Implementation Team Report
Cover Sheet

Implementation Team: Information Technology Systems Design
Which Charting the Future Report Recommendation(s) did your team address? IT Systems Design was not specifically included in the Charting the Future Report Recommendations, but every aspect of Charting the Future will leverage information technology at some level for effective use of resources and efficient delivery of services. The IT Systems Design team established the following charge to address the system-wide challenges and provide strategic insight and tactical recommendations to facilitate the needed organizational changes: Stakeholders expect leadership, consultation, innovation, efficiency, and effectiveness in the delivery of services supporting the system mission. The IT System Design Team has taken on the charge of examining IT governance, technology trends, partnerships, service delivery, policy, and processes at a high level to prepare MnSCU for a sustainable future. The team will seek opportunities to redesign organizational processes, remove barriers, and leverage information technology to enhance services.
Recommended Initiatives
1) Establish common principles to guide the adoption of organizational processes.
2) Formalize Organizational Process Management (OPM) to support MnSCU's long-term success.
3) Improve existing organizational processes to increase efficiency and provide better experiences for students, faculty, and staff.
4) Replace or re-engineer ISRS (Integrated Statewide Record System).
5) Align student and employee identification practices across MnSCU.

Initiative #1: Establish common principles to guide the adoption of organizational processes.

What is the Current State?

Decision making about organizational processes across MnSCU is based on varied principles that are sometimes at odds with one another. This leads to inconsistency and an inability to achieve shared goals.

What is the Desired Future State?

A shared set of principles is used system-wide for the adoption of organizational processes, resulting in a coherent, focused enterprise. Suggested principles include:

• Accountability: A functioning governance structure that sets and enforces policies and procedures.

• Balance: Recognizes balance among student experience, customization, and commonalities, with greater emphasis on student experience.

• Sustainability: All initiatives are designed with continuity of operations in mind, with processes designed to adapt as necessary.

• Innovation: New ideas, approaches, and technologies are incorporated as needed to maintain evolving and engaging student learning environments.

These principles will provide foundational structure to support the success of the strategic framework.

Risk analysis

- Failure to establish common principles will continue MnSCU's inability to coordinate decision-making across the system.
- This will not only make MnSCU less competitive in the educational sector, but it will jeopardize **_all_** other initiatives.

Type of Initiative (check all that apply):	Suggested Timeframe for Completion:	Ease of Implementation
X Institution X Inter-institutional X System-wide	_ Early Win (< 6 months) X Medium Term (6-18 months) _ Long Term (> 18 months)	_ Easy peasy X Moderate _ Difficult *Consider elements such as consultation, policy changes, resource commitment, and general feasibility.*

Action Steps:

1. Leadership establishes a charter/charge to a Guiding Principles Team.
2. Identify resources to develop the guiding principles.
3. Guiding Principles Team drafts principles and implementation process for feedback.
4. Implement guiding principles for organizational processes across the MnSCU system.

Policy barriers, interdependencies, or other concerns:	1) Lack of project and portfolio management office. Establish a project and portfolio management	2) Inertia/existing cultures within the system office and on campuses.	3) Lack of consistent training across the enterprise. Provide MnSCU-wide training

	office to provide follow-through on initiatives.	Use change management techniques and communication to create trust and buy-in.	related to principles and organizational processes.
Resources:	1) Courage and commitment to change.	2) Budget for resources to implement changes.	3) Time from Guiding Principles Team participants, and technological resources.

Supporting Documentation

Research and References

Booz, Allen, Hamilton (2004), "Ten Guiding Principles of Change Management,"
http://www.boozallen.com/media/file/138137.pdf

Neilson, Estupiñán, Sethi (2015), "10 Principles of Organization Design,"
http://www.strategy-business.com/article/00318?gko=c7329

Best Practices:

- Project and portfolio management
- Organizational governance structure for decision making

Gallery Walk Feedback

Gallery Walk feedback included the following suggested principles be used commonly across the MnSCU system:

- Cost effective/Affordable/Efficient.
- Consistency/Reliability/Dependability.
- Openness/Flexibility/Adaptability.
- Respectful Interactions/Collaboration.
- Inclusiveness/Equity/Fairness.
- Ethical/honesty/Integrity.
- Communication/Transparency/Responsiveness.
- Student-focused.

Initiative #2: Formalize Organizational Process Management (OPM) to support MnSCU's long-term success.

What is the Current State?

Organizational Process Management (OPM) is a systematic approach to making organizational workflows more effective and efficient. OPM across the MnSCU system is immature. There are a variety of approaches to core organizational processes across campuses which are hurdles to student, faculty, and staff success.

What is the Desired Future State?

Create a formal, collaborative, managed, and responsive OPM framework consistent with best practices in higher education. This will include:

• Identify and inventory organizational processes, procedures, policies, and associated costs.

• Establish an enterprise-wide methodology of Organizational Process Management.

• Develop trust by involving all colleges and universities across MnSCU to identify common organizational practices, high-level requirements, and solutions for implementation.

• Establish consistent organizational practices and reward participation.

The OPM framework will provide foundational support for the success of the strategic framework.

Risk analysis

- It is expensive to maintain current organizational processes.
- Lack of flexibility hampers adaptation of new organizational processes and new technologies.
- Without OPM, individuals are forced to rely on work-arounds to try to address the issues that arise.
- Inefficient processes damage the organization and prevent it from responding to needs of stakeholders.

Type of Initiative (check all that apply): X Institution X Inter-institutional X System-wide	Suggested Timeframe for Completion: X Early Win (< 6 months) [pilot] _ Medium Term (6-18 months) X Long Term (> 18 months) X *And on-going*	Ease of Implementation X Easy **[pilot]** _ Moderate X Difficult *Consider elements such as consultation, policy changes, resource commitment, and general feasibility.*

Action Steps:

1. Establish a team to create an enterprise-wide methodology of Organizational Process Management.
2. Engage all colleges and universities across MnSCU in identifying and inventorying all organizational processes, procedures, policies, and associated costs.
3. Using best practices, redesign and optimize common processes.
4. Adopt and implement consistent organizational practices across MnSCU, rewarding participation.

Policy barriers, interdependencies, or other concerns:	*1)* Inertia/existing cultures within the system office and on campuses. Through Leadership	*2)* Lack of buy-in from Leadership Council. Establish a functioning	*3)* Analysis paralysis. Determine priorities and establish

	Council, establish new expectations to create a supportive organization-wide culture.	governance structure.	deadlines for deliverables.
Resources:	1) Determination to follow through with OPM implementation across MnSCU.	2) Budget for training personnel in OPM techniques.	3) Time from team participants.

Other Suggestions:
- Establish a steering committee to oversee enterprise-wide OPM
- Use change management techniques and communication to create trust and buy-in. Start by selecting a single common process to implement across the system.
- Use audit processes to ensure consistent practices.

Supporting Documentation

Research and References

Ahmad, et al. (2007), "Business process reengineering: critical success factors in higher education," Business Process Management Journal, Vol. 13 No. 3, pp. 451-469. https://connect.mnscu.edu/sites/ctf/Documents/Business%20Process%20reengineering.pdf

Murray, et al. (1997), "Business process re-engineering/information system development to improve customer service quality," Business Process Management Journal, Vol. 3 No. 1, pp. 9-16. https://connect.mnscu.edu/sites/ctf/Documents/Murray%201997%20Business%20process%20reengineering.pdf

Best Practices:

- Project and portfolio management
- Business/organizational requirements
- Governance process
- Communication

Gallery Walk Feedback

Themes identified:

- Financial incentives
- Mandate/penalties for non-compliance/hold presidents accountable
- No incentives are needed if you explain OPM to people. The ones that get it will want to participate.
- Engage workers/training/coaching

- Prestige/awards/recognition/celebrations/pizza/cookies/candy/kittens

Initiative #3: Improve existing organizational processes to increase efficiency and provide better experiences for students, faculty, and staff.

What is the Current State?   Many current organizational processes are inefficient, inconsistent between campuses, and complicated. Examples include: • Finding basic information on college/university websites.   • Student directory data and processes related to student registration and transfers.   • Hiring and other human resources processes.   • Purchasing and contract administration.   • Lack of data management practices.
What is the Desired Future State?   Effective and efficient processes for students, faculty, and staff. These may include: • Automated contract administration and purchasing.   • Streamlined and consistent hiring processes across all MnSCU colleges and universities.   • Implemented best practices for continuous process improvement.   • Campus autonomy balanced with standardization and alignment of policies, procedures, and practices.   • Seamless student registration and transfers.   • An official course management system is used across MnSCU.   • Current, consistent, and responsive institutional data collection practices.   Aligning and redesigning the core common processes will increase efficiencies, reduce duplication of work and improve student experience, supporting the success of the strategic framework.
Risk analysis   • Failure to improve existing organizational processes will continue the existing inefficient, inconsistent state.   • Current inconsistent practices are costly to sustain, which affect MnSCU's ability to attract and retain new students and new employees.   • The existing state frustrates users, which affects the morale of students, faculty and staff, resulting in poor performance.

Type of Initiative (check all that apply): X Institution X Inter-institutional X System-wide	**Suggested Timeframe for Completion:** X Early Win (< 6 months) _ Medium Term (6-18 months) X Long Term (> 18 months) X *And on-going*	**Ease of Implementation** _ Easy X Moderate _ Difficult *Consider elements such as consultation, policy changes, resource commitment, and general feasibility.*

Action Steps: 1. Embrace e-procurement for contract administration and purchasing (early win). 2. Streamline and standardize hiring processes across MnSCU. 3. Standardize institutional data practices.			
Policy barriers, interdependencies, or other concerns:	*1)* Insufficient number of trained personnel who understand OPM.	*2)* Reaching consensus.	*3)* Lack of incentives for

	Consider outsourcing redesign of manual organizational processes.	• Identify common core organizational practices • establish clear goals & objectives • prioritize and implement • iterate as needed	cooperation and collaboration. Establish a mechanism for rewarding innovation and enhancing the student experience.
Resources:	1) Time from team participants.	2) Budget for training and consultants.	3) Leadership support.

Supporting Documentation

Research and References

Thayer, Lowendahl (2014), "Predicts 2015: Technology Transforms Education Administration," Gartner, Inc., G00270605. https://connect.mnscu.edu/sites/ctf/Documents/Predicts%202015_%20Technology%20Transforms%20Education%20Administration.pdf

de Jong, et al. (2013), "The Eight Essentials of Innovation Performance," McKinsey & Company. https://connect.mnscu.edu/sites/ctf/Documents/The%20Eight%20Essentials%20of%20Innovation%20Performance%2012-2013.pdf

Best Practices:

- Organizational analysis
- Project and portfolio management
- IT security

Gallery Walk Feedback

Themes identified:

- Some CRM tools are in use; identify, then streamline and automate manual processes
- Eliminate inconsistencies with processes, people not following policies and procedures
- Be responsive to user needs
- Focus on cost savings and efficiency
- Provide sufficient IT support for organizational processes
- Current processes make it difficult to get needed information
- Provide sufficient training on system upgrades and new installations
- Knowledge needs to be shared across the system

Other :

- Enforcement of policies and procedures
- Training of employees about policies and procedures and IT security
- Leverage technology to detect, prevent and respond to IT security vulnerabilities

Initiative #4: Replace or re-engineer ISRS (Integrated Statewide Record System)

What is the Current State?
ISRS is a home-grown student information system (SIS) and enterprise resource planning tool (ERP) created by MnSCU. This 20-year-old system is built on aging and outdated software tools. It is highly complex, expensive to maintain, and hampers MnSCU's ability to keep up with current education and technology trends. It was not designed to be a decision support tool, nor does it provide the kind of robust analytics needed for proactive management in a competitive and rapidly evolving educational environment. This system is fragile, vulnerable, and unsustainable in its current state.
What is the Desired Future State?
ISRS is replaced or re-engineered to be responsive to the needs of students, faculty, and staff. This provides the opportunity to reassess the MnSCU system's underlying business architecture and infrastructure to implement a scalable, secure, and stable system capable of meeting current and future business and technology needs.
A new ERP system positions MnSCU to respond to a changing technological environment which better meets the needs of the students. The new ERP system will be robust, with high reliability, scalability, availability, mobility, security, capacity, usability and performance to support the strategic framework.

Risk analysis
• This system is fragile, vulnerable, and unsustainable in its current state.
• The status quo is extremely risky due to outdated backend technology. By not getting to a modern code-base, we are at risk of not being able to maintain ISRS.
• The risks for future emergencies will grow exponentially and will be costly.
• MnSCU will fall farther behind and will not be responsive to the needs of the students and employees.

Type of Initiative (check all that apply): _ Institution _ Inter-institutional X System-wide	Suggested Timeframe for Completion: _ Early Win (< 6 months) _ Medium Term (6-18 months) X Long Term (> 18 months)	Ease of Implementation _ Easy _ Moderate X Difficult *Consider elements such as consultation, policy changes, resource commitment, and general feasibility.*

Action Steps:
1. Create a roadmap for the business case to upgrade/replace ISRS in FY18/19.
2. Assess the MnSCU system's underlying organizational architecture and infrastructure.
3. Secure legislative funding for replacement.
4. Identify and standardize core organizational processes.
5. Initiate the sourcing process (RFP)
6. Implement the funded solution.

Policy barriers, interdependencies, or other concerns:	1) Budget. Establish the business case to the legislature to secure funding.	2) Competing priorities of lesser complexity. BOT, Chancellor,	3) Fear of change. Effective communication of the urgency,

		and Leadership Council ensure this is a priority.	identifying the risks of the status quo.
Resources:	1) Funding for the selected solution and implementation (~$100 million).	2) Additional personnel for implementation.	3) Time and commitment from campus-based subject matter experts.
Other Suggestions: Create a taskforce to identify a small number of key existing organizational processes that could be transformed today in order to reduce their reliance on custom ERP structures and transform them to be more easily adapted to a new system.			

Supporting Documentation

Research and References

Swartz and Orgill (2001), "Higher Education ERP: Lessons Learned," Educause Quarterly, No. 2, pp. 20-27.
https://net.educause.edu/ir/library/pdf/eqm0121.pdf

Zornada and Velkavrh (2005), "Implementing ERP Systems in Higher Education Institutions," 27th Int. Conf. Information Technology Interfaces, June 20-23.
http://www.uprm.edu/cti/docs/patsi/DeploymentStudy/01491143.pdf

Best Practices:

- Project and portfolio management
- Organizational process architecture
- Common core organizational practices, procedures, policies.
- Organizational process requirements.
- Before ERP RFP process is initiated, MnSCU has to act as a system:
    - Data Management
    - Integrations management
    - IT security
    - On-going training
    - ERP Operations management

Gallery Walk Feedback

Themes identified:

- Consider a phased implementation approach to replacing ISRS
- Implement project management best practices
- Must have extensive documentation and training
- Replacement must be much more user-friendly and accessible
- Should facilitate access to needed information

- When replacing or upgrading ISRS, build a consistent, reliable, secure, scalable, up-to-date, modern system to meet current and future needs
- Ease of use must be a priority for all categories of users
- System used should be device agnostic, and work with mobile/future technologies
- CRM should be part of the ERP system
- ERP must integrate with other systems

Initiative #5: Align student and employee identification practices across MnSCU.

What is the Current State?

Many different forms of physical and electronic identification exist across MnSCU. Practices also vary based on a user's history and enrollment. This creates barriers to sharing services and makes gathering data about student usage, student success, or resource allocation difficult.

What is the Desired Future State?

Students and employees work and move across the system without barriers. The use of common identity and identification practices allows for enhanced communication. This includes:

• A common physical ID card and identifier is used across all campuses.

• StarID rollout is complete and users have one credential for login.

• A single email location linked via aliases is used for the duration of their relationship with MnSCU. Reducing the complexities in student identification and access to system resources supports the strategic framework.

Risk analysis

- Failure to address the current state will perpetuate existing barriers, hampering efforts to improve services for students.
- It is costly to the system.
- It frustrates students and employees.
- Reduces morale, which degrades the student experience.

Type of Initiative (check all that apply): X Institution X Inter-institutional X System-wide	Suggested Timeframe for Completion: X Early Win (< 6 months) X Medium Term (6-18 months) _ Long Term (> 18 months)	Ease of Implementation _ Easy X Moderate _ Difficult *Consider elements such as consultation, policy changes, resource commitment, and general feasibility.*

Action Steps:

1. System office should engage in contract for EduRoam.
2. Complete StarID rollout at the two remaining institutions.
3. Assess and establish core organizational process requirements for identification practices.
4. Create a single email solution for all users within MnSCU through adoption of Office 365 single tenancy.
5. Create a common physical ID card and identifier to use across all campuses

Policy barriers, interdependencies, or other concerns:	1) Agreement on the need for change and implementation of consistent practices. Build consensus on the importance of streamlining current complex processes by	2) Lack of incentives for cooperation and collaboration. Establish a mechanism for rewarding innovation and	3) Budget. Request special funding to address conversion to a single ID system.

		identifying the costs of inefficiencies.	enhancing the student experience.	
Resources:		1) Budget.	2) Time and commitment from campus-based subject matter experts.	3) Technology to support new practices.
Other Suggestions: Begin by identifying pilot institutions to collaborate on common identity and access practices.				

Supporting Documentation

Research and References

eduroam information: https://www.eduroam.us/introduction

Best Practices:

- Project and portfolio management
- Process redesign
- Security assessment

Gallery Walk Feedback

What did you hear from stakeholders? How did it help the team inform and refine this initiative?

Themes identified:

- Recognize the differences between two and four year students, and metro/outstate.
- Systems not "talking" to each other.
- One ID per student/employee for all things
- Students should have access to all services on all campuses
- Simplify systems and access
- Onboarding and off-boarding of employees needs to be streamlined
- There are many transfer issues
- There are many inconsistent access practices, in such areas as registration

Additional Ideas and Initiatives

Optional: Please provide a list of additional ideas and initiatives that the team considered and believes should merit further discussion.

Common communication practices across campuses.