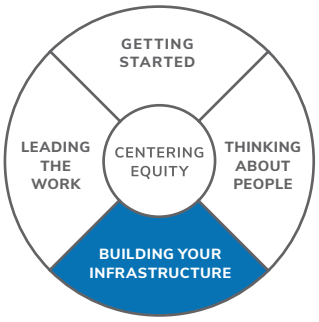
BUILDING YOUR INFRASTRUCTURE



Successful SSTs rely heavily on a robust data and technology infrastructure to help them coordinate and execute their collective efforts. Infrastructure needs vary depending on the level of team coordination and student outreach needed by the SST. Regardless of SST type, this infrastructure requires **substantial time and attention** during design and implementation to make sure underlying systems work in the ways needed by team members.

Most of the colleges in our study were befuddled by inaccurate student data, overwhelmed with the number and cost of tech products, or frustrated by how seemingly-smart technology couldn't manage to communicate across products, functions, or departments. They also found that they needed to understand who on their team needed access to which data points and why, in order to avoid information overload. Without appropriate data quality controls, resources, or tech expertise, colleges didn't have the right data to provide personalized and proactive support to their cohorts.

Importantly, as one of our interviewees noted, "data and technology are used to describe so many different things and the challenges are vast." Our conversations with colleges highlighted the need for clarity on the difference between the two in the context of SSTs, so colleges could more effectively problem solve as issues arise. Our working description of data and technology can be found in the sidebars on the following pages.

Given the overwhelming number of products, schools would be well served to proactively identify what they need and want to be able to do via a tech platform during the design process, so they have a means of assessing how well a given platform meets their needs.

For more information, see Ada Center. (2020). *Advising and technology procurement & planning: A practical playbook for higher education leaders.*

Building a Foundation with Data

The foundation of all SSTs is a strong data infrastructure, which enables SST members to better understand their students, what they need, and what impact SST interventions have. Bringing student data to the forefront allowed colleges in our study to look at which students they were losing (via disaggregated data) and where the biggest pressure points were in the system (via enrollment and achievement data). They could then identify targeted interventions or outreach to address the barriers to student equity and success that they were seeing.

DATA

- **Provides SSTs with the information to better understand their students, what they need, and what impact SST interventions have**
- **Includes student-level information (e.g., contact, demographic, enrollment, major, achievement) allowing for identification of individual student needs**
- **Includes special population and/or cohort coding to identify and explore student group needs**
- **Incorporates both quantitative (e.g., success metrics) and qualitative (e.g., survey, focus group) measures**

SSTs rely on accurate data to establish student cohorts and provide targeted support. The colleges in our study identified two main areas of need related to student data

DATA ACCURACY. SSTs rely most heavily on student contact information and student enrollment information, in order to identify who is in their cohort. But these data elements are often subject to change in any given year. One college leader spoke of standing outside classrooms to get updated student contact information; and another college leader shared examples of students coded in one SST's major but enrolled in courses following the path of another SST's major. Of note, SST assignments often must be manually entered into student outreach products such as the Learning Management System, since SST data is not typically stored in the Student Information System. Building out systems and workflows to collect these data and ensure their accuracy is a critical task that needs to be addressed as early as the design phase.

CLEAR DATA DEFINITIONS. Using data to assign students to SSTs requires definitional clarity and decision rules related to a myriad of situations. For example, one college raised the issue of the addressing different major codes in previous catalog years, while another addressed the complexity of determining which majors are considered career tech education. More broadly, colleges wrestled with how to define and measure "student success," especially in the context of weighing the success of SSTs. This was true even with traditional metrics, such as persistence and graduation, as colleges weighed which milestones (semesterly, annually, 3-year, 6-year) to monitor and who to use as their comparison groups.

Because of the interconnected nature of data and technology, strategies for addressing these issues rely heavily on collaborations with IT and IR — which we address in a subsequent section on bridging systems and people.

Putting Data into Action with Technology

For student-facing teams, technology products (e.g., Learning Management Systems, early alert, and student success products) are often leveraged to manage large amounts of data and serve large cohorts of students more efficiently. We saw colleges using tech products for four main purposes:

1. Centralizing data so that SST members can interact with data from different sources, departments, or functions in a streamlined manner
2. Coordinating efforts between and among SST members
3. Communicating with students for targeted outreach
4. Monitoring student progress and/or case managing

Though all these functions could be done manually through low-cost tools like email or homegrown logs, the college-wide reach of SSTs makes technology products a valuable albeit expensive structural support. Technology products can both increase efficiency across large and complex data systems and ensure that all SSTs are collecting and engaging with their data consistently while enabling college-wide outcomes assessment.

Even when colleges found tech products to meet their needs, roll-out and utilization were heavy lifts requiring significant lead time to work out kinks in the system and provide professional learning opportunities. The colleges in our study also struggled with paying for the tools they would like or — after a trial period of "discounted" pricing — sustaining a product that had become unaffordable. Beyond the cost of the products themselves, they also found it challenging to secure the personnel needed to prepare, maintain, and monitor quality of new technologies. One interviewee summarized the challenge as finding products that meet "the robust nature of the work on a budget."

Strategies colleges used to create sustainable technology systems included:

Leveraging the Tools They Had (or Could Afford) Rather Than the Tools They Wanted. This included relying on internal IT knowledge to build homegrown case management systems to track student progress and outreach at Eastern PA Medium-Large CC and Central NY Small CC; using the Learning Management System (e.g., Canvas) to create shells for each SST to coordinate their efforts and communicate with students for targeted outreach at Northern CA Large CC and Southern CA Medium-Large CC9, and purchasing a Customer Relationship Management product which connects to phone, text, and email to show student contact history at Northern CA Medium-Large CC.

TECHNOLOGY

- **Allows SSTs to interact with the data from different sources, departments, or functions in a streamlined manner and act on what they learn, ideally in a user-friendly virtual environment**
- **Makes data accessible to individual SST members (e.g., SIS — Banner)**
- **Enables SSTs to manipulate and visualize data in a user-friendly way (e.g., Tableau)**
- **Allows SST members to coordinate with each other and other institutional partners, and leverages data to conduct student outreach, monitor student progress, and/or case manage (e.g., Starfish)**

Leveraging a Portion of Existing Personnel's Time to Assist with Set-Up and Maintenance. This included having the SST campus leads document the process for other teams to follow at Central CA Medium CC and bringing on a graduate intern to assist with the quality control process at Southern CA Medium-Large CC9.

Bridging Systems and People

Bridging both systems and people subsequently becomes a critical consideration at all stages of the design and implementation planning process, and must be an area of focus for refinement during launch and continuous improvement. Implementation teams found themselves trying to figure out how to work within the context of college and district guardrails on timelines, products, and viable options. They also struggled with how to get technology personnel and vendors to understand end-user needs well enough to identify appropriate products and data requirements. The colleges in our study addressed this issue with the following strategies:

As one of our interviewees said, "If you don't have your structure (roles, responsibilities, workflows) in place, technology will only reinforce your silos."

Collaborating With IT, IR, and Your District Office (Where Applicable) from the Very Beginning to determine what systems they currently had, how they could meet the needs of SSTs, and who was responsible for the infrastructure. Colleges who found greater success noted the value of meeting regularly (even post-launch!). These meetings were most effective when they included staff who were going to use the system so they could provide feedback as it was being vetted or built out. SST leads from Southern CA Medium-Large CC learned from their Dean of IR that many of the tasks they wanted SSTs to do weekly could be automated through existing systems, thereby saving time; Central CA Medium CC met with district IT staff and other district colleges to identify needs, troubleshoot, and improve. Meanwhile, CA Medium-Large CC shared the value of piloting new tech products before expanding its usage to identify and work through challenges.

Creating a "Translational Culture" to Connect Tech Experts and Front-Line Users. SST members don't necessarily understand tech systems, and tech folks don't necessarily understand front-end processes. While many colleges relied on "stop-gap" strategies (e.g., leveraging untapped expertise, hiring temporary staff), institutions with more structural strategies experienced greater success. CA Medium-Large CC carved out part of a manager's position to oversee student services technology, such that any time a program or office wants to add a tech tool or product, the manager looks into several products, narrows it down for a group of stakeholders, and works closely with IT to make sure the systems selected meet end-user needs while also fitting into the overall IT infrastructure.