# A Data Dashboard Implementation Discussion and Planning Tool

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Introduction:

In this document we have drawn on our review of research on data dashboard (DDB) implementation (Young, Foster, & Peck, 2020), our ongoing field study of DDB implementation (Ellis, C. Young, Schmidt, M. Young, and Peck (in progress), and interviews with colleagues at USPREP and UPD to develop a tool that we hope will be useful for guiding discussions about DDB implementation planning. **The purpose of the tool is _not_ to quantify or render judgments about "readiness" of an institution to undertake this type of work.** We believe decisions about readiness are inextricably wound around the specifics of local context, including the depth and breath of local need and commitment; the number and intensity of competing priorities; the quality of collaborative relationships within and across organizations; and the fiscal, personal, and technical resources available to support the work. **Our intention is to pose questions that might prompt the kinds of internal and cross-organizational conversations that seem warranted based on prior research on the challenges of DDB implementation**.
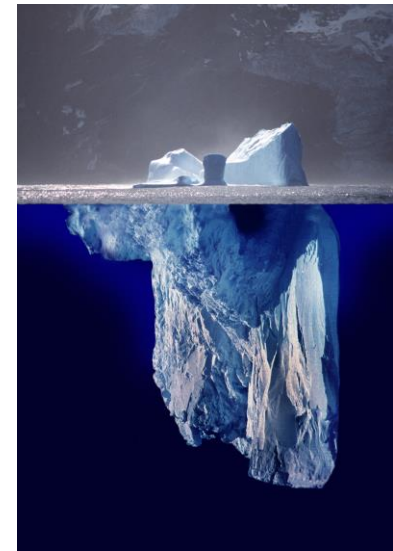
We have organized these discussion and planning questions using the *People-Tools-Organizations-Processes* (PTOP) framework we have found useful in prior work (Peck & Davis, 2019). An important feature of this framework is that it suggests a relatively holistic way of looking at the challenges of DDB implementation. This is important, as the most robust finding of our review of research on DDB implementation is that the conceptualization, planning, and resource allocations for the DDB development and implementation process are often consumed by exclusive focus on the technological dimensions of the work. While issues related to information technologies are obviously crucial to the success of DDB projects, the aspirations motivating the work have everything to do with making data dashboards and related information technology tools *useful and used*. This fact suggests the importance of engaging questions about the relationship between the

features of the tool itself; the priorities, beliefs, and needs of the people expected to use the dashboard, and the organizational conditions that afford and constrain their work.

Using the PTOP framework, we suggest four essential questions that should be posed for discussion during implementation planning:
1) What are the values, perceptions and needs of **people** involved in the DDB work, and how do these affect their engagement or nonengagement with opportunities to use the tool?
2) How do the features of the DDB **tool** affect how it is used, or not, for its intended purposes?
3) How do local **organizational** policies, work routines and practices affect the use/nonuse of the DDB?
4) How do implementation **processes** (particularly those related to leadership, collaboration and training) affect the extent to which the DDB becomes useful and used in the context of local work priorities and challenges?

These questions, of course, are highly related to one another. The outcomes of a DDB project depend on the assessment of local conditions related to people, tools and organizations and subsequent planning of implementation strategies that are responsive to those conditions.
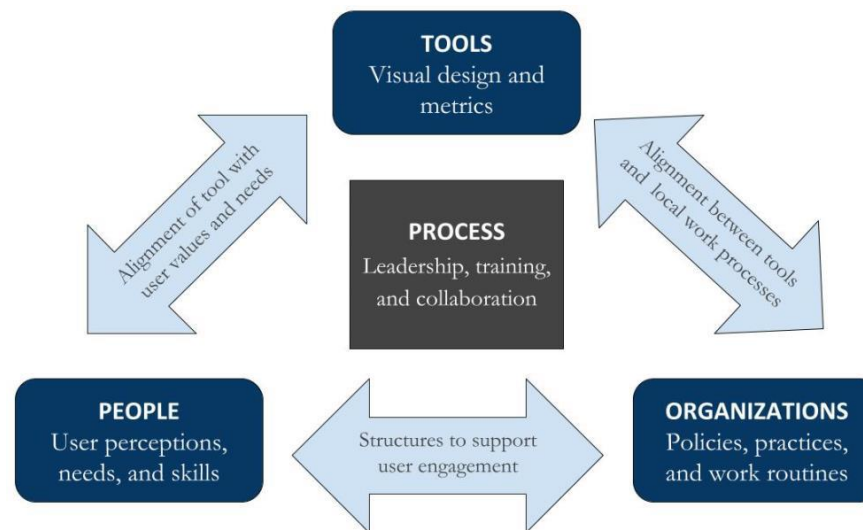

Figure 1. Connections Between People, Tools, and Organizations

People: What are the values, perceptions and needs of people involved in the DDB work, and how do these affect their engagement or nonengagement with opportunities to use the tool?

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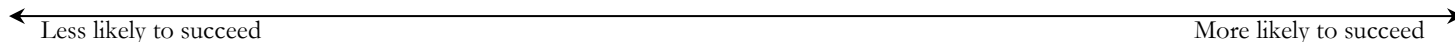
To what extent do the people expected to use the tool believe the DDB is a valuable resource for their work?		
While pockets of individual enthusiasm may exist, intended users (e.g. academic leaders, administrative staff, faculty) have not considered how the DDB will be used and/or may not even be aware of the project.	Shared vision exists in some parts of the organization (eg., the administration), but is not shared across internal groups and organizational boundaries (eg., across administration, faculty, staff, or between unit and central IT).	A concrete vision is shared by developers, end-users, and organizational leaders regarding how the DDB will be used to support the work of the organization.
To what extent are people's concerns about the DDB well understood and used as a resource for development and implementation planning?		
User concerns are not well understood and not differentiated across user groups.	The similarities and differences in concerns within and across user groups are well documented and understood at the beginning of the project	User concerns are regularly assessed and used strategically as a resource for development and implementation planning.
To what extent do the people expected to use the DDB have the data-related skills required to access and use the tool?		
The skills required to access and use the DDB are not clearly and publicly defined.	The skills required to use the DDB are well defined, but the status of faculty and staff knowledge and skill is not understood OR faculty and staff knowledge and skill is insufficient.	Faculty and staff have the skills required to use the DDB.

# Tools: How do the features of the DDB tool affect how it is used, or not, for its intended purposes?

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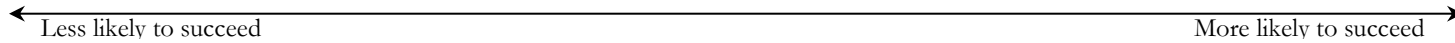
To what extent are the measures on the DDB useful for both local program improvement efforts and external reporting requirements?		
The measures on the DDB primarily represent accountability mandates of external agencies, and local program improvement priorities are not represented.	The measures on the DDB primarily represent local program needs and improvement priorities, but do not attend to external accountability mandates.	The DDB is designed so that measures used are responsive to both program improvement priorities and external accountability mandates.
To what extent does the DDB satisfactorily manage the tension between changing local needs and interoperability across programs and institutions?		
The relationships and tensions between the needs of the local organization and the system requirements for interoperability across programs and institutions are not well defined or understood.	The relationships and tensions between the needs of the local organization and the system requirements for interoperability are well defined and resolved satisfactorily at this point in time.	The relationships and tensions between the needs of the local organization and the system requirements for interoperability are well defined and managed satisfactorily and there is a plan for reviewing these and making needed adjustments over time.
To what extent are the technical requirements of the DDB aligned with the status of local data sources and systems?		
The technical requirements to create and sustain the DDB are not defined. Experts in local systems and data sources are unsure if requirements can be met with existing systems and resources.	The technical requirements to create and sustain the DDB are sufficiently defined. Experts in local systems and data sources are hopeful requirements can be met with existing systems and resources.	The technical requirements to create and sustain the DDB are well-defined. Experts in local systems and data sources have verified that requirements can easily be met with existing systems and resources.

Organizations: How do local organizational policies, work routines and practices affect the use/nonuse of the DDB?
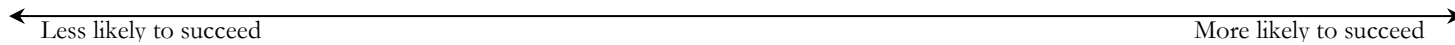
To what extent are program policies, work routines, and resources for using data well defined and supported?		
There's a sense across organizational units that data use is important, but the resources and routines of practice aren't in place to support that work.	Policies, routines, and resources for using data are well established in some programs or groups, but not in all organizational units expected to make use of the DDB.	Organizational policies and practices are clearly defined and consistent routines are in place to support making sense of data and using it for program improvement in all programs.

To what extent are each of the units within the organization that need to be involved in the development, implementation, and maintenance of the DDB committed to the work?		
There is little or no awareness or commitment from more than one of the following groups: Central IT, College faculty, College IT, College leadership, University leadership.	There is awareness and commitment from individuals within most key groups, but key players in each group are not committed OR there is strong commitment from several of the groups, but other groups are opposed or uninvolved.	There is strong and well informed commitment to the DDB development and implementation work across all key groups. Data governance agreements are in place.

To what extent are resources allocated to support needed changes to the DDB over time?		
There is no planned and budgeted support for ongoing maintenance and modification of the DDB over time.	There are plans to financially support ongoing work on the tools, but no plans to support user engagement and participation in revising the tool as needs evolve.	There is a comprehensive plan, with accompanying technical and human resources to support maintaining and modifying the DDB over time as technology, policy requirements and user needs evolve.

Processes: How do implementation processes (particularly those related to leadership, collaboration and training) affect the extent to which the DDB becomes useful and used in the context of local work priorities and challenges?

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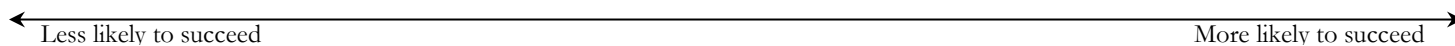
To what extent is there a shared leadership strategy and plan related to DDB development and implementation?		
DDB work is led by one or a few individuals within the College of Education as part of their regular work load.	DDB Leadership responsibility is vested in a team, with some release from other workload responsibilities and consultation from stakeholders across organizational units.	There is a clearly defined team leadership plan for the DDB work, with representation from key stakeholder groups, including college and central administration leaders, IT staff and faculty who have specific FTE allocated to the project.
To what extent is there a specific plan for communication and collaboration across individuals and units participating in the DDB work?		
There is no specific plan to support communication and collaboration across "silos" of practice involved in the DDB work.	Regular meetings are scheduled for project participants, but no special communication planning and related supports for collaboration are developed.	There is a specific communication and collaboration plan for the project, which includes well defined communication processes, clear goals and timelines and a specific plan for project management.
What professional development/training is planned to support the DDB work?		
Training is provided in occasional sessions where the affordances of the DDB are demonstrated, and users participate in simulated data use activities.	DDB-related training is provided on a regular basis, and designed to support typical data use activities	Training and professional development opportunities are routinely provided over time and embedded in regularly occurring program data use activities.

References

Peck, C. & Davis, S. (2019) Building capacity and commitment for data use in teacher education programs.   In E. Mandinach & E. Gummer (Eds.) *Data for Continuous Programmatic Improvement: Steps Colleges of Education Must Take to Become a Data Culture*. New York: Routledge.

Young, M., Foster, J., & Peck, C. (2020) Data dashboard implementation: A review of the research literature.   *University-School Partnership for Renewal in Educator Preparation*, Lubbock, TX