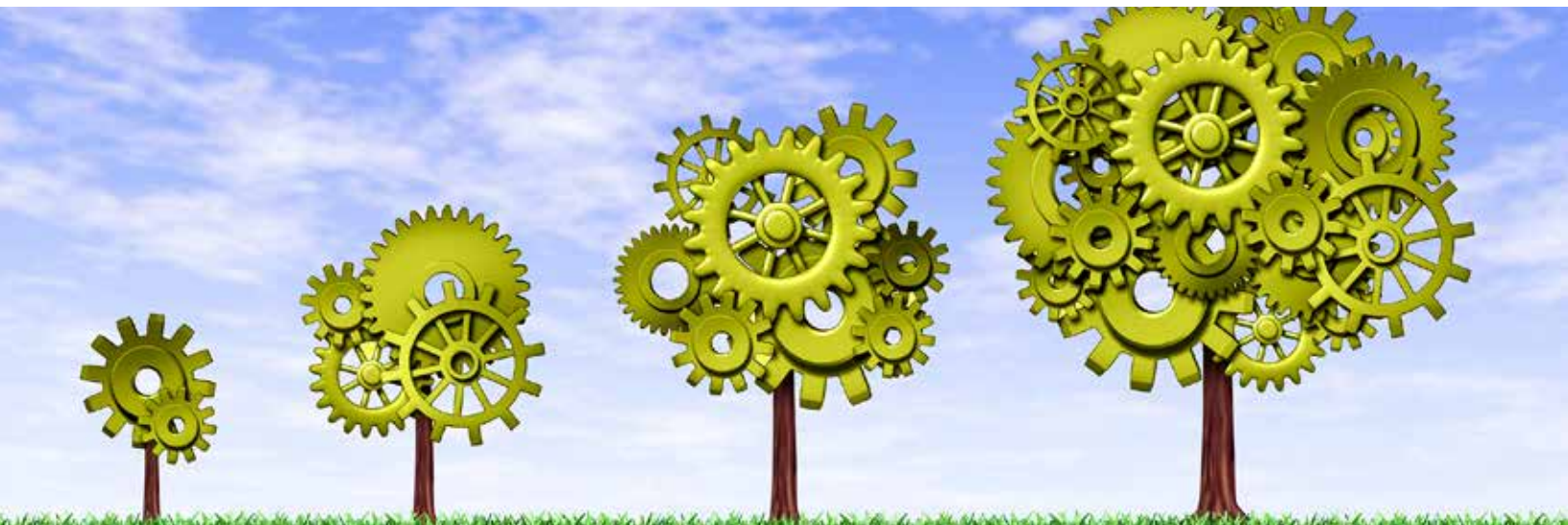


SOLUTION PAPER



# INNOVATION STRATEGY



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## What Is Innovation?

Innovation is doing something different to add value for a customer. It means adding a capability they value such as enabling them to do something new or better, learn something they need to know, connect to people, platforms, or systems. This is true for every type of customer an organization exists to serve—citizens, businesses, mission offices, buyers, other agencies or governments, and on.

**Innovation is a broad topic and words used to describe it are confusing.** It's talked about as a means, an end, a tool, a technique, and a capability. Without splitting hairs, let's say all those are relevant in different ways or at different times. But let's also clear-up some confusion.

**Invention is the first notion to differentiate.** If an invention adds value for someone, it's innovative. But not all innovations are inventions. Some were best practices in one field and cross-applied to another. Boxcars were on trains for a century before someone put them on ships and completely innovated transoceanic shipping.

**Improvement is another one to distinguish.** If the objective of a change is internal to an organization and not intended to add value for a customer, let's avoid confusion and call it improvement. Streamlining a process, upgrading equipment, adding resources to a task—these and similar improvements are unquestionably wise. But being your own customer isn't what it means to innovate. Improvements that add value for a customer? That's innovation.

**Technology is a big source of confusion.** Some innovations are technologies. Most innovations use technology. But innovating an organization's business model or management practices can be more profound than deploying a new technology. Many innovations involve technology and non-technology solutions in a coordinated way. In fact, degrees of innovation are determined by whether and to what degree an organization changes both its business and technology models.

**Here's a myth to bust: Innovation is creative, chaotic and can't be managed.** Innovation surely requires creativity but isn't art, magic, or luck. It isn't subjective and you need not worry that defining it will constrain it. Innovation is a business proposition that can be planned, managed, measured, and linked to other organizational processes and objectives.

## What Is Strategy?

We commonly think of strategy as a plan for attaining a desired outcome, perhaps a challenging outcome or one also sought by competitors. Serviceable though that might be, isn't very inspiring and it begs tedious questions about the difference between *strategy* and *plan*. Let's unthink this and run at it from a different angle. Peter Drucker is famously quoted as saying the best way to predict the future is to invent it. By this he meant not merely *anticipating* the future but actively shaping it as you wish it to be. This opens up interesting possibilities for innovation strategy and avoids the strategy-plan trap.

There is no doubt that to develop an innovation strategy is to write something down. Documents are great for capturing ideas, commitments, constraints and many other things. Important aspects of your organization's innovation thinking



will find their way into a document you can talk to others about, reach agreement over, allocate resources to, and obtain approval for. But documents capture things *at a point in time*. Plans freeze planning if you let them. Strategies stop strategy if it's something you periodically do. This leads us back to Drucker's point.

Strategy can be a mindset or orientation to the world. It can be a way you see the world with your future in it. Strategy can be *the way* you deal with the environment not only by responding to changes in it, but by creating changes in it. Strategy can be the way an organization operates in all its environments—organizational, customer, stakeholder, political, technology and more—impacting, being impacted, tracking impacts, and incorporating information into *strategic thinking and activity* to accomplish a *strategic intent*.

This is the classic military use of the term in which strategy is what one does before, during, and after engaging the enemy to create conditions which increase the odds of accomplishing a military objective. And this is the use of the term—as *the way an organization thinks and acts to set and accomplish strategic intent*—most suitable to innovation.



## What's An Innovation Strategy?

So innovation is doing something different to add value for a customer. And strategy is the way an organization thinks and acts to set and accomplish strategic intent. Your organization's innovation strategy, then, is the way it thinks and acts in its world to innovate. An effective strategy enables the organization to accomplish the following, continuously:

- Think about the customer, what they value, and what you can do different to add value for them
- Act to do something different to add value for the customer *and* your organization
- Scan the environment to understand how you impact it and it impacts you as you innovate
- Adjust thinking and activity to create *and recreate* conditions for successful innovation

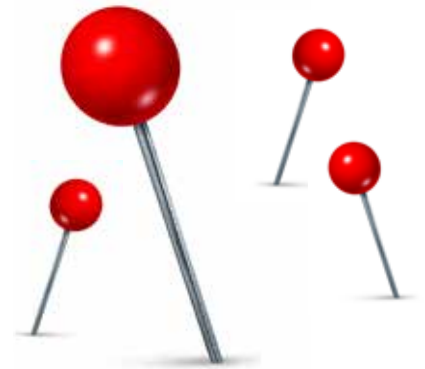
Organizations run on conversations, decisions, and actions so how you talk about, decide, and act on these items is one set of innovation strategy questions to answer. A second set is how you document conversations, decisions, and actions.

# Creating An Innovation Strategy

## GETTING ORIENTED

Creating an innovation strategy is like orienteering. Orienteering is an outdoor activity in which one navigates to a destination across unmarked terrain. There are no trails, no signs. The challenge is to figure out how to get from where you start to a destination using just a map and compass.

Before beginning our crash-course in navigating an innovation strategy, here's an orienteering cheat-sheet:



NAVIGATION COMPONENT	NAVIGATION ACTIVITY
Your destination is an effective innovation strategy, documented and ready for use	Determine the destination and define effective using a requirements hierarchy; document using the hierarchy and additional formats, as needed
The terrain you navigate is the environment in which the strategy is developed and will be used	Observe and clarify using graphics and descriptions of your organizational environment, the customer's, stakeholders' and relevant business and technology markets
Your trek is the set of activities you manage and perform to create the strategy	Identify and manage with strategic planning practices modified for innovation requirements, and continuous monitoring and modification
Your map is the phases and disciplines required to create the strategy	Fill in using the requirements hierarchy, strategic planning inputs, and innovation requirements
Your compass is a set of tools which you use to take readings, adjust direction, and proceed	Use by facilitating conversations to decisions, then implementing decisions

## NAVIGATING YOUR WAY

### Choosing a Destination

Creating an effective innovation strategy begs the question of what **effective** means. Simply put, it's the right strategy for the right need at a particular time. That begs questions about what's right and how one would know, and that's where the requirements hierarchy helps. Requirements hierarchies are often used to trace requirements in software development. You can find and use any framework, but I recommend the one below because it smoothly links *business requirements* to *design and technical requirements*. Influence flows in two directions:

↓ Requirements disaggregate in the downward direction where the relationship is one of "includes" or "bounds." A department mission includes or bounds a component mission. A performance requirement includes or bounds functional requirements.

↑ Requirements consolidate in the upward direction where the relationship is one of "is necessary for" or "supports the accomplishment of..." Meeting functional requirements is necessary to meeting performance requirements (but perhaps not sufficient). Meeting the component mission supports the accomplishment of the department mission.



Here's an example for standing up a fictitious U.S. Coast Guard innovation strategy:

LEVEL	WHAT TO FILL IN	REQUIREMENTS
Department Mission	DHS mission statement	Lead a unified national effort to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards
Component Mission	Coast Guard mission statement	Protect the public, the environment, and U.S. economic interests in the nation's ports, waterways, coasts, international waters, or any maritime region as required to support national security
Mission Need/Capability Gap	Make a statement about a capability missing or lacking but which is required to satisfy the component mission. Can read like a strategic goal or objective, or problem statement.	Create a strategy to enhance operator capabilities in order to improve performance
Capability Requirement	Make a statement of capability required to satisfy the mission need or close the capability gap. Should read like a solution statement.	Create a knowledge network of staff, customers, stakeholders, suppliers and others who know operations well enough to inform the strategy
Performance Requirement	Make a statement of outputs or outcomes which satisfy the capability requirement. May be multiple statements, but must be complementary.	Collect initial input on capabilities and performance by [date]; develop the strategy by [date]; effect continuous monitoring by [date]
Functional Requirements	Make specific statements of what a solution should do to satisfy the performance requirement. Requires multiple statements.	Collect information about...; analyze information about...; articulate a vision; establish communication channels and mechanisms to support collaboration; foster innovation or inventive thinking; continuously monitor impacts; create effective means for revision and re-commitment; etc.
Design Requirements	Make specific statements of how the solution should be designed to meet functional requirements. Requires multiple statements.	Create processes to solicit capability and performance information; create processes to analyze, synthesize, and prioritize capability and performance improvements; create strategy document as WIKI; etc.
Material Requirements	Make specific statements of people, processes, tools, materials, etc. required to satisfy design requirements. Requires multiple statements.	Provide physical space to work at...; provide virtual space to work at...; determine protocols for; acquire equipment for...; store data in...; etc.

Requirements hierarchies aren't easy to fill out but they're worth investing the time and effort, early. No matter how challenging it might be to get agreement on words, it's more challenging later to get agreement on actions—and more costly.

How the Mission Need/Capability Gap and Capability Requirement are worded is **critical**. There are many ways to describe a need and a capability to meet it, and small wording changes can have big design and operation impacts. Compare the Mission Need/Capability Gap from the previous chart with a slightly altered alternative:

1. Create a strategy to enhance operator capabilities *in order* to improve performance
2. Create a strategy to enhance operator capabilities *and* improve performance

Statement 1 is an **instrumental** objective. It says the strategy should find ways to enhance operator capabilities, and that enhanced capabilities should improve performance. Do A to do B, in order to do C.



Statement 2 is a **compound** objective. It says the strategy should enhance operator communities, and that the strategy should improve performance. Do A in order to do B, and also does A in order to do C. It leaves open decisions about pursuing those two objectives separately or jointly, or if there should be any dependencies between them.

Neither statement is or more “right” unless one is better at helping the organization solve the right problem the right way, at a certain time. If you think there’s little difference between them, or no significant difference, fill in content the Performance, Functional, Design, and Material requirements and watch differences grow! Because each lower level disaggregates the requirement above into specific conversations, decisions, and actions, small degrees of difference at one level multiply at lower levels.

### **Checking The Terrain**

The *terrain* you navigate is the entire environment in which the innovation strategy is created and used. This includes the following:

- Organizational environment
- Operational environment
- Relevant business and technology markets

These environments converge in your innovation strategy. They supply your organization requirements, needs, interests, constraints, influences, forces, trends, opportunities and more to impact and be impacted by. To orient yourself and others in this space, you’ll need ways to understand how your strategy impacts and is impacted by these environments.

### **ORGANIZATIONAL ENVIRONMENT**

The organizational environment includes all the people, processes, resources, requirements, constraints—everything *within* the boundaries of the organization creating the innovation strategy. Not just the organizational unit leading strategy development, but the entire enterprise.

Many parts of your organization work in concert to deliver value to customers every day. This signals an organizational environment in homeostasis sufficient to perform routine operations. Even when the organization experiences great turbulence, the environment absorbs it enough to continue delivering current value.

The act of creating an innovation strategy will likely destabilize the environment. Mere *talk* of innovation raises eyebrows, so a concerted effort to create a strategy is sure to escalate all reactions. Having ways to understand how strategy creation impacts the organizational environment, and is impacted by it, is critical.

An enterprise org chart locating strategy development in relation to all other business units is useful. The business unit leading the strategy is an epicenter of shockwaves that travel across the organization and back. Use the chart to map issues,



risks, concerns, reactions—any information that will help the organization craft an effective strategy. Use the chart to communicate up, down, and across lines, and to manage participation in strategy development conversations, decisions, and actions.

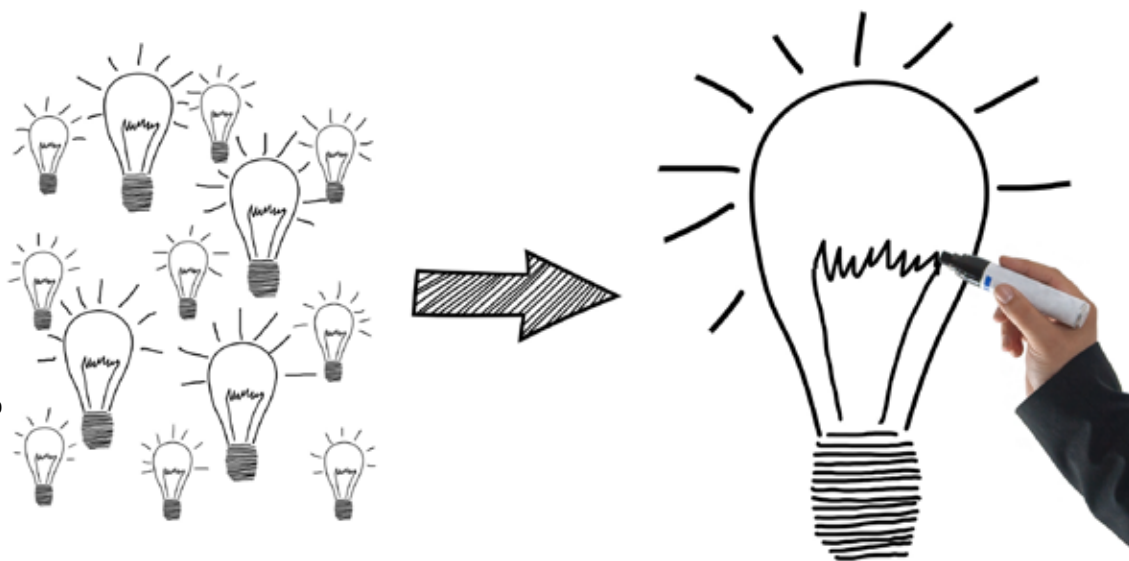
Creating an innovation strategy is a microcosm of operating one. Recall the description of an effective innovation strategy as one that enables the organization to continuously think about the customer, act to do something different to add value, scan the environment to understand how impacts in both directions, and adjust to create and recreate conditions for successful innovation. An effective change management strategy does the same: It should help the organization think about organizational reactions to the strategy's development; act to incorporate views, needs, and interests; continuously scan the organizational environment to understand how strategy development impacts and is impacted by it; and create *and recreate* conditions for developing an effective strategy.

A change management strategy helps in this regard, and there are many frameworks for them. Use one that helps strategy development leads create effective participation opportunities for everyone—advocates and detractors, hopeful and resistant, curious and uninterested. The strategy will be strengthened by diverse views and a change management framework that fails to give voice to all views, fails.

## OPERATIONAL ENVIRONMENT

A strategy's operational environment is the space strategy owners intend to impact. It includes those who should benefit by the strategy's execution – let's call them primary customers (see below) – plus supporting customers (see below), suppliers and partners. In our Coast Guard example the operational environment is "in the field" where operators' enhanced capabilities should improve performance. Stakeholders in this space would include the Coast Guard operators; data, information, and equipment suppliers; partner organizations such as other Federal government agencies, US state and local governments and other national governments; even the bad guys operators chase and the recreational boaters they assist. What follows, focuses on the customer.

The customer's environment includes everything that impacts their role, responsibilities, authority, competencies, and activities – the things for which the innovation strategy should add value. Just like you, customers have requirements, needs, interests, enablers, constraints, influences, and forces operating on them that they must successfully manage to perform their job. An innovation strategy that does its job meets a **customer mission** need or closes a **customer capability gap** that they have their own requirements hierarchy.



There are many models from which to choose in organizing your thinking about the customer. It's useful to distinguish between primary and supporting customers. **Primary customers** are the



entities that benefit by what your organization does. The programs, products and services you provide directly benefit primary customers, and innovation targets doing something different to add value for them. **Supporting customers** are the entities who care about how you serve primary customers. Government has many of these: Sister organizations, partner organizations, other federal/state/local government agencies, congressional members and committees, NGOs, watch dog groups, media/trade press – the list goes on. Innovating for primary stakeholders usually satisfies secondary customers' interests.

Among primary customers, it's also useful to distinguish **customer segments**. A segment is a subset of your customer, which justifies a product or service distinct from others. Segments are reached by different channels and require different types of relationships with your organization.

Finally, let's distinguish between internal and external customers. It's easy to equate external customer with primary customer such as Veteran, farmer, student, tax payer, homeowner, etc. An innovation strategy that adds value for these customers delivers on the enterprise's mission. But a strategy which does something different to add value for an internal customer – the warfighter, TSA screener, border guard, investigator, drinking water plant operator, etc. – delivers on a smaller but no less important organizational mission. Adding value for internal customers adds to the value chain which ultimately benefits citizens and businesses. An innovation strategy can do both.

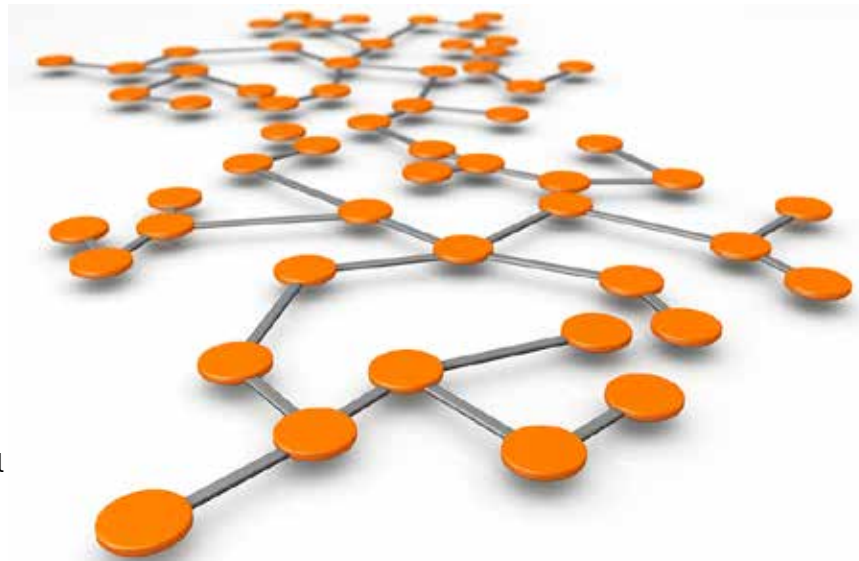
Understanding and mapping the customer experience, especially digital experience, is a growing priority in government and many agencies have developed or adapted models you can reuse. Various customer-centered and human-centered design methods view the customer in ways more or less relevant depending on the purpose of the innovation strategy and nature of innovations planned. Pick one and use it to engage your customers for ideas about the strategy's requirements.

## RELEVANT BUSINESS AND TECHNOLOGY MARKETS

Markets for technology and business innovations are everywhere. They are many in the commercial sector, the not-for-profit sector, and all of government—including state and local government. Relevant strategy ideas might also be in overseas companies and foreign governments innovating beyond your organization's horizon.

Many government subject matter experts are part of markets relevant to their work. This ranges widely from satellites to weapons, finance systems, cloud IT, and on. Involving subject matter experts relevant to your strategy makes you a node in their networks. The same is true of stakeholders. Stakeholders you include in strategy development will make you aware of business and technology markets they know.

Individuals can only know so much, however, and even networks have edges. Innovative ideas exist in places government and stakeholders aren't engaged. Successful innovations in unrelated fields might be relevant to your



strategy if modified, but not if they remain unknown to you. You need ways to see beyond your horizon, which means you need to move where you're standing. Consider methods like these to help discover relevant information, ideas, technologies and partners:

- Ask subject matter experts who and what they know. Ask them where else you might look. Ask them to ask others.
- Ask everyone you talk to the same questions. When you begin hearing the same answers you know you're near an edge or border. Then ask people whom they ask when they need to move their own horizon.
- Ask industry and government partners who and what they know. Talk to their associations.
- Ask professional associations, journals, trade press, and knowledge networks which exist around relevant topics and subjects
- Meet people in the investment community and ask them. The investment community is an under-utilized source of information about innovation generally, and about technology innovations in particular.
- Ask universities and academic professional associations. Many universities do cutting edge research—using government grants!—and have stood up innovation centers. Grants managers are a great starting place.
- Think of the communities which exist around challenges, SBIRs, grants, FFRDCs, and R&D programs as *networks* you can engage for discussion, if not more.
- Consider using social media platforms to get the word out

Most of the ideas relevant to your strategy probably exist in the parties you know or can reach through stakeholders. Taking a few extra steps can open new business and technology markets to you containing people, ideas, and solutions that will make your strategy more effective.

### ***Making Your Trek***

Your trek is the set of activities you manage and perform to create an innovation strategy. Your requirements hierarchy identifies some activities and suggests many more. The hierarchy is summative, however, so you'll need to add specific strategic activities to your trek. It's best to document them in a work breakdown structure (WBS) of some kind. Categories and lists, or an outline will do. The point is to get items out of your head and onto paper where you can see and manage them, and communicate about them.

Frameworks for strategic planning processes abound. Most organize activities into phases for situation/environmental analysis, direction-setting, assignment and alignment of activities, and then execution, monitoring, and evaluation. Phases are called different



things in different methods, and some identify and group activities differently. Every approach fulfills those functions, however, and to create an effective innovation strategy your process should as well.

Use a framework you like, or which your organization uses, and then add to it. Creating an innovation strategy is a specific type of strategic planning, and with it comes specific requirements. In addition to activities relevant to any strategic planning, your trek must plan activities to determine the following:

- Which components of the business model it might change, by how much
- Which components of the technology model it might change, by how much
- How the combination of business and technology model changes will create organizational culture and behavior change along three dimensions:
  - Depth, or how far into the organizational structure/hierarchy change is felt
  - Size, or how many people are impacted
  - Extent, or the degree to which the center impacts fundamental aspects of the *existing* organization such as strategy, beliefs, values, assumptions, roles and responsibilities
- How the organization will continuously learn about the customer, what they value, and what your organization might do different to add value for them
- How the organization will continuously do something different to add value for the customer
- How the organization will continuously scan the environment to understand impacts in both directions, as it innovates
- How the organization will continuously adjust thinking and activity to create and recreate conditions for successful innovation
- How the organization will continuously plan and assess the value of innovation for the organization

These additional strategic planning requirements will also help you fill out the requirements hierarchy, and vice versa. Many of these activities meet Functional, Design, or Material Requirements, or inform decision making about them. Meeting these additional requirements will help produce an effective innovation strategy, one which improves and eventually optimizes the way your organization thinks and acts to innovate.



### Reading Your Map

Just as a topographic map contains lines of longitude and latitude, your map contains vertical time phases and horizontal sets of activities to be performed. And just as you use lat-long to orient yourself on a map, you can use the intersection of phases and activities to orient yourself and others to navigate innovation strategy creation.

The planning process you choose will have time phases and activities built in. Some are basic to any strategic planning process, and some are unique to innovation strategy as discussed in Making Your Trek. Basic phases include situation/environmental analysis, direction-setting, assignment and alignment of activities, and then execution, monitoring, and evaluation. Basic activities include interviewing, reading reports, analyzing data, vision development exercises, developing goals and measures, etc. Additional activities are identified in Making Your Trek. Create a phase-activity matrix to help you locate any activity in relation to others, and to phases. This is especially important in iterative and processes, and will help you sync to the requirements hierarchy.

Whichever strategic planning framework you use, consider how it helps you accomplish and refresh requirements in the hierarchy. While the levels are not strictly temporal, their refinement progresses over time through iterative and incremental deliberations and decisions. Your strategy development phases and activities should support them.

Another important read to make with your map is phase transitions. In addition to those required by the framework you choose, the following conditions signal you're ready to transition to another phase of development:

- **Situation/Environmental Analysis.** Priority customers and stakeholders contributed to and agree to the analysis. They understand and support the requirements hierarchy down to the Capability Requirement, and project sponsors/decision makers approve the statements.
- **Direction-setting.** Priority customers and stakeholders understand the relationship between their requirements and interests and the direction set. They understand and support the requirements hierarchy down to the Performance Requirement, and project sponsors/decision makers approve the statements.
- **Activity Assignment and Alignment.** Priority customers and stakeholders contributed activities as inputs and believe the relationship between activities and outcomes will satisfy their requirements and interests. They understand and support the requirements hierarchy down to the Functional Requirements, and project sponsors/decision makers approve the statements.



Some Design Requirements might be included in Activity Assignment and Alignment, but it's likely that stakeholder participation diminishes as planning reaches Design and Material levels of the hierarchy. That's not a rule and important exceptions might be warranted. If stakeholder resources are required for strategy execution, monitoring, and evaluation, for example, stakeholders should be engaged for those requirements discussions.

When you're reading your map, looking at the intersection of an activity and a phase and at what comes next, involve the right parties in the right ways based on what they can contribute to a strategy intended to improve the organization's innovation capability. Use your customer analysis, stakeholder analysis, communication plan, or change management plan to determine who should be involved how, when, and to what end.

### *Using Your Compass*

Your compass is a set of tools which you use to take readings, adjust direction, and proceed. You use the tools by facilitating conversations to decisions. Your compass is composed of four tools you use to orient yourself to others to stand up of a productive innovation center.



1. **Definition.** The definition of innovation is your first and most basic tool. You should anchor everything to the three parts of the definition—doing something different, to add value, for a customer. Facilitating conversation around these will focus participants on the right things and help people regroup if they get lost in the process.
2. **Questions.** No one can do something different to add value for a customer without asking questions, and the definition gives you the most basic questions you can ask: What could I do differently, to add what value, for which customer? Those questions lead to many more.

Also ask Why, What If, and How questions. **Why** questions reveal purpose, objectives, outcomes, or the ends to which we do something. **How** questions reveal means, steps, process ideas. **What If** questions reveal new ideas and possibilities. Asking Why, What If, and How questions will illuminate different angles and avenues into innovation. They're especially useful for turning conflicts and constraints inside-out and making them useful.

3. **Requirements.** Requirements are attributes of a product, service or system necessary to produce an outcome that satisfies a customer. In this case, the strategy is the product and its attributes are the ways it guides conversations, decisions, and actions. Filling out the requirements hierarchy will clarify your thinking and make your strategy more effective by aligning important means-ends relationships in its development.
4. **Reactions.** Doing something different predictably causes many reactions in many people—positive/negative, supportive/opposed, committed/resistant, and on and on. All reactions contain valuable information, particularly the not so favorable reactions. Reading the effect of your actions, and others, can regularly show you how you're doing to do something different that adds value for a customer. Tracking reactions you can iteratively and incrementally check where you are and where you're headed, as questions lead to conversations to decisions.



## Look Back From The Start

Treks are clearest when one looks back on them. From the vantage point of the destination one sees everything in perspective—what worked, what didn't, what to do differently next time. A useful planning technique is to look back from the start, and there are two ways to do this.

1. **Jump Ahead:** As part of deliberations leading to any decision, jump ahead and ask where the decision will lead if made in any of several ways. Imagine scenarios and trace them up the requirements hierarchy to see if a decision pending at any level successively supports the accomplishment of requirements in levels above. Sometimes a clear advantage emerges. Sometimes jumping ahead clarifies trade-offs for decision making. Or it might identify contingencies you can prepare for as you create and recreate conditions for successful innovation. Regardless, it will help illuminate uncertainties in your planning so you can convert them into risks and improve risk management for them.
2. **Backward Map:** As part of deliberations leading to any decision, start the conversation at the point where the rubber meets the road—where the decision is implemented by someone doing something. Describe the current activity the strategy contemplates changing by discussing who presently does what, when and why. State what is undesirable about the activity performed that way, and what is triggering a need to change it. Then backward map the organizational enablers and constraints that produce or facilitate the undesired activity—from the point where the activity is performed all the way up to the highest controlling policy, procedure, regulation, law or even assumption or misinformation. This will illuminate aspects of the organization, which the strategy should modify to enable desired behavior consistent with organizational innovation.



While nothing brings clarity like finishing, mentally positioning yourself some place other than where you are as you deliberate and decide can help you **unthink** what you believe you know and rethink it in profound ways.

## Conclusion

Innovation is a business proposition, and the most effective innovation strategy offers strong support to business strategy. It envisions how innovation supports the mission. It devises ways to continuously add value to customers and the organization in a constantly changing environment. And it enables people to reconnect to one other and the mission.

I hope you found a few useful ideas and tips in this paper. Please write to **Lou@GovInnovators.com** and let me know if you did—and especially if you didn't have more questions.

