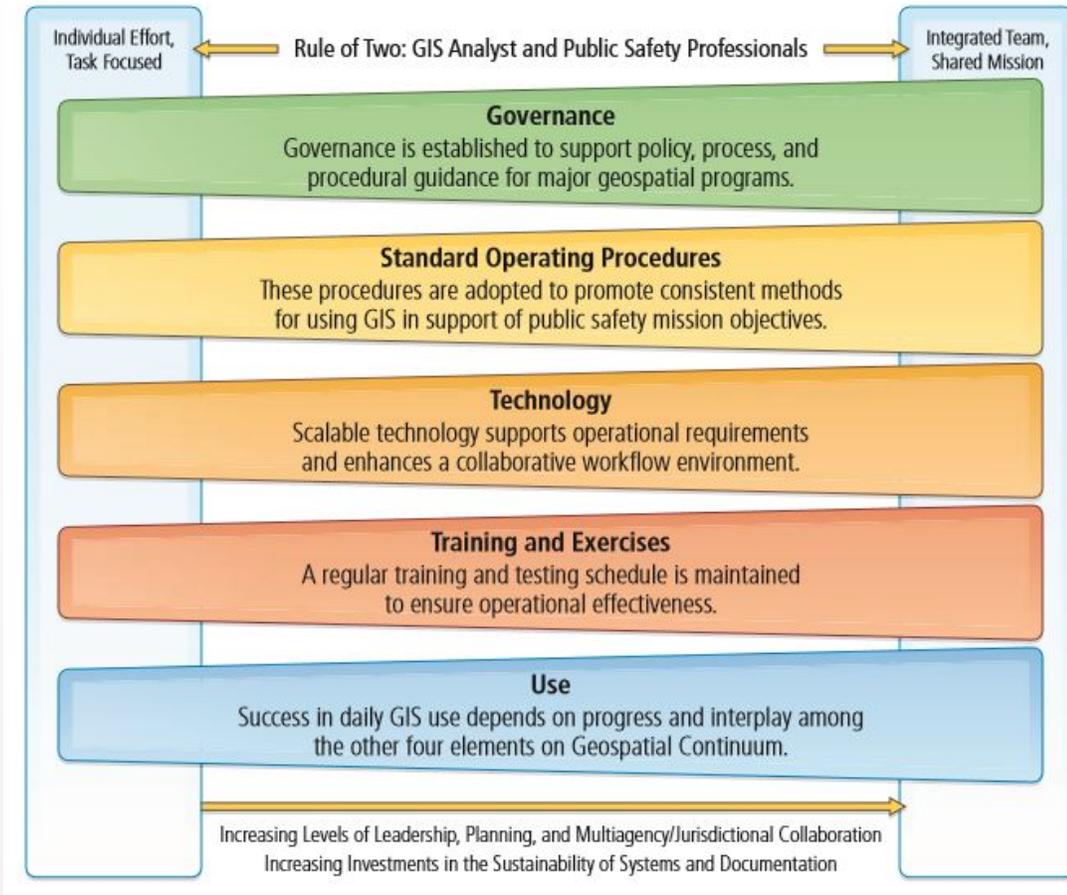


PrepToolkit Goal

Become the “System” of choice for the “Preparedness community at large” while also supporting the larger goal of Building a Culture of Preparedness !

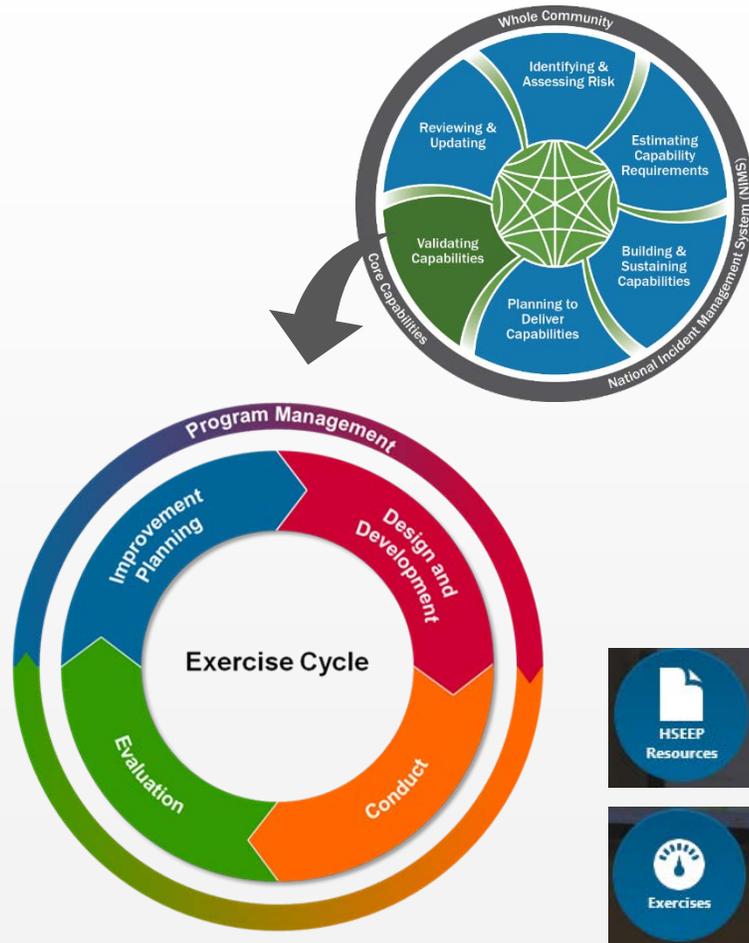
- PrepToolkit is designed to promote implementation of the National Preparedness System (NPS).
- The six areas of the NPS each have a set of features and guidance to assist preparedness practitioners in their activities
 - Identifying and Assessing Risk
 - Estimating Capabilities
 - Building and Sustaining Capabilities
 - Planning to Deliver Capabilities
 - Validating Capabilities
 - Reviewing and Updating

Preparedness Toolkit (PrepToolkit)



PrepToolkit provides the whole community with readily available technology to train and exercise with. Same system for “exercise conduct” an “exercise reporting/planning”

Validating Capabilities: PrepToolkit Exercise Features



- The Validating Capabilities (exercises) component is a set of applications that supports implementation of HSEEP and aid exercise planners throughout the exercise lifecycle:

- Program Management
- Design & Development
- Conduct
- Evaluation
- Improvement Planning



HSEEP Resource Page:

<https://prep toolkit.fema.gov/hseep-resources>



Exercises:

<https://prep toolkit.fema.gov/exercises>

PrepToolkit – Additional Modules



Resource Typing Library Tool (RTLTL): <https://preptoolkit.fema.gov/rtltl>



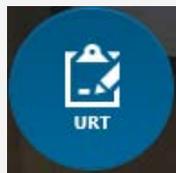
Incident Resource Inventory System (IRIS):
<https://preptoolkit.fema.gov/iris>



Hazard Explorer: <https://preptoolkit.fema.gov/hazard-explorer>



Emergency Management Toolkit (EM Toolkit):
<https://preptoolkit.fema.gov/em-toolkits>



Unified Reporting Tool (URT): <https://preptoolkit.fema.gov/urt>

PrepToolkit-Communities

- PrepToolkit also includes functionality to work together outside an specific exercise site – called “Communities”
- Communities provide PrepToolkit users with areas to collaborate on specific areas of interest. Within a community, users may chat, share ideas, post files, and more
- Access to Communities can be either “Open” or “Restricted” (private).



Communities:

<https://preptoolkit.fema.gov/communities>

PrepToolkit- Training Opportunities

- Training will be tailored based on need
 - Planners, controllers, MSEL managers, evaluators, etc.
- Types of training currently available
 - PrepToolkit “Bootcamp”- Coordinate with FEMA Regional Staff
 - PrepToolkit Webinars via Adobe Connect
 - Small group face-to-face as NEP exercise opportunities arise and as the Planning Team is staffed and the planning proceeds

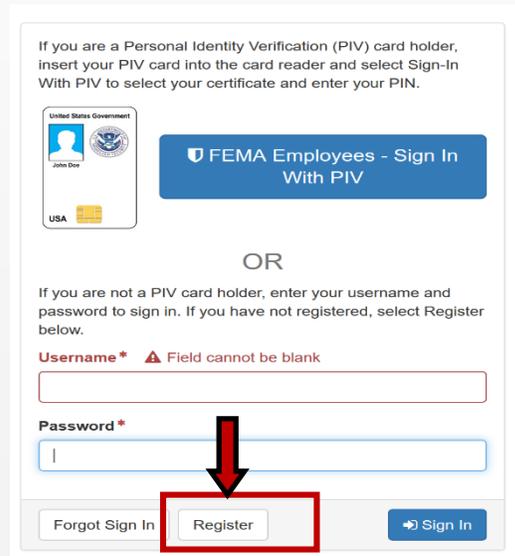
PrepToolkit Help Page:

<https://preptoolkit.fema.gov/user-guide>

- Training guides, quick reference aids, and release announcements

Accounts – Self-Register

1. Navigate to <https://preptoolkit.fema.gov>. Select “Sign In” on the upper right of the screen.
2. Select the “Register” button. Enter business email, and follow instructions.



If you are a Personal Identity Verification (PIV) card holder, insert your PIV card into the card reader and select Sign-In With PIV to select your certificate and enter your PIN.

 **FEMA Employees - Sign In With PIV**

OR

If you are not a PIV card holder, enter your username and password to sign in. If you have not registered, select Register below.

Username *  Field cannot be blank

Password *

[Forgot Sign In](#) **Register** [Sign In](#)