

1. Client Information & Problem Statement

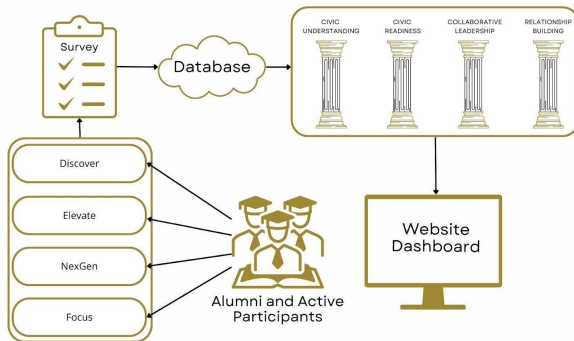
Leadership Southern Indiana (Leadership SI) is a non-profit organization that strives to “engage, develop, and mobilize regional leaders who will serve and transform the community” through their four leadership development programs, DISCOVER, FOCUS, ELEVATE, and NEXTGEN. For over 41 years, Leadership Southern Indiana has built their foundation upon four pathways: civic understanding, civic readiness, collaborative leadership, and relationship building.

Our team’s task throughout the semester was to work with the IMPACT Committee at Leadership Southern Indiana to:

- Determine survey metrics to measure Leadership Southern Indiana’s demographics and success, related to each of their four pathways
- Design and implement a digital dashboard that will update in response to survey and user data collected
- Display the numerical impact of the non-profit’s leadership programs to potential participants, alumni, sponsors, and donors on the Leadership Southern Indiana website

2. System Model

Rather than system refinement, this project required elements of system definition and development. In order to adequately present our client with a viable solution, our team identified and completed the necessary steps to bridge the gap between the initial state and the desired solution.



Final Products
Scan the QR codes to watch video walk-throughs of our team’s major deliverables.



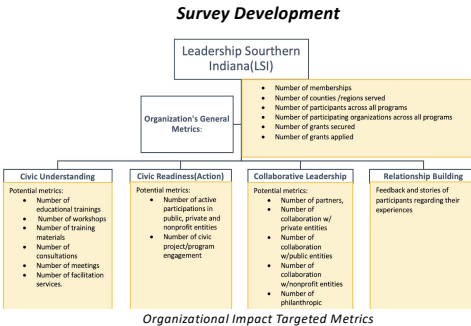
Data Collection Survey



Website & Impact Dashboard

3. Methodology

A variety of steps were required to bring all angles of the project to fruition. We worked with Leadership Southern Indiana and Maria Wiltse from the Regional Development to develop a survey that would capture Leadership SI’s impact through targeted metrics. During this process, our team brainstormed the dashboard design using the graphic design platform, Canva, allowing us to gain feedback from our client through iterative improvement. After benchmarking a variety of data visualization tools, we recommended a Power BI license to our client and helped test the survey through a pilot release to receive representative data. After cleaning and transforming the data, we developed the dashboard in Power BI and embedded the linked report into the Leadership SI Impact webpage, along with alumni testimonials.



Power BI Dashboard

| Criteria | Power BI | Tableau |
|-----------------------------------|---|--|
| Price | Free for desktop. \$10 per person for commercial use | \$70 for singular user |
| Accessibility | Online workspace available | Only supports desktop |
| Visualization Capabilities | Wide range of visualization charts that are drag and drop | Advanced visualization offered, but less intuitive |
| Integration | Can directly integrate with other Microsoft platforms (PowerPoint, Excel). Direct website embedding offered | Can modify the dashboard to specific devices. Also offers embedding but through API. |
| User Interface | Intuitive, very similar to excel, drag and drop | Advanced visuals, requires a some additional training |
| Data Storage | Can process large sets of data, faster than excel. Can store 10 gb of data | Can store and process more data than Power BI. |
| Advanced Capabilities | Allows R, Python, and SQL capabilities. Has Power Query language for advanced visualization. | Has additional C#, C# and Java capabilities. Can also be used with R and Python. |

Value of Power BI vs. Tableau

4. Results & Discussion

As a team, we accomplished several goals and overcame a variety of obstacles to arrive at the presented solution. By the end of the project, we each grew academically as students and professionally as industrial engineers. To ensure a smooth transition for Leadership SI and the overall longevity of the project, we wrote a user manual for the operation of Power BI and basic website elements in Elementor and conducted a training session for the individuals maintaining our work in the future.

IE 431 Completion & Project Outcome

Systems Thinking
Used our knowledge of the engineering design process to define our client’s system & develop design alternatives

Problem Solving
Developed methods of conflict management & learned to approach obstacles as a unified team when they arose

Collaboration
Divided project tasks to leverage each team member’s strengths in order to arrive at the most well-rounded solution

Client Relations & Professional Development

Networking
Gained experience with a network of industry professionals & developed a positive, trusting relationship with our client

Time Management & Goal Setting
Worked as a team to discuss project objectives early in the semester & devise a plan to follow through with those goals

Oral Communication
Presented individual & team progress to our client on a weekly basis

