



**Wabash Heartland Innovation Network (WHIN)** is a consortium of 10 counties in north-central Indiana devoted to working together to fuel prosperity by harnessing the power of Internet-enabled sensors to develop the region into a global epicenter of digital agriculture and next-generation manufacturing.



### Multi-method Strategy

The Purdue Center for Regional Development (PCRD) was charged with the responsibility of guiding and implementing several facets of the WHIN evaluation plan while tracking the progress and documenting impacts. To ensure the evaluation would produce sound, unbiased and accurate information, the PCRD evaluation team deployed the following:

**WHIN Region Data Dashboard:** Baseline data to better understand the human capital assets and core economic drivers of the region.



### Resident Surveys (4,000)

Local needs from the perspective of residents.

### Key Informant Interviews (20)

Inputs and insights of individuals to assess what was working well and what improvements might be needed.

### Tracking Key Metrics

Series of anticipated outcomes (called AIMS) established as key goals.

### WHIN Midpoint Impact Analysis

Summative evaluation (aka WHIN's progress report) at year 3



### Ripple Effects Mapping: In-depth Rippling (62)

REM built on the information and data collected by PCRD and sought to effectively engage small groups of people in fruitful discussions of the larger set of impacts that might have emerged.

Representing all three sectors:

- Digital Agriculture (2 virtual sessions)
- Advanced Manufacturing (2 virtual sessions)
- Regional Cultivation Fund Recipients & Community Stakeholders (1 virtual session)
- Ivy Tech Community College (1 virtual session)
- Purdue Faculty and Staff PIs (1 hybrid session)

# Mix It Up: Combining Ripple Effects Mapping with Quantitative Metrics

## 10 Key Takeaways

By embracing a multi-method strategy that includes REM, the Purdue Center for Regional Development (PCRD) was able to better capture the full impact of the WHIN investment by Lilly Endowment, Inc. (LEI).

### 1. Ripple Effects

REM provides valuable input and feedback to the key architects of the initiative and offers guidance on what projects and programs have had significant impacts, those that require adjustments in order to realize their full potential, and program/projects that have not been developed or launched but are critical to the future advancement of the region.



### A Value-Added Process for Documenting the Intended and Unintended Impacts

Seeking out the unintended effects of the WHIN initiative was just as important as tracking the effects of those that were intended all along. Ripple Effects Mapping (REM) is a critical process for securing the input and insights of those directly engaged and/or impacted by the multi-pronged initiative.

### Benefits to REM

- Flexible
- Provides Visual Picture
- Untangles Complex Outcomes / Impacts
- Gives Voice to Stakeholders
- Efficient and Cost-effective
- Energizes Stakeholders and others

*With the use of the REM process, the true impacts of project were captured. Our project was very complex with a diversified set of stakeholders. The REM process allowed us to fully evaluate our project's work from the stakeholder's point of view. A very powerful and unique approach to capture these results!*

Ted Flock  
Purdue-WHIN Manager

### 2. The Tides that Bind

Discovering the role of trust between regional players – and how it can make or break the effectiveness of an initiative – was an interesting part of the REM sessions. WHIN certainly built stronger, more expansive ties between industry and higher education institutions in the region, but in different ways than were originally envisioned by the architects of the grant proposal. Social capital is often measured as ‘bridging’ or ‘bonding,’ and REM participants gave expression to both types in different instances during the seven sessions that were conducted. Here are some examples of how trust/social capital was strengthened:

- Amongst manufacturing leaders (bonding)
- Between manufacturers and local government officials/LEDOs (bridging)
- Between manufacturers and Purdue University (bridging)
- Between farmers/agribusinesses and LEDOs (between)
- Amongst Purdue Extension ANR educators and their county constituencies (bonding)
- Amongst advisory committee members in both industry sectors (bonding)
- Between Purdue University and Ivy Tech Community College (bridging)

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### 3. Internet of Things (IoT)

Advancing activities across the region powered by IoT was core to the original purpose of the WHIN initiative and played out as one of its major contributions to economic prosperity in counties. This focus helped accelerate the adoption of innovations by farmers, manufacturers and regional stakeholders.

### 4. Brain Gain

Connecting students to new technologies and real-world experiences was a “win” for WHIN over the past five years. As a catalyst for innovation, WHIN was also part of the equation that attracted several new start-ups and company expansions to the region.

### 5. N=Network

Promoting dialogue amongst professionals in the industry sectors of manufacturing and agriculture has been key to the success of the WHIN initiative. REM participants repeatedly mentioned the importance of investments WHIN made in convening and facilitating critical conversations within industries, communities, and the region at-large.

### 6. Stand in the Gap

Providing technical assistance and vital support to stakeholders came up most frequently during the REM session conversations and key informant interviews. WHIN helped reduce the industry/academia gap, served as a “third set of eyes” for industry, and launched many agriculture/manufacturing projects.

### 7. Shore Up

Building capacity within higher education institutions helped the region leap forward; the partner institutions and organizations had people and resources to devote to IoT-related initiatives.

### 8. Knowledge is Power

Creating new educational products and outreach programs has been a primary benefit and has transformed the lives and livelihoods of thousands of youths and adults in the region during the past five years.

### 9. WHIN-ners

Supporting community-led priorities was a strength and a popular sentiment among REM session participants and key informants. Several stated without the Regional Cultivation Fund (RCF) investments, locally driven projects would not have been successful.

### 10. All for One

Building a regional mindset was essential to achieving the goals set forth in the WHIN initiative. Participants commented on this aspect throughout REM.

## Additional Resources:

A Field Guide to Ripple Effects Mapping, free PDF or \$10 print copy:  
<https://publishing.lib.umn.edu/publication/a-field-guide-to-ripple-effects-mapping/>



WHIN Ripple Effects Mapping (REM) Final Report:  
<https://pcrd.purdue.edu/if-not-for-whin/>

