Assignment: Steps of Research

Description
Many students do not realize that existing research frameworks can help them map out the steps of their research (which are very similar in many fields). This activity presents students with two examples of research frameworks from different fields and then asks them to list the steps of research that guide their own projects.

Instructions
Go over the two examples of research frameworks from sustainability science and design with the instructors. Be able to define a research framework (what it is and what it can help you accomplish). Notice the similarities between the two frameworks: both involve framing a problem, conducting research, and evaluating solution options. Then, map the steps of research that you or your team will engage or is engaging.

Basic Steps of Research in different research frameworks

Transformational Sustainability Science Framework (Lang et al, 2012)
1. Orient Research – Set research objective
   1. Define problem
   2. Anticipate what solution will solve the problem
2. Frame Research – Design / select research framework and method
3. Do Research – Generate Solutions
   1. Collect data
   2. Analyze data
   3. Evaluate findings / Test solution option

Design Framework from Engineering (Mark Henderson)
1. Empathize
2. Define Problem
3. Ideate
4. Develop Prototype and Implement
5. Test

What are the Steps of Research used in YOUR PROJECT?
1.
2.
3.
4.