

## Tools for RDS



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*A wide variety of tools for  
creating research data services*

One of the goals of the “Research as Data-Data as Research” project was creation of a toolkit to provide a step by step guide for libraries, especially those with limited resources, to prioritize needs and create offerings with the assistance of their user communities. This toolkit is a collection of those resources, separated by the phase of the project. It is intended to be an evergreen, open resource. Please feel free to contribute ideas and examples that you think other libraries will benefit from.





# PART I

## START FROM WHERE YOU ARE

A thorough inventory of existing services will help you identify strengths and weaknesses. Your inventory should include:

- Instruction – are you teaching workshops about coding, data management strategies or tools?
- Policy – does the university or any of the other academic units have policies or guidelines about how researchers manage their data?
- Partners – has the library worked with others on campus to encourage good data management practices or create relevant resources?
- Resources – webpages, research guides, publications, newsletters or any other communications that you have used to reach out to your campus.
- Planning – has your library or campus planned for new facilities, personnel or services that should be incorporated into research data services?
- Expertise – any conferences or trainings that have allowed librarians to upskill? Include a review of any outputs such as publications or surveys created as result of these opportunities.



# I. Instruction inventory

Create a list of library workshops taught in the last two years. What data and research relevant topics were taught? Include the following details where they are available. How many workshops have been taught in each category? Can you identify any gaps from this information?

1. Category – software tools, coding, data management, research methods, reproducibility, other
2. Workshop title or topic
3. Instructor name and department
4. Number registered
5. Do you have names and emails for participants?

## 2. Consultation inventory

Identify services that may be under development and the library staff who may already be providing some research data services. Review consultations with researchers for the past 2-3 years. Identify any that were focused on research topics such as:

- Data management
- Data storage
- Questions about data repositories or data sharing
- Citing secondary data
- Publishing and data

Your inventory should include researcher names and disciplines, what topics were discussed and Whether the librarians were able to provide adequate assistance or if the researcher was referred to another resource. If more expertise has been developed in the interim, describe the specific skills.

### 3. Conferences and training

Have you or others attended training or conferences about library research data support? These may be significant opportunities to learn skills for research data support. This is another inventory you should create. Include:

- What was the conference or training?
- Who attended and what is their role?
- Topics and takeaways
- Any products created from the training or conference? This may include instructional modules, surveys or publications.



## PART II

# FILL IN THE GAPS

After surveying what your library has already put in place, it may be time to conduct a formal process that will help you find out what researchers want and need. The needs assessment is a formal set of processes that will help you set priorities and make decisions about how to allocate resources for improving your services. You may need to do this in a series of steps in order to make sure that the scope is manageable.

For each needs assessment stage, you will also need to do a gap analysis and revisit some of the information you have collected about what is already in place. The gap analysis is the “how” that addresses the “what” identified in the needs analysis.

Read about needs assessment and gap analysis in detail in the selected references. We will describe the use of two innovative techniques that can be used for needs assessment, Customer Journey Maps and Design Thinking, in some detail.





## 4. Conducting a Needs Assessment

How would the library go about determining what role stakeholders want or need the library to focus on? A needs assessment might be most appropriate here, followed by a gap analysis. A needs assessment is the “what” (what the organization or stakeholders need) that precedes the gap analysis, which is the “how” (how to close the gap between where the organization/stakeholders currently are and where they should be) (NC State, 2017). Needs assessment is defined as a “systematic set of procedures undertaken for the purpose of setting priorities and making decisions about program or organizational improvement and allocation of resources” (Witkin & Altschuld, 1995, p.4). The article by Matthew Bengé et. al. charts an outline for how an organization can undertake a needs assessment project. The basics of the project entail establishing a purpose and goals, determining how the needs assessment will be conducted, gathering and analyzing the data, and communicating back to stakeholders (Bengé, Harder, & Warner, 2019).

As an example, let’s say that the overall goal of the needs assessment would be to determine what types of technology resources might be useful for individuals within a specific geographical area-these could be adults, children, a specific demographic, or similar. Objectives might be outlined as:

- Understand existing technology usage within this particular population
- Analyze perceived assets and barriers to accessing and utilizing technology
- Determine necessary training and support to increase technology usage within this population

Data collection could entail doing focus groups/interviews or asking them to draw their perfect scenario-information on specific data gathering methodologies is available further in this chapter. Once the data is collected, you can identify cross-cutting themes that could help inform priorities for action. The final steps would entail sharing the draft action items with these individuals and seeking an additional round of feedback using similar methods before launching a pilot initiative where additional data would be utilized to provide direction for a more fully-developed program.

Perhaps focusing on what is lacking rather than what is already available is not an ideal way to proceed. The Human Services Commission also recommends thinking about what a community already has through asset mapping. This technique: “(1) uncovers resources found in a community; (2) relies on the assets within a community at a specific time; and (3) seeks to build linkages among local people, institutions, and organizations” (Human Services Commission, 2013, p.3). Asset mapping does not necessarily involve the creation of an actual map, but rather the development of a framework of connections among individuals/groups, resources, and infrastructure that create a holistic view of where the community is starting and what it has to work with. This approach will allow for gaps to be identified more easily and works as an additive, rather than a reductive process, whereby needs translate into additional resources and support that can be added to round out the constellation of assets within a particular community. Asset mapping incorporates a similar set of steps as those for a needs assessment in terms of framing goals and capturing the assets in question by identifying existing expertise, fiscal allocations, infrastructure and tools, and/or physical resources.

Asset mapping can also pave the way for a gap analysis, which consists of measuring the current state or situation, identifying the desired state or situation, and determining what the organization needs to do in order to achieve that ideal state (Lucidchart, n.d.).

In this case, embracing a new role for the library represents the future and depending on the role in question, the library is analyzing organizational culture and values, staffing, training, funding, infrastructure, and partnerships to ascertain how it will achieve that role. The Lucidchart blog (n.d.) discusses several different methods (SWOT, Fishbone, McKinsey 7S framework, Nadler-Tushman model, and PEST) that can be used to address these areas, and although they all vary to some degree or another in the type of analysis that can be undertaken, they also all share some commonalities. First, the analysis must take some inventory of its current state or assets as described above to help establish the starting point or benchmark by which future progress will be measured. Next, the ideal state is represented as the proverbial finish line with a desired outcome in mind—whether that is reflected in a new role, initiative, partnership, strategic goal or similar. The final aspect of the gap analysis would then entail being able to answer the following questions: Given the current levels of capacity, staffing, etc. which have been identified, how would the library move from one role to another and/or undertake a new role? What additional skills, resources, and partnerships would the library need in order to make that transition and how long would it take? Who would need to be involved both internally and externally? How would success be measured and what would happen if that desired state or role would not be achieved?

## 5.

User (or participatory) design, is a term coined by Alison Carr-Chelman who defines a model that “extends stakeholder involvement beyond mere input to create empowered users who have design and decision-making powers”. The focus of user design is to empower users to have an equal voice in the process of creation so that library employees are working alongside stakeholders to develop the strategic plan. This can take many forms, but the basics of participatory design include:

- Control over the process and agenda is handed over to the participants. Participants also analyze and reflect on the information generated by the planning process
- It involves library employees and participants working together to understand a problematic situation and change it for the better
- This type of design focuses on social change that promotes democracy and challenges inequality; is context-specific, often targeted to the needs of a particular group; is an iterative cycle of input, action, and reflection

One critical element to understand is that in seeking to empower user communities in this way, there is no “liberator” who is here to save the day and de-marginalize this process. The emphasis is very much on collaboration as equals working together towards shared solutions-this is crucial and you must have a clear understanding of this element prior to engaging in any type of discussions and activities with stakeholders. Methods under this heading include ethnographic approaches, user experience, and equity-driven design.

### Ethnographic approaches

- Ethnographic approaches cover everything from drawing to

interviews and observations. Nancy Fried Foster has worked extensively with libraries in this instance. These types of methods are all fairly involved, and they require a high level of interpretation and synthesis. These approaches are best used when you want to collect direct data about user behavior. Both observations and drawing require an understanding of what you are trying to study via each method, as well as the ability to elicit themes out of what you are seeing rather than impose a predisposed notion of the results ahead of time.

- Drawings can also provide interesting results, but you will have to think about what patterns they help you uncover-if everyone is drawing a service desk of some sort, it will be up to you to decide what importance this element might have for your planning vs if there are fun but ultimately unique elements such as green spaces that might be of less interest. Drawing projects will need specific prompts and you will want to provide participants with the opportunity to ask questions without guiding them too much as to what or how to draw. There is no specific template for this type of user engagement as it really depends on your context and what your goals are for the study in question.

## User Experience approaches

- Typically, user experience is related to discussions surrounding virtual environments such as website design, but there are increasing applications for face to face interactions with users. The Nielsen group provides an overview article of when to utilize what type of methodology such as directly engaging with users vs observing, collecting self-reported data vs obtaining it indirectly. One popular method is that of customer journey mapping which allows users to tell you what they are experiencing and feeling during each step of a particular service or activity. Customer journey maps are a great way to put yourself in your users' shoes so that you are

seeing their challenges and successes with fresh eyes which will help you make improvements or test out a new offering. Creating a flowchart of each stop along the journey will help you analyze the action with the corresponding experience. Customer journey maps typically involve the following steps:

- Understanding your users as a group—there may be different groups of users that you want to do this separately for
- Timeline (is it a one-time event or does it occur across a longer time span?)
- Touchpoints are all of the things and people where the user is interacting with your service, program, space, etc.
- Asking open ended questions will help users fill in their own thoughts and feedback

## Design thinking and equity-centered design

- While the other two methods work well if you are seeking specific feedback regarding a either an existing state (i.e. is this service being used and how it might change in the future) or as more of a way to envision new possibilities, equity-centered design can help you think through the overall process rather than the content itself. Equity-centered design is a derivative of design thinking—both of these approaches were developed at the Stanford D school. This type of process focuses on the first step in the design process, that of building empathy by examining biases and power structures inherent in our approaches to generating new ideas for planning. They entail:
  1. Building awareness of and about the impact of our beliefs and biases as they relate with/to our users and their context
  2. Who are we and who are our users and where does each come from (perspective)?
  3. Making power dynamics explicit
  4. What are the equity challenges we/they are dealing with?

## 5. How can collaboration help address these challenges?

Design thinking has been criticized as being one size fits all and trying to gloss over some of these more complex issues, but equity-centered design, if done correctly, will help you uncover biases before the process even begins. The information on the Stanford website provides additional activities you can utilize to help create a shared understanding of the challenges your users have that you can address as you go through each step and generate solutions, then implement them and gather additional feedback as you test out these ideas and build on what you are learning. As with some of the other methods we discussed, this process requires time as well as the ability to identify patterns and themes while focusing on one or two solutions to follow-up on. Asking open ended questions and letting users drive the direction of the guided conversation can also be challenging but can yield meaningful results and a potential to create or update services and initiatives in new and interesting ways.

## 6. Who are your stakeholders?

Stakeholders are those who will receive your services and are most directly impacted. They are the ones who should be targeted by your needs assessment. Others who may also be impacted include service providers such as librarians and other resource groups. This group is sometimes included in the needs assessment but should properly be considered in the later steps of the process. A third group that is considered separately is those who provide support or facilities such as classroom space, learning and library management systems or software and IT support.

Altschuld, James W, and Belle Ruth Witkin. 2000. *From needs assessment to action: Transforming needs into solution strategies*. Sage, p. 9.



# 7. Engaging Stakeholders

When you involve stakeholders in your strategic planning process, you are more likely to:

1. Increase stakeholders' awareness of and commitment to the strategic plan
2. Increase the chances that stakeholders will support your efforts and advocate for your work
3. Increase the chances that the strategic plan will be successful
4. Increase the credibility of the plan

Stakeholders can make many important contributions to the evaluation process, including:

1. Providing a reality check on the appropriateness and feasibility of your plan
2. Offering insight on the populations that may affect program implementation or evaluation
3. Reviewing and commenting on the plan itself
4. Helping to disseminate and report the strategic plan and its related initiatives
5. Providing ongoing feedback and recommendations for improving your plan or activities

You can start by developing a stakeholder engagement framework and understanding their roles, concerns and questions

- Implementers: involved in the day-to-day operations of the plan/activity to be evaluated
- Decision makers: have authority to make changes to the plan/activity to be evaluated
- Participants: served by the program/activity
- Partners: invested/interested in the program/activity

There is a delicate balance to achieve between incorporating their perspective without compromising the extent to which the library can actually implement that feedback. Some things to consider as you determine how stakeholders should be involved in your strategic planning process:

1. Maintain open, honest, and regular communication with the stakeholders by keeping them up to date on issues pertaining to the planning process and relevant considerations
2. Identify stakeholder expectations from the beginning and take them into account when planning and implementing your process
3. Let them know how their feedback will be incorporated into your strategic plan (this may vary depending on their role)
4. How many of each type of stakeholder will need to be involved?
5. Follow through on what you agree; avoid making promises you cannot keep
6. Participation
  1. How available are they to participate in the process? Identify stakeholders' barriers to participation, and when possible, address them
  2. Plan before meeting or requesting stakeholder assistance so that everyone's time can be spent wisely
  3. Request volunteers for specific sub-tasks, if needed

The National Library of New Zealand provides a good overview list of ways to engage with stakeholders:

1. Partnership: MOU, project management, meetings
2. Collaboration: Focus groups, facilitated consensus building, forums for deliberation and decision making, workshops
3. Knowledge sharing and information: Social media, website, outreach campaigns, written materials, tours
4. Feedback: User engagement methods (participatory design,

ethnographic methods, user experience)

5. Advice: Formal advisory boards or groups, panels of experts, consulting models

## 8. Equity-Centered Design

This type of process is useful if you aren't sure where to begin and you want to involve your stakeholders in defining the problem and generating a solution. Design thinking has been criticized as being one size fits all and trying to gloss over some of these more complex issues, but equity-centered design, if done correctly, will help you uncover biases before the process even begins. The information on the Stanford website provides additional activities you can utilize to help create a shared understanding of the challenges your users have that you can address as you go through each step and generate solutions, then implement them and gather additional feedback as you test out these ideas and build on what you are learning. As with some of the other methods we discussed, this process requires time as well as the ability to identify patterns and themes while focusing on one or two solutions to follow-up on. Asking open ended questions and letting users drive the direction of the guided conversation can also be challenging but can yield meaningful results and a potential to create or update services and initiatives in new and interesting ways.

SEE INFO FROM NEW LINK!

In this case and due to the complex nature of research data, we opted to implement a two-pronged approach where we asked participants to fill out the customer journey templates prior to the design thinking session so that we could better understand their pain points ahead of talking to them. In addition, we wanted to provide them with an opportunity to describe their processes directly, rather than discuss them passively with us as that can also have an effect on how the qualitative data is represented. It allows the story behind their research to emerge as opposed to focusing solely on the data itself which is important, but not a central player in the narrative we are trying to uncover about researcher challenges.

How can design thinking powerfully serve as a force for equity + address the effects of oppression on education? Liberatory Design as an equity-centred practice creates the opportunities for the equity practitioner and the designers to build from their skillsets and develop a new approach to their work. THE PRACTICE This is not a step in the traditional DT process – this is something we are introducing to our DTK12 work. We will be bringing in new curriculum around this area, want feedback, your thoughts, ways you can connect this to your own work and life.

- Identity: Who am I/we? Who are our users?
- Power: How are we respectively situated (relative to opportunity, institutional power)?
- Context: What is our situation, our equity challenges?
- Partnership: Given the above, how can we create a partnership that is liberating for all in the process?

So really, being aware of and reflecting on the impact of your own beliefs and biases in relationship with/to your users and their context is practiced throughout the design thinking process.

[https://docs.google.com/presentation/d/1S-7fZojfgGs3M3T110vaXZFztRvjmMdkCjJ4UiIQ5i0/edit#slide=id.g204dd7f89b\\_0\\_80](https://docs.google.com/presentation/d/1S-7fZojfgGs3M3T110vaXZFztRvjmMdkCjJ4UiIQ5i0/edit#slide=id.g204dd7f89b_0_80)

Try it yourself!

- What biases are you or could you be bringing to this process?
- What are the systemic inequities your design might be propagating?
- Are there any voices/perspectives that might be excluded from this design and/or design process?
- How can you better understand who your users are and what their challenges are especially in terms of the discrimination they are facing whether implicit or explicit?
- How can you build trust with your users so that they are providing you with meaningful and authentic feedback?

- How can you define those challenges as well as make the biases within them more explicit?
- What are some ways in which your solutions are addressing these inequities?
- Do the solutions themselves favor one group over another or do they have built-in assumptions that can be challenged?
- How can you ensure your model(s) are reflective of their user populations and their needs?
- Are there any unintended consequences to your design—especially those that might further marginalize vulnerable populations?
- How can integrate user feedback into your design so that you are making changes that are truly valuable?
- How have the biases you uncovered at the beginning of this process been addressed—have they? Why or why not?
- Have you provided an opportunity for your users to reflect on the changes made to the model(s) based on their feedback? If not, how can you do that?

## 9. Customer Journey Mapping

The Nielsen Norman Group has a comprehensive website that provides how-to information on the most popular types of user experience activities such as customer journey mapping (<https://www.nngroup.com/articles/journey-mapping-101/>). In addition, they provide an overview article of when to utilize what type of methodology such as directly engaging with users vs observing, collecting self-reported data <https://www.nngroup.com/articles/which-ux-research-methods/>.

One popular method is that of customer journey mapping which as we noted before is the external-facing version of the service blueprint <https://blog.practicalservicedesign.com/the-difference-between-a-journey-map-and-a-service-blueprint-31a6e24c4a6c>. Journey maps allow users to tell you what they are experiencing and feeling during each step of a particular service or activity. Customer journey maps are a great way to put yourself in your users' shoes so that you are seeing their challenges and successes with fresh eyes which will help you make improvements or test out a new offering. Here too, creating a flowchart of each stop along the journey will help you analyze the action with the corresponding experience. Customer journey maps typically involve the following steps <https://www.ngdata.com/how-to-create-a-customer-journey-map/>:

- Understanding your “typical” user persona so that you can extrapolate from a few to the overall population
- Timeline (is it a one-time event or does it occur across a longer time span?)
- Touchpoints are all of the things and people where the user is

interacting with a particular element or in this case, their data processes

- Asking open ended questions will help users fill in their own thoughts and feedback

This is the first step in the design thinking process where you are trying to understand your stakeholder's perspective. This is a much more direct method of collecting the actual experiences of researchers rather than hearing about them and it allows us to be able to structure future questions more meaningfully as opposed to asking something like what their challenges are. You will see that the design thinking document contains very specific questions which we were able to derive from the templates and which we might not have uncovered had we simply started with a focus-group like scenario first.

Broad questions to consider to assist with this section:

- How long does your data need to be preserved?
- What kind of descriptors are necessary for later retrieval of the data?
- How will you provide context for the stored data?
- Who will need to be able to access the data?
- How will you make the data accessible?
- Will your data be embargoed?



	Types of data files	Description of the data (naming convention, README, etc.)	Accessible backups	Preservation and/or archiving	Contacted library (Y/N)  If yes, please explain
Activities-actual steps taken					
Tools-software, hardware, processes					
Challenges and problems encountered					
Goals/ Expectations for this phase					



PART III

# MAKE IT HAPPEN



# 10. Project Management Overview

Strategic project management is the process of thinking about your organizational projects in light of their connection to your strategic plan. In other words, strategic project management is about forming clear links between your projects and strategic objectives. The premise of strategic project management is that ‘projects’ should actually work to achieve the goals and objectives outlined in your strategy. Strategic project management isn’t just about the process of project-managing big and important projects, it’s about designing and managing your entire suite of projects to so that it supports your strategy, by ensuring that:

- The mix of projects is appropriate and sufficient to deliver your strategic goals and objectives
- Your projects are appropriately resourced
- If timelines and resourcing have to be changed, projects are prioritized accordingly based on the strategic plan

We will examine the broad project management elements here, and as part of the weekly exercise, we will explore a specific project charter template you can use for projects as needed.

Getting started:

- Every active objective/goal/outcome needs at least one project – You may have future objectives that haven’t “started” yet, which is fine, but any “active” objective must have projects that will work towards completing the objective– otherwise

you're not actually working on it. Depending on how big your initiatives are, you may find you need to have sub-projects under projects to best represent how you intend to deliver the work

- The projects must deliver on the objectives – For each objective, you need to be able to indicate how you will know you have achieved the project's goals and to what extent
- The projects shouldn't "overlap" or be redundant – Look carefully at your project mix under each objective and across your strategy. Generally you should not be able to fully deliver on an objective without any one of its projects. You have to be prepared to remove or reduce scope on projects. Equally, make sure that you don't have projects within or between objectives that "overlap" in scope, essentially duplicating work
- Every project must have a clear link to one or more objectives – Even if it isn't directly linked to an objective, it has to clearly support what you're trying to achieve. If you can draw a clear line from your projects to the areas it will improve, that's an excellent indicator of alignment. Note that once in a while you might find that you have a project that clearly demonstrates strategic value, but doesn't align to a specific objective – that can be a sign that you need to revisit your objectives

Making sure your projects actually happen:

- Every project must be realistically resourced – Time, money, staffing: there are never enough to go around, and they are probably the most important element of actually delivering on a project. This means you must have:
  - Accurately estimated the project needs – Make sure every project that you're proposing has at least a high level time, cost, and staffing estimate
  - Budgeted for the project – Are there ongoing costs or one time costs or both?

- Every project must have an owner – Someone needs to coordinate the delivery of the project, they need to be responsible for getting it off the ground, and they need to have the authority to make all this work
- Stop operational projects getting into your strategic plan, and vice-versa – You want to keep your strategic plan focused. This means you need to avoid letting operational projects and activities creep in to the plan, as it will dilute your focus and impact the delivery of your strategic projects. Equally, you need to prevent projects that should be on the strategic plan, mapped to objectives, sliding into the operational plan and becoming invisible when you're tracking your progress

Keeping things moving forward:

- Govern your projects strategically – Every objective will have its own mix of projects, and then there is the mix of projects across the whole strategic plan (in bigger plans you will even be thinking in terms of the mix within different divisions, departments, etc.). Don't lose sight of the bigger picture – in the same way that the overall strategic management process emphasizes a governance process across the whole of strategy execution, the same applies to strategically managing your project mix
- Prioritize projects strategically across the whole organization – When the internal or external environment, available resources, strategic needs etc. change, you should to prioritize projects strategically across the whole plan, based on the objectives
- Allow the projects and objectives to inform each other – You must allow room for the realities of project implementation, and what you learn from doing the work, to be reflected in the higher level plan – even if it is just by keeping the objective timelines current and accurate. The more isolated your projects become from the rest of the plan, the less real your

plan becomes



## II. Creating A Memorandum Of Understanding

## 12. Project Logistics: Goals, Roles, And Resources

Communication strategies will change over time as the project evolves. Conflict will most likely arise earlier in the project as workflows, roles, etc. are being defined and negotiated so you will need to set time aside for frank conversations about how the team is functioning overall as much as about the work itself. Consider doing some teambuilding activities alongside the development in order to strengthen relationships and build trust. Consider each team member's ideas as valuable; establish team values and goals; determine what you want to achieve and how decisions will be made. This article outlines how teams can communicate effectively: [https://cdn.csu.edu.au/\\_\\_data/assets/pdf\\_file/0008/917018/Eight-Behaviors-for-Smarter-Teams-2.pdf](https://cdn.csu.edu.au/__data/assets/pdf_file/0008/917018/Eight-Behaviors-for-Smarter-Teams-2.pdf):

1. State views and ask genuine questions
2. Share all relevant information
3. Explain reasoning and intent
4. Use specific examples and agree on what important words mean
5. Focus on interests-identifying needs that can help solve a problem
6. Test assumptions and inferences
7. Jointly discuss next steps
8. Discuss the undiscussable issues

# 13. Project Logistics: Documentation And Infrastructure

# 14. Project Debrief And Reflection

PART IV

COMMUNICATE,  
COMMUNICATE,  
COMMUNICATE



# 15. Communication Plan Elements

Communication plan





PART V

# YOU CAN'T DO IT ALONE



# 16. Outreach Overview

There are two types of networks of influence you can consider: Cohesive where the people an individual or department is connected to are also connected to one another and bridging, where the people an individual or department is connected with are not connected to one another. In the former, information is shared amongst multiple channels, while in the latter new information and knowledge are accessed. The reason this is important is because the type of network can influence how you communicate and collaborate with stakeholders-both internal and external. Cohesive networks typically result in smaller changes while bridging networks in more drastic changes. Within each network, there are three types of people: endorser, who are positive about the project; resisters, who take a purely negative view; and fence-sitters, who see both potential benefits and drawbacks. This works both ways, in that internally, employees can fill these roles as well as externally, when employees interact with stakeholders who in and of themselves hold these roles. Knowing who is your endorser and who might need more convincing is important especially if the people who hold these roles are part of your project team or are instrumental in helping you such as a campus administrator whose support is crucial in getting faculty to participate

Outreach strategies

# 17. Developing Partnerships

1. How to connect with faculty/student assistants and working through their needs
  1. Collaboration: In which a group of researchers work together with shared decision making and multidirectional information exchange. This form of research intends to draw on the strengths of all parties in the collaboration
  2. Consultation: In which researchers seek assistance from an expert who advises on a limited basis and with unidirectional information exchange. Often the researchers recognize they lack expertise in an area of their project, and generally the consultation serves to develop their skills such that they can work with less assistance in the future
  3. Transaction: In which researchers offer payment, frequently monetary, to have a component of their research done for them over the course of a defined time frame and where services, as opposed to information, are exchanged. This form of multiparty research can be considered work for hire
2. How to work with other partners-i.e. office of research, grants, computing. You will want to think about what is the minimum coalition you need for success-not everyone will be on board, and that's ok! Knowing how many people you need to be interested in your initiative in order to succeed will help you focus on that group as opposed to convincing those who won't change their minds. If you realize that you don't have enough support, that might also come in handy as you think about alternatives.

# 18. Librarian As Lab Partner

1. Workflows: Sample workflows can be found here
  1. [https://github.com/temporalecologylab/labgit/blob/master/datacodemgmt/tempeco\\_DMP.pdf](https://github.com/temporalecologylab/labgit/blob/master/datacodemgmt/tempeco_DMP.pdf)
  2. <https://osulp.github.io/Data-Management-Templates-Project/>
  3. <https://osf.io/tzmhp/wiki/home/>
  4. The role of the library as partner with subject matter experts and students
    1. Point of need librarian expertise on specific questions or issues
    2. Librarian as mentor throughout the project
5. Establish the areas where workflows need to be identified and codified through something like process mapping. An example might be how the data for the project is organized in terms of file naming conventions. This should not change from file to file once the process has been identified and documented
6. What can be automated and how?
7. Planning for something to go wrong-how will participants be notified, what are checkpoints to get back on track, what problems need to be dealt with immediately vs later
8. Student training module
2. Sample lesson plans-there are examples that exist already from New England Collaborative Data Management Curriculum and University of Wisconsin at Milwaukee
  1. File naming conventions and version control
  2. Habits and best practices for capturing and recording data (this might need to be done by the faculty)
  3. Data storage options and practices-physical vs electronic copies



This is where you can add appendices or other back matter.