Integrated Cluster IT Requirements – Initial Draft

The PSU model is designed around seven Integrated Clusters which deliver value to external stakeholders and partners, internal Faculty and Staff, and especially our student participants, through experiential real-world learning activities. As this is a new approach to organizing and operating the Academy, there is still significant uncertainty in the processes to be created and employed. At this juncture, it is clear that existing IT support tools and capabilities are not sufficient to enable the IC model to function effectively and efficiently.

The intent of this document is to begin the process of outlining the requirements needed to execute the IC model design. While there are likely to be many constraints in the implementation, core functionality is necessary to anticipate an operation scaled to meet the needs of all faculty, staff, and incoming and returning students in the Fall of 2017.

A base assumption is that many of the existing IT systems and tools will remain intact for the core functions that will remain substantially unchanged. The integration of new capabilities to enable the IC model will then require integration into the IT architecture. A longer term transition to an IC-centric IT operations and support model may be required but is beyond the scope of this paper.

A core requirement of IT systems and tools is that they must be “self-serve” to meet the demands placed by a full scale model implementation. This will require standardized templates that can be easily customized to meet an evolving set of requirements. Ideally, the information required by this model will be tagged and available in a fashion to be accessed for standard reports, analytic dashboards, and custom analysis on an ad-hoc query basis. Data access will be required by students, faculty, administrative staff, and students, with each user category having differing requirements and constraints on access to data.

As ICs are a core operating unit of the new model, it is envisioned that an IT “platform” will be created to enable IC operations. While some cluster-specific data can be retained within the platform, linkages to other PSU data will be required to run reports and conduct analyses. Within the IC operations, there is a need for specific data structures for people, processes, projects, activities, and events. In addition, there is a need to document archival and retrieval with a simplified key word access capability.

Access to data beyond specific cluster operations will require interaction and integration with other IT systems within PSU. Data must be kept once (single source of truth) and accessed and analyzed as required. Examples of data sets requiring IC access would include: course and project assessments; course curricula; personnel information (non-restricted); accounting data; asset data; intellectual property data; external constituent/ partner information; MOU/MOAs; alumni information; academic program data; student group data; other information (to be defined).

The IC model is a dynamic organization construct. Faculty and Staff can join or leave a specific IC during the course of the year. In the Fall of 2017, incoming students will be aligned to a specific IC; they too can change their affiliation or align with multiple clusters. Selected information on each classification needs to be captured and maintained. Individuals need to be able to access this information and update it via an IT tool. Queries against this data must be designed for ease of use by personnel with limited IT skills.
ICs will conduct a variety of activities and events throughout the FY. Whether done individually, collectively across clusters or with other PSU organizations, an IT tool is required to plan, advertise (through other systems) and document the content and results of activities and events.

Processes will be required to facilitate the work of the ICs individually and collectively. Tools which capture the process steps, move the work automatically forward, and report on progress and outcomes are required. An example is the Project Proposal Funding Process and associated process governance.

The newest element of the IC Academy model is the inter-disciplinary projects sponsored within and across ICs. These will take on a variety of forms (simple vs. complex; funded vs. non-funded; single IC vs. multiple ICs; etc.). Projects will require participation from faculty, staff, students, and external constituents/ partners. Each project will have its unique characteristics.

Common data elements will exist across projects, but different types will demand customization. An effective IT tool will provide a customizable input/read capability while also allowing for data analysis of the project population. Simple project management tools are required to facilitate non-expert data input and status reporting. Linkages to other data sources, such as the accounting system, will be required on a project specific basis.

Enabling the project management process demands IT capability not currently available within PSU. It will need a self-serve process which advertises the type and quantity of resources needed, identifies potential matches, and includes a “reservation” capability. For the Fall of 2017, it is expected this IT system will be used for internal PSU resources, but the design needs to anticipate that an external (non-PSU) capability will be enabled in the future.

A few examples of use cases for IC Project enablement are offered below.

- A faculty member needs 3 faculty or staff with specific skills or interests to participate on a new project. How is the new project advertised? How do potential applicants note their interest? How is the final selection communicated and documented?
- A student wants to see what IC projects are available to him/her. How can the search be done easily with specific parameters (location, academic preferences, service vs. internship, etc.)? What is the limit on the number of students that can be engaged and how many of those opportunities have been taken/ reserved? Where can additional information be obtained beyond an abstract?
- A company executive wants to sponsor a project with a PSU cluster. How is this opportunity captured? What is the means of advertising the opportunity? How do ICs express interest? If multiple ICs wish to pursue this (controlled by the PSU CBCP) how is the status defined and displayed from initial contact to project confirmation?

Communications is a key element of the IT requirements. The ability to updated status and collaboration on projects, activities, events, and issues is essential and requires some standard and also customizable discussion groups. Standard communications vehicles (i.e. status reports and Deans’ updates) need to be provided to specific groupings on a periodic basis. These also need to be archived for easy access and analysis for a variety of reports required by the University. In addition to static presentation of material such as websites, the archives need to be queried for topics of interest, again by individuals with limited IT skills. Calendaring is a key requirement as well, where different data, specific to each user, is integrated into a PSU calendaring system that serves the needs of individuals, project teams, ICs and other groupings of individuals.
PSU needs a data depository or clearinghouse for faculty, staff and students to upload project updates and successes along with photos and attachments that could be repurposed for PSU internal and external communications. This central data information source will also allow people to query the system to determine what is happening across campus and how they (or others) might get involved. This data clearinghouse will also enable access to information quickly so success measurements can be assessed against PSU goals.

The ability to look across PSU at partner organizations or alumni and find out what other activities, people and projects are working with the organization or person is key. This will help facilitate communication across PSU and hopefully lessen confusion in conversations with alumni and partners so PSU employees are more aware of existing relationships and how utilized a person/organization might already be. There is also a need to be able to look at partner/alumni skill sets to see what talent exists externally that could be employed in ICs, projects or classroom activities. A type of classified ads mechanism was discussed as a possibility.