



CLIENT ADVISORY BOARD

THE INTANGIBLE METRICS OF SUCCESS IN RESEARCH

SMITHGROUP

THE CHARGE

In the world of research and laboratory environments, our understanding of the impact of physical space on scientific outcomes and user dynamics can be elusive. SmithGroup created a forum to explore the correlations between lab space and scientific outcomes with a people-centered approach. Given the far-ranging nature of the topics and diversity of scientific endeavor, an equally diverse set of thinkers deeply knowledgeable in research environments enriched the conversation with first person accounts.



MANY THANKS TO OUR ADVISORY BOARD MEMBERS!

- ◆ Yale University
- ◆ Novo Nordisk
- ◆ Drexel University
- ◆ Wexford Life Sciences
- ◆ Northeastern University
- ◆ Naval Postgraduate School
- ◆ Boston Children's Hospital
- ◆ Dana Farber Cancer Institute
- ◆ Howard Hughes Medical Institute
- ◆ Princeton Plasma Physics National Laboratory
- ◆ Harvard University Wyss Institute

THE ORGANIZATIONAL STRUCTURE OF RESEARCH GROUPS/TEAMS

Research teams take many shapes and forms. To determine the benefits of various team sizes, the diversity of team dynamics must first be understood.

Across academia, private life science and federal lab research team organizations, common themes centered around:

- Team sizes ebb and flow, often ranging from 4-6 to 6-12 across all organization and science types.
- Planning for fast-changing purpose, not specific people
- Grouping thematically
- Cross pollination across theory, experimentation, application

Some organizations face reluctance to share office space even though usage was as low as 30%. A parallel effort in the lab has been more successful. Flexible open labs are generally more compact and facilitate reassignment to meet changing operational goals. An added benefit is increased space for casual interactions outside the lab.

RESEARCH SUCCESS FACTORS

In order to gauge physical space's impact on scientific outcomes, we must first identify how organizations define what success means to them. Our client advisors shared many varied success measures based on organization culture, financial factors, and enterprise goals.

- Employee retention
- Staff happiness and comfort
- Licensure and commercialization
- Stakeholder engagement
- Construction cost and schedule
- Unsolicited praise

Continued analysis of success measures can help to define the return on investment for organizations and institutions.

ARTIFICIAL INTELLIGENCE IMPACTS ON FUTURE OUTCOMES

How do we embrace the power of artificial intelligence in research rather than compete with it? The potential of AI is to augment scientist's work and can advance their mission exponentially. Opinion points of consideration include:

- A.I. will hit every industry
- A.I. Governance is needed
- At surface level it can be convincing, but may not work in physical lab environments
- Laboratory spaces for AI driven robotics may have drastically different criteria and create a paradigm shift in lab design

THE POST INDUSTRIAL LAB - OVERLY CALIBRATED TOWARDS EFFICIENCY?

For decades, laboratories have continued to be highly attuned towards productivity and output. What are the unintended consequences? This is where the hard-to-measure intangibles can get lost.

Are creativity and freedom for exploration being lost to the bottom line? Our research partners observed, based on their experiences, that creativity thrives when there is tolerance for failure and the space to be innovative.

Forum participants also shared that the ability to personalize space to meet individual needs breeds creativity and impacts outcomes.

As the counter point to individual specialized space, interdisciplinary endeavors encourage diversity of perspective. Physical common spaces, core shared lab space and open labs all support these opportunities.

WHAT RESEARCH ORGANIZATIONS WOULD LIKE TO CHANGE ABOUT THE GOVERNANCE OF SPACE

- Strong Leadership -involvement of senior leadership on delivering directives
- Leadership granting permission and supporting the power of the idea
- Users taking back ownership of the labs in order to weigh most relevant priorities
- Users having a say in establishing the rules
- Purging the spaces of old ideas

KEY TAKEAWAYS

While each organization needs to define what success means to them, there are common threads and challenges across all research enterprises that remain constant: a need for strong leadership, everchanging external factors like technology and AI to adapt to, shifting faculty, student and staff demographics, and the inherent curiosity that will always fuel scientific research.

Ultimately, the discussion helped expand our understanding and importance of intangibles in research environments towards the greater benefit of the research community.



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a Better
Future**

