

Inclusion & Innovation Enhancement Initiative Barrier Analysis Team White Paper

Abstract:

What are the barriers to inclusion and innovation at JSC?
How do we overcome those barriers?

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Key Barriers:

Management Styles	(Reluctance to promote innovative ideas, Fear of failure)
Institutional Inertia	(This is how we've always done it!)
Organizational Walls/Silos	(One NASA? One JSC? Not really...)
Complexity of Processes	(I don't know which Board to go to next. Which of my bosses?)

Pathways to Solutions:

Servant Leadership	(Managers serve their people, not the other way around.)
Freedom to Pursue Ideas	(We can't change anything without fresh ideas.)
Integrative Thinking	(Think globally, act locally.)
Relevance	(If you have to tell people you're relevant, then you're not!)

Research:

What are the Barriers? The team first named all the barriers from each of our perspectives and experiences. It was messy and chaotic. Were we looking for barriers to innovation or barriers to inclusion? Should we look at them separately? It was quickly determined that the barriers to inclusion were the same as the barriers to innovation.

Then, we categorized the barriers into buckets:

- Cultural Mindsets
- Assumptions
- Processes.

As a basis to analyze the barriers and identify root causes, we defined and addressed key questions:

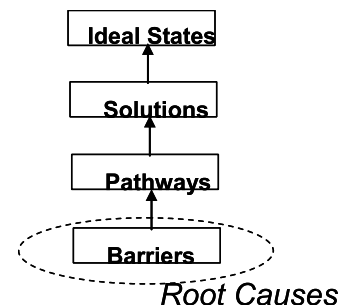
- What are the key processes that block inclusion and innovation @ JSC?
- What are the key mindsets that block inclusion and innovation @ JSC?
- What are the key assumptions that block inclusion and innovation @ JSC?
- What impedes resources from getting where they are needed?
- How can we open JSC management to other ways of doing business?
- What are the core values we want to unify behind?

Exploring these questions, led to definition of Core Values that we believed would help JSC achieve I&I:

Collaboration / Innovation / Integration / Boldness / Relevance / Trust

which evolved into what the team termed "Ideal States" to foster Innovation and Inclusion, and at the next level, to identifying Pathways to solutions. =====>

- **Ideal States:** Constructive Mindsets of JSC I&I environment
 - **Solutions:** Specific applications to navigate Pathways
 - **Pathways:** Business philosophies to overcome Mindsets
 - **Barriers:** Obstacles to I&I caused by cultural Mindsets
- "Key" barriers shown are the tip of the iceberg – MANY barriers exist, most caused by a common core of Mindsets*



The team then compiled the findings into this Barrier Analysis mapping. The color-coding was a means to indicate emergent themes. =====>

Once we established the Pathways, we explored and further defined each Pathway and possible solutions, ultimately focusing on solutions that were implementable at JSC.

Barrier Analysis Team – Recommendations:

1) Pathway: Servant Leadership

- **Focus:** “**Managers work for their people, not the other way around.**”
 - Develop people while staying focused on achieving results in line with the organization's missions and values
 - Promote success by removing obstacles & motivating and growing people
 - Create an environment where people feel safe to push boundaries
- **Initiatives for JSC:**
 - Change the way managers are selected
 - 360-degree Evaluations (subordinates, peers, and superiors)
 - In managerial interviews, look for Servant Leadership traits (trust, collegiality, accountability, authenticity, openness, etc.) in addition to technical expertise
 - Create bi-directional internships with industry trailblazers that changed the dynamic between employees & management (e.g., Google, IDEO, Apple)
 - Develop management training on Servant Leadership
 - Learn to foster inclusion and break the “autocratic” leadership style
 - Utilize exemplars from established leadership development curricula, examples of classes from McCoombs school of business include:
 - Advocacy - Championing Ideas and Influencing Others
 - Leading High Performance Teams
 - Building Engagement - Manage Talent and Build Allegiance
 - Managing Across Generations

2) Pathway: Freedom to Pursue New Ideas

- **Focus:** “**We can't change anything without fresh ideas or until we begin to see things differently.**”
 - Employees and managers focus on the horizon instead of the past, even when pursuit of new ideas produces learning from mistakes
 - Only NASA could find a way to put a square peg in a round hole (Apollo 13)
 - A servant leader recognizes, for example, that wild ideas can trigger solutions
 - Forward thinking is rewarded and never places a career at risk
- **Initiatives for JSC:**
 - Sponsor Center-driven activities
 - Establish innovation time codes

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- Create an Innovation Resource Center for resource allocation and advocacy
 - Support periodic Idea Symposia for peer review of high-promise ideas
 - Build innovation events (kaizen, blue-sky) into life-cycles / budgets
- Cultivate innovation
- Build open labs with rotating SME staff/disciplines, equipment to tinker or build
 - Collaborate with external groups (e.g., the new Bay Area Technology Think Tank or BAT³)
 - Promote “open sourcing,” where feasible and legal

3) Pathway: Integrative Thinking

- **FOCUS:** “Think globally, act locally. Effort, at whatever level, is most effective when its **CONTEXT** is understood.”
 - Upstream and downstream, technical and non-technical, inside NASA and out
 - Across systems, disciplines and organizations **to break silos**
- **Initiatives for JSC:**
 - Foster a systems perspective
 - Use integrated teams (cross-pollination) to illuminate the big picture
 - Raise up “intellectual owners” in key positions (technical expertise, communication skills *plus* leadership skills)
 - Encourage *Wild Ideas*
 - Foster an atmosphere where ideas are allowed to build one on another, without regard to who owns or initiates a concept
 - Invite reps from unrelated fields to provide unique, fresh perspectives
 - @ JSC, we have astronauts & artists, engineers & historians, scientists & space docs...
 - Shake it up: “All-Hands, No Shoes” meetings – Change how people interact
 - Raise awareness
 - Motivate through information
 - “Town Crier” concept: Spread info & ideas via on-site speakers and media
 - Use “ticker tape” streaming on computers to share innovative ideas
 - Support developmental assignments to bring in the perspectives of other orgs

4. Pathway: Relevance

- **Focus:** “The most critical **CONTEXT** is our **relevance (value) to public and political stakeholders – relevance that they feel, not simply that we claim.**”
 - Relevance can happen by serendipity, but it is *best* created by deliberate, resourced, managed action.

Research	What is of value to key stakeholders within JSC’s mission.
Shape	Programs/activities to create value as defined by research.
Deliver	Value to stakeholders using appropriate mechanisms.
Communicate	The creation and delivery of value.
Improve	Understanding of value, its creation and delivery, on a continuous basis
- **Initiatives for JSC:**
 - Establish a JSC Value Management (VM) function to define and lead VM implementation at JSC & coordinate with the wider Agency
 - Build VM into the JSC strategy
 - Establish a “strategic resource wedge” (people, \$..) to begin executing VM findings
 - Initiate a few pathfinders now with high value impact (e.g., “open sourcing” a JSC product) to learn, get results quickly, and build momentum for innovative ways to achieve relevance.

In conclusion, to overcome barriers to Innovation and Inclusion:

- Lead through facilitation, not dictation
- Welcome the pursuit of new ideas
- Understand the context of what we do, and integrate across organizations
- Demonstrate relevance, don’t just claim it