

What is Team Science?

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Presentation Overview

- Team science overview
- Example of team science

What is Team Science?

Some definitions:

- The approach of conducting research in teams within complex social, organizational, political, and technological milieu
- Research conducted by more than one individual in an interdependent fashion (Cooke & Hilton, 2015)

What Types of Teams?

- Interdisciplinary, highly variable
- Teams w/in same field (different subfields)
- Teams across related fields
- Teams across unrelated fields

Why Team Science?

- Historically (and often currently), research done in silos
- What happens when fields do not talk to each other?
- Discoveries, solutions stay w/in a field
 - Limit potential impact
- Retain disciplinary assumptions
 - Limited viewpoint

Why Team Science?

- Consequences for scientific progress
- Focus on narrowing --> specifying/specializing
- Miss patterns
- Lack of acknowledgement of working assumptions-
many of which should be challenged

Big Problems

- Problems are big, often complex
- Multiple ways in which can be viewed (disciplinarily)
- Often better solved by examining different viewpoints

Convergence and Synergy

- Areas of synergy- complementary expertise and knowledge
- In teams, we can be more than the sum of our parts
- Convergence

Why doesn't everyone do

- It's hard (harder than working independently)
- People speak different interdisciplinary languages
- Interdependence- need person to pull their weight on their contribution
- Working together = effort

Trade Offs

- Higher risk- higher benefits/impact
- More effort in communicating- develop skills, new knowledge
- Openness and willingness to admit not knowing – bring to all of your work
- Willing to address challenges

NSF Initiative



U.S. National
Science
Foundation

• Convergence Accelerator Program

The program is focused on a convergent research approach that:

- Is use-inspired and application-oriented.
- Is fed by basic research and discovery.
- Integrates teams from industry, academia, nonprofits, government and other communities of practice.
- Offers intensive hands-on education and mentorship to participants.



➤ Multidisciplinary approach

Funded teams are composed of diverse disciplines, expertise, and organizations. Teams merge ideas and share approaches and techniques to speed use-inspired solutions toward real-world application. Teams have no size limits and are expected to evolve as a project advances.



➤ Societal impact

Funded projects are intentionally focused on sustainability and national-scale impact. At the end of the fixed three-year term, teams are expected to provide high-impact deliverables that address societal challenges and enhance the nation's competitiveness and security.



➤ Cross-cutting partnerships

Catalyzed partnerships strengthen each funded effort by providing end-user insights, resources, services, infrastructure and transition-to-practice pathways.

Example: NOURISH

- NSF Convergence Accelerator Track J: Food, Agriculture, and Nutrition



*An AI-enabled platform that supports small
business development in food deserts*

NOURISH Team



Laura Schmidt
Nutrition Security



Amarnath Gupta
Artificial Intelligence



Paul Watson
Community
Engagement



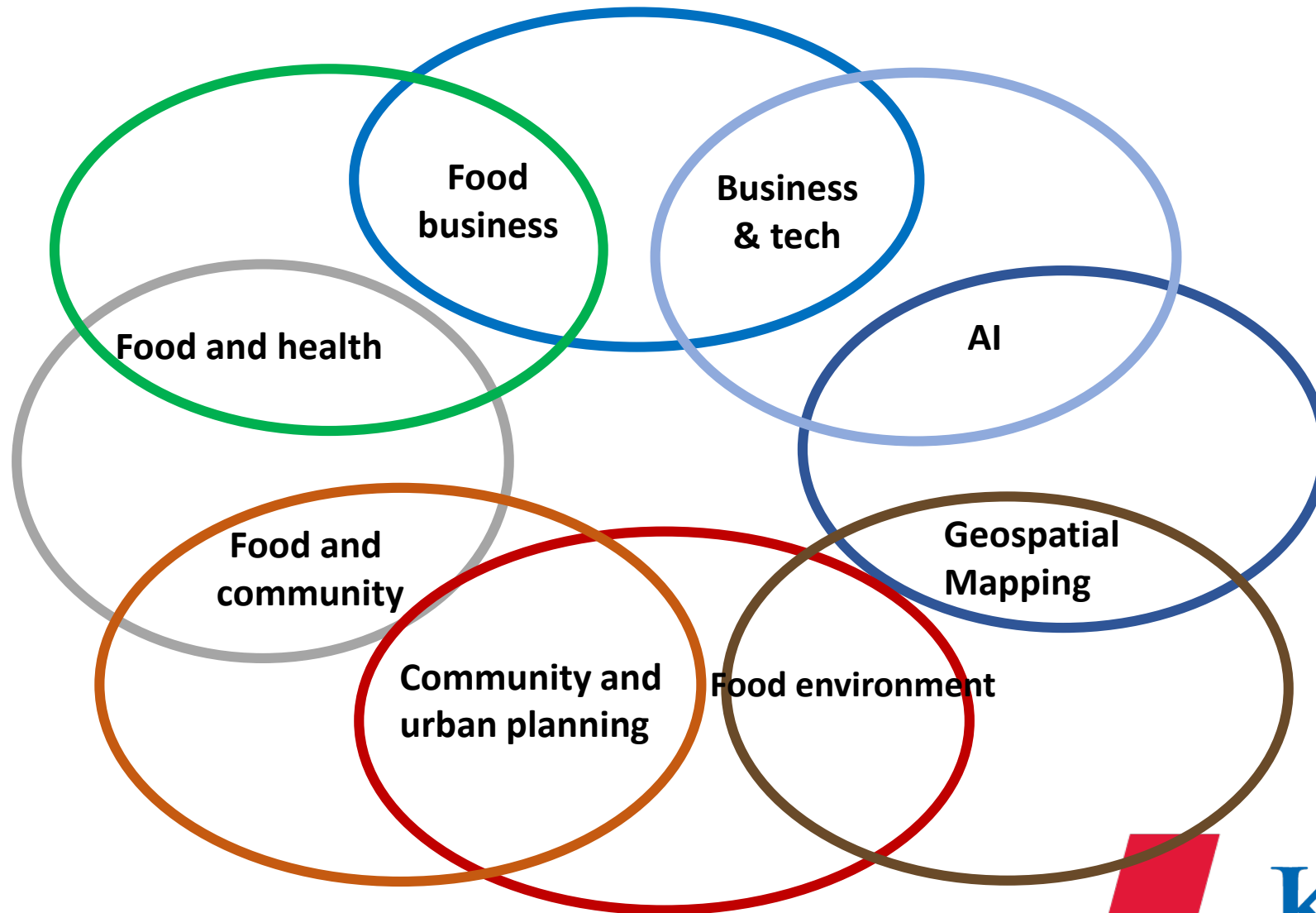
Hans Taparia
Business



Matt Lange
Agricultural AI



How We Fit Together





nourish

gives entrepreneurs, government, and nonprofit partners serving food deserts next-generation tools to accelerate growth in small businesses that sell fresh food



Small
Businesses:
An
Overlooked
Solution



Nourish Platform Features

BUSINESS FINANCING RECOMMENDER

Customized public-private financing packages

MARKET OPPORTUNITIES MAP

Optimal businesses and locations

REGULATORY NAVIGATOR

Business permitting requirements

SUPPLY CHAIN PARTNER FINDER

Connects farms and prepared food businesses

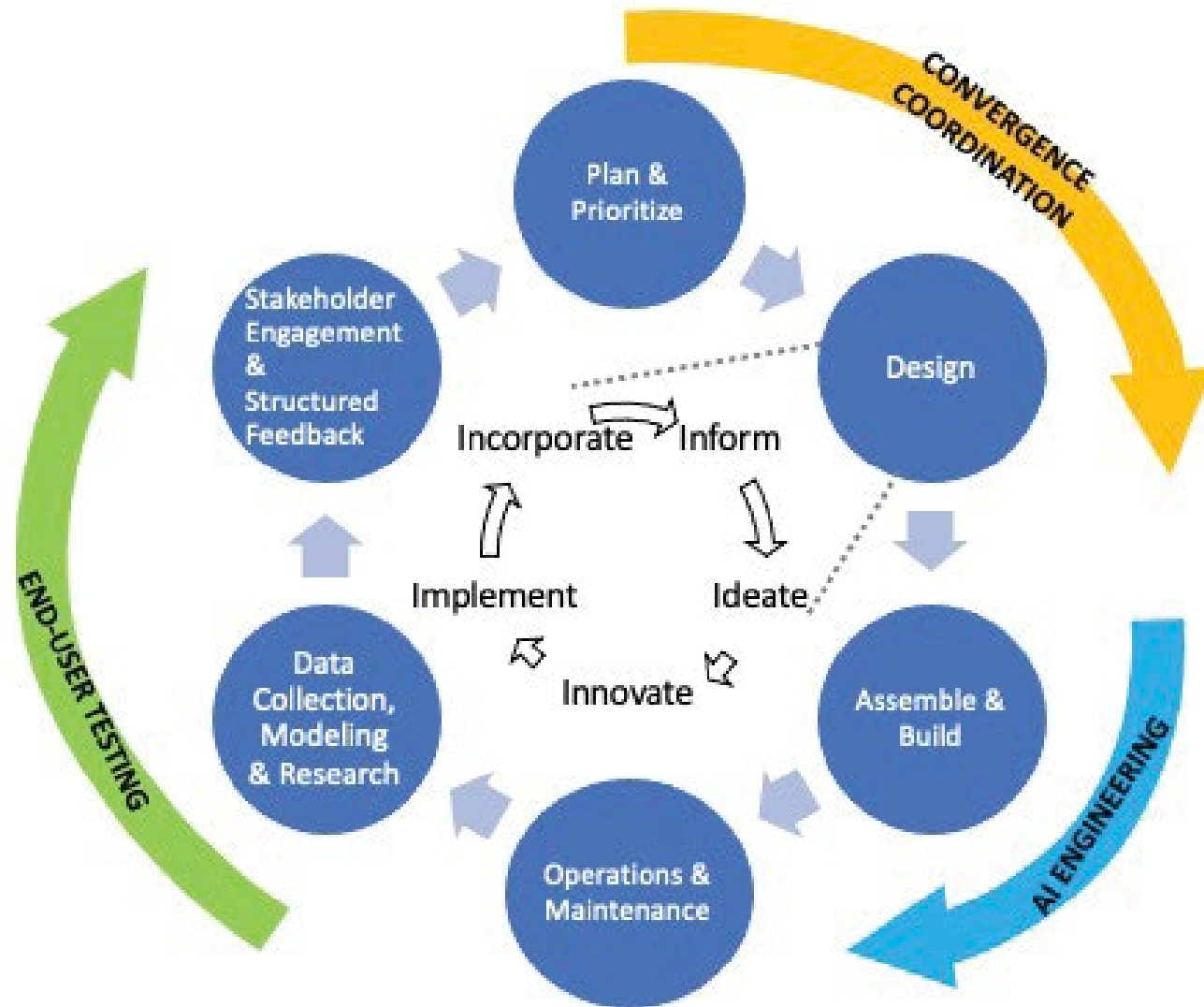


AI Innovations

Comprehensive
Knowledge Graph

Adaptive
Recommendation
Algorithms

Knowledge-to-Action Framework





A GROUND-UP SOLUTION

Food security and choice for 24 million Americans

Conclusions

- Team science- higher effort and risks → higher impact
- Convergence- our contributions together are more than the sum of our parts



Thank you!

Questions?

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