



*Since 1963, we have
been improving the
profitability of businesses.
We partner with companies
and communities to help
them prosper and grow.*

Engage. Educate. Embed.

Learn more at
www.ciras.iastate.edu

How to Manage the Innovation Cycle

Pete Nadolny
Project Manager
April 2014

Agenda

- What is CIRAS?
- Innovation Cycle
 - How to manage the innovation cycle to improve profitability

Center for Industrial Research and Service

Since 1963, we have delivered **proven services** that improve the profitability of businesses. Our approach, **Engage – Educate – Embed**, creates a specific solution that allows each business, along with its community, to prosper and grow. Coupled with a satisfaction guarantee, our typical client has achieved a 200% **return on investment**.

A **vast network** of university and industry experts brings years of professional experience to CIRAS, making us a leading integrator of solutions in Iowa. Clients have reported an economic impact of more than \$1.8 billion over the past five years.

Improving the profitability of businesses through...

Proven Services

Our customizable services are rooted in applied research and established best practices.

Engage. Educate. Embed.

Our approach ensures we deliver a service that is specific to your business. We focus on making the improvement stick and support you even after a project ends.

Return on Investment

Our commitment to permanent improvement is backed up by a satisfaction guarantee. A typical client achieves a 200% ROI – \$2 return for every \$1 invested.

Vast Network

Our partnerships stretch across ISU and beyond. Relationships with public and private experts enable us to deliver a solution that meets your needs.

IOWA STATE UNIVERSITY

Office of Economic Development and Industry Relations
College of Engineering



Our network extends across ISU and nationally

ISU Partners

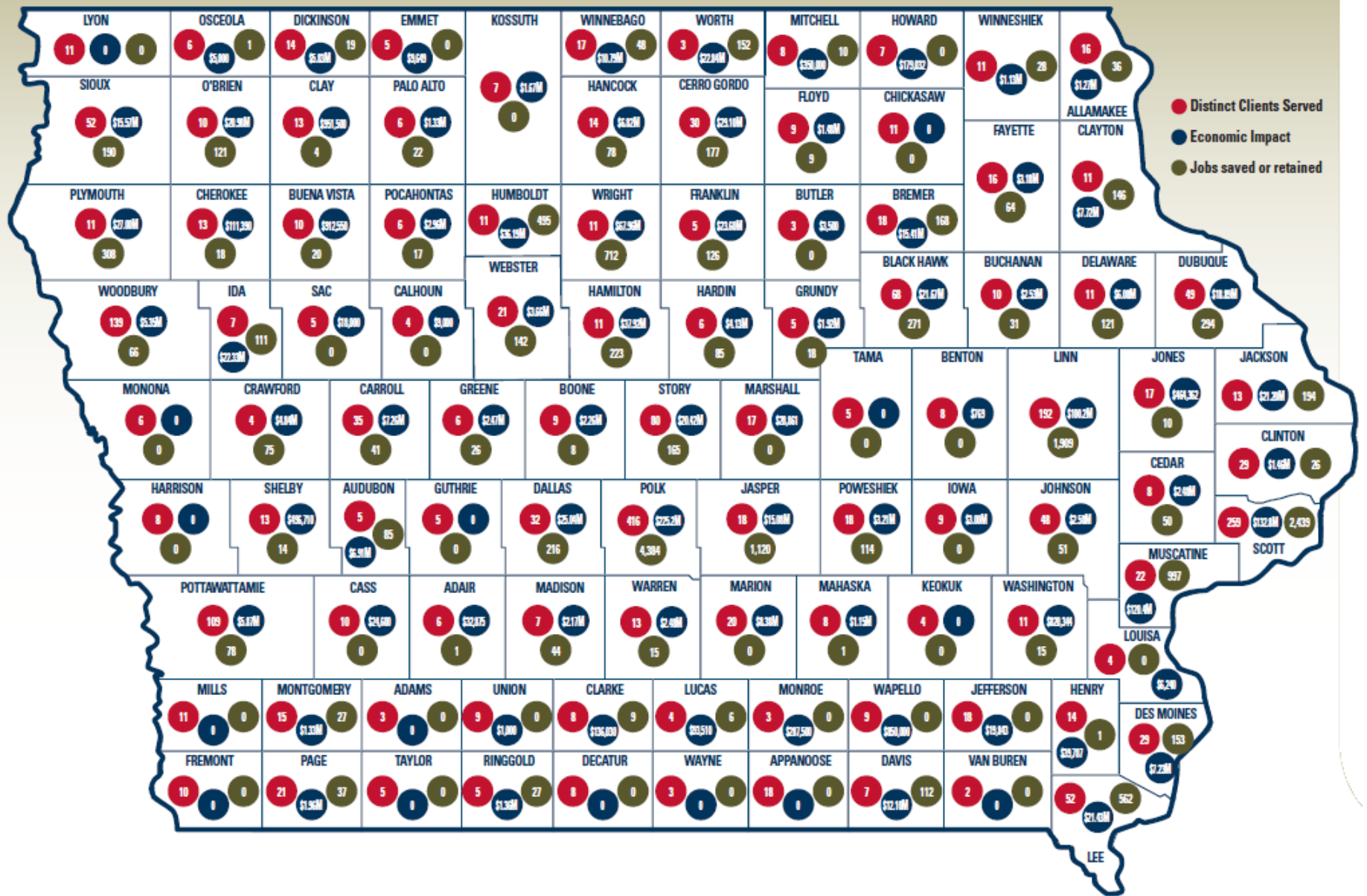
- ISU Faculty & Labs
- Center for Crops
- Utilization Research
Environmental Safety & Health
- IPRT Company Assistance
- Meat Science Extension
- Human Sciences Extension
- Structures Testing Lab
- Communities & Economic Development

External Partners

- Federal Programs
 - DoC/MEP
 - DoD/PTAP
 - EDA/UCP
- Iowa Area Development Group
- Iowa Association of Business and Industry
- Iowa Innovation Corporation
- Iowa Farm Bureau Federation
- NIACC and ICC

Affiliates

- State Agencies
- City Agencies
- Iowa Economic Development Authority
- Iowa Community Colleges
- Public & Private service providers



Innovation

A hand is shown on the right side of the image, holding a white chalk and writing the word 'Innovation' on a green chalkboard. The word is written in a large, white, sans-serif font.

*Creation of a novel process, product,
service or business model that has
business value.....*

Something new
that somebody else will pay for.

Innovation

A hand is shown on the right side of the image, holding a white chalk and writing the word 'Innovation' on a green chalkboard. The word is written in a large, white, sans-serif font.

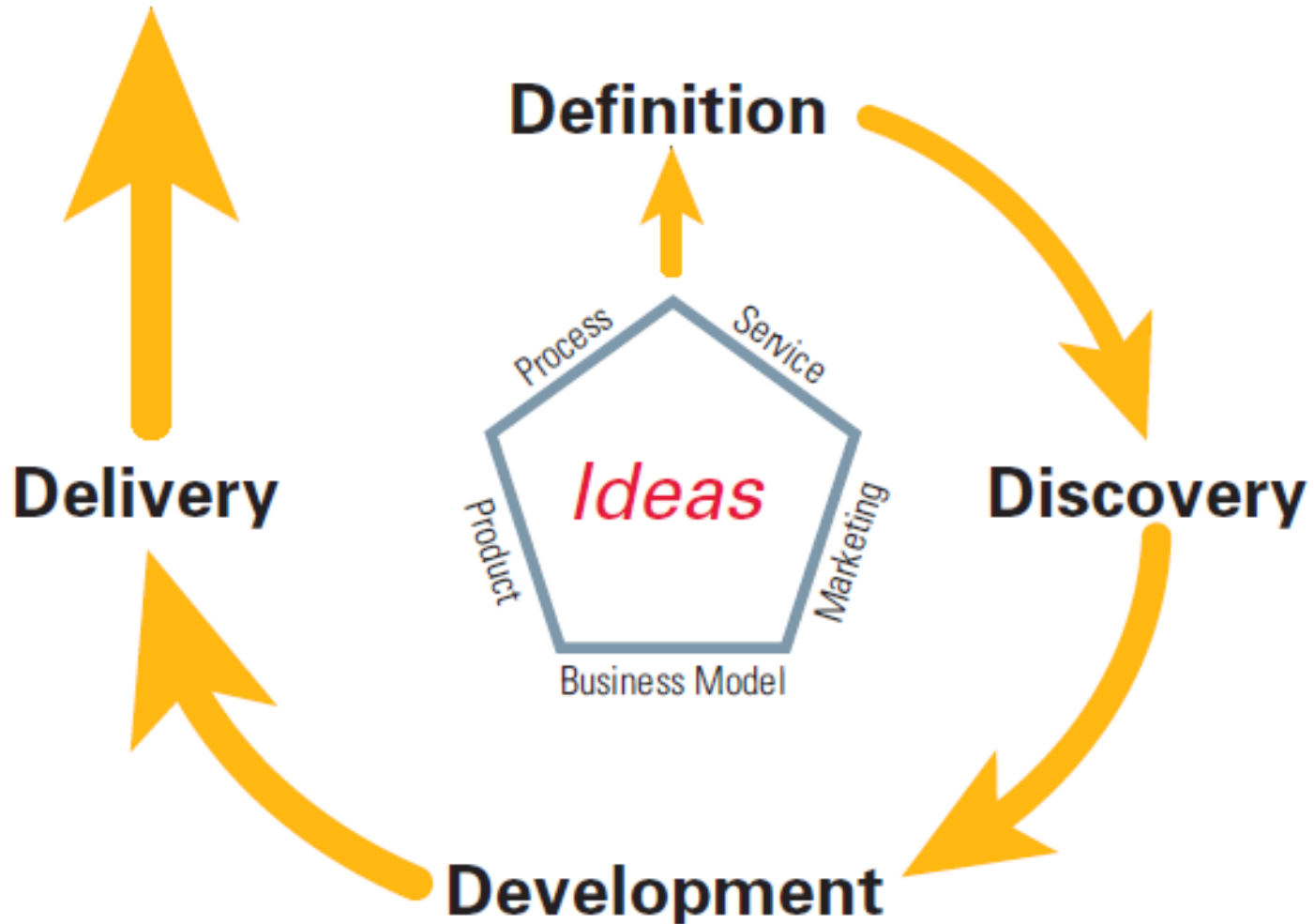
Challenging

Risky

Advantage or Disadvantage?

How can a company deliver profitable, innovative solutions quickly and cost effectively?

The **Innovation** Cycle



PHASE 1

DEFINITION

- Create and Capture Ideas
- Develop Value Proposition
- Evaluate Opportunity and Strategic Fit
- Select and Refine Idea(s)

CONCEPT

Symptoms of Breakdown

- Lack of clarity of real customer needs/problems
- Lack of ideas
- Innovation vs. innovation
- Low management or employee support

Potential Solutions

- Idea stimulation training
- Concept refinement training
- Customer and market research
- Technology research

PHASE 2

DISCOVERY

- Pilot Concept to Prove Value
- Estimate Financial Returns
- Evaluate Competitive Options
- Commit Resources

VALUED
CONCEPT

Symptoms of Breakdown

- High percentage of new products/services fail to meet expectations
- Overloaded product development/under-resourced projects
- “Flavor of the month”
- Unclear “why” we are considering concept

Potential Solutions

- Formal decision framework
- Customer and market research
- Technology research
- Financial analysis
- Competitive analysis

PHASE 3

DEVELOPMENT

- Develop a Plan
- Design a Solution
- Verify and Validate Processes
- Create Sales and Marketing Plan

READY
SOLUTION

Symptoms of Breakdown

- Delayed releases
- High costs
- Long development cycles
- Solutions don't satisfy market needs
- Poor team morale / motivation

Potential Solutions

- Project management / planning
- Development systems
- Prototyping
- Design for "X"
- Simulation and modeling
- Failure mode analysis

PHASE 4

DELIVERY

- Refine Sales Literature
- Communicate to Team
- Integrate into Current Practices

INNOVATION

Symptoms of Breakdown

- Many engineering changes after commercialization
- High manufacturing costs
- Quality problems
- Solutions don't satisfy market needs
- Team confusion

Potential Solutions

- Improvements to Definition, Discovery, and Development
- Integrated product teams
- Postmortem analysis
- Collect customer feedback

How can a company deliver profitable, innovative solutions quickly and cost effectively?

- Utilize a systematic process for innovation
- Understand phases and where symptoms of breakdown exist.
 - Identify opportunities for improvement
- Focus on improving process to:
 - Minimize time to market
 - Minimize development costs
 - Quickly identify solutions the customer will actually **pay** for

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Reference

Why invest with CIRAS?

Years of professional experience and a vast **network** of experts enable us to find **proven** solutions.

Our approach **Engage. Educate. Embed.** ensures we deliver a service that is specific to your business. We focus on making the improvement stick and support you even after a project ends

Typical client achieves a 200% **return** on investment – \$2 of value for \$1 invested.

Our mission is to help **YOU** improve.

- Funding determined by value realized
- 100% satisfaction guarantee

CIRAS Programs

Manufacturing Extension Partnership (MEP)

- Technical assistance for Iowa Manufacturers
- Apply research-based practices and tools
- Fee-based assistance with high ROI
- Expertise:
 - Engineering & Innovation
 - Productivity
 - Supply Chain
 - Sustainability
 - Human Capital

Procurement Technical Assistance Program (PTAP)

- Assist Iowa businesses in breaking down the barriers to contracting with federal, state, or local governments

Iowa Advanced Manufacturing Innovation Network

- Connect manufacturers, entrepreneurs, and researchers
- 2014 Focus: Plastics Industry