2.5 Increasing Staff Effectiveness and Efficiency through Technology

Major Issue: Integrating IT with business needs in a cost effective manner thus increasing staff effectiveness and efficiency. Current challenges are related to a misalignment between technology services and staff needs as each area is often independently addressed or evaluated. While we believe opportunities for quick gains in efficiency and effectiveness exist, long term success ultimately is based on a commitment to shared values, principles, and objectives that consider business needs and supporting technology in a holistic manner.

A. Background/Rationale

The past decade has been one of constant technological change that is often burdensome to staff and faculty. This change has had an impact across every spectrum of staff work, but the most notable recent changes include major budget reductions across the campus, significant enrollment increases, state and federal compliance issues on numerous issues, and the rollout of the new student information system. Campus staff must adapt to these changes, often without the benefit of sufficient resources being applied to address change consequences.

Despite formidable challenges employees have accomplished amazing feats of business productivity with minimal resources. With little likelihood of an immediate improved budget climate and the strong likelihood that the pace of change will only increase, improved operations through efficiency and effectiveness are a necessity.

Shared values, principles, and objectives are commonly considered pillars of success for large organizations. Long term success for any organization requires a common vision and a shared strategy to achieve that success. We recommend the university as well as each campus operation adopt the following principles in delivering information technology services:

- Prioritize business needs and provide supporting technology in a holistic manner.
- Develop a common understanding of what effectiveness and efficiency is.
- Promote and develop the concept of customer service excellence.
- Maximize current technology to achieve immediate efficiencies.
- Reward effective uses of technology and technological standards that promote quality, accessibility, and ease of use.

B. Accomplishments to Date

There have been significant accomplishments in managing and adapting to considerable change; however, the accomplishments that worked well when implemented often don’t always keep pace with the dynamic environment. Noted accomplishments include: updated and integrated financial and human resource systems, increased support for mobile, wireless, and cross-campus communication, an increase in “common good” services including improved product licensing, increasing shared or integrated services, and highly visible security policy and communication programs.

Units on campus typically work well together to accomplish campus objectives, but there are points of friction between technology and business needs that have created disharmony. There is a growing gap between the needs of clients, business end users and IT regulatory, security,
and standardization requirements. Regulations, security and standardization can place significant additional burdens on end-users, particularly if they are imposed without first supplying resources and sufficient training, or if they require end-users to create burdensome workarounds.

The gap can be partly explained by the highly diverse needs of a tier one research university. Additionally, the pace and complexity of change has escalated such that workers must become more specialized in their own area of expertise and thus are less familiar with challenges faced by other units. Because expertise resides within both the technology arena and in business systems, linking expertise across organizations and technology support units to provide contextually appropriate solutions and services will mitigate change complexity.

**Action Plan**

**A. Explicit Assumptions**

The effectiveness of these recommendations depends on campus leadership at all levels embracing these values, principles, and objectives as central to all business decisions. Campus leadership must establish priorities, assign accountability, and create communication plans that promote collaboration, customer service, and professional development.

Significant new technological investment is not required to achieve the goals of this recommendation; however, we assume that specific individuals will be identified to assume responsibility for the report recommendations, empowered to allocate or reallocate resources, directed to form working groups, committees, or resource pools. We assume a governance forum will be established to set transparent campus priorities. Given current fiscal constraints, the objectives defined herein assume this responsibility and prioritization is necessary.

**B. Specific Recommendations**

1. The campus needs a better understanding of its collective present and future business needs in order to systematically build efficient technological systems and processes. Holistic business/technological planning requires anticipating, recognizing, and adjusting for inherent change. We recommend the campus create an administrative organizational structure dedicated to identifying, planning, and building efficient business processes using technology. We recommend that this unit be dedicated to business analysis, problem solving, and utilizing existing talent to improve efficiency.

The Flagship 2030 goals provide insight regarding emerging administrative needs. For example, globalization will create administrative challenges that may include the need for 24/7 access to all systems, accessibility for non-English speaking personnel, remote access, and global service centers. Although the timeline for Flagship 2030 goals is uncertain, there is a general expectation that the campus will align operations with these goals as resources and circumstances allow. These long term changes and short term challenges suggest a need for a formal business planning structure.

Often referred to as business analysis, or business process management, holistic planning requires business analysts to understand the needs of different groups, translate jargon and bridge innovative thinking and effective problem solving.
Staff members working in diverse and distributed positions can recognize and contribute towards these goals, provided there is a well managed forum for managing the communication, correlation, and integration of these ideas into concrete priorities.

2. We recommend a commitment to developing and promoting a common understanding of what staff effectiveness and efficiency is. To achieve this, a dedicated and diverse administrative technology planning function must be identified to define measures, ensure clear communication and understanding, and to ensure consistent, ongoing evaluation of business effectiveness and efficiency objectives. Consistent application of effectiveness or efficiency priorities cannot be assured without meaningful measures and evaluation for all priority applications.

Today, inefficiencies are largely unrecognized and are collectively costly to the University. We have no commonly understood, measurable benchmarks to objectively evaluate effectiveness and efficiency for specific business processes. We have no mechanism for evaluating whether business processes enhance or diminish overall organizational effectiveness.

The campus must recognize shortcomings within our current systems that have inadvertently contributed toward inefficiencies. For example, the lack of an administrative structure for business planning has led to the creation of countless “shadow” systems. These systems may represent an innovative effort to make up for inadequacies in the functionality or effectiveness of enterprise systems, or an inability to adapt to the demands of those systems. In either case, the resulting systems often do not result in sufficient attention to improving enterprise systems and often demonstrate redundancy and a lack of rigorous quality assurance or adequate lifecycle support due to skill or resource barriers.

3. We recommend that the IT service environment promote and encourage a customer service orientation that better understands the needs of end users within the context of their business environment.

The fast and furious pace of technological innovation can provide distraction or obstacles for the average staff member who may not recognize the reason for change or who that change might serve. Left to their own resources, staff members may not be able to keep pace with technology opportunities, or even in distinguishing a technology’s potential value. It is important to recognize that the profile of an average staff member varies considerably in terms of business function, the resources available to them, and their technological proficiency. A customer service orientation would support end users with an appreciation for the difficulty and constraints end users experience in trying to keep pace with and understand technology. Complexity and change create inefficiencies as staff members require consistency and predictability to efficiently complete tasks. Highly diverse business needs across the campus require an agile, flexible customer service model that can address the specific needs of that business. A “one-size-fits-all” service model can compromise effectiveness and efficiency.

4. We recommend that current technology be better utilized to achieve immediate efficiencies.

The campus should promote and take advantage of existing technologies by identifying “low hanging fruit.” This committee could not measure or evaluate the extent to which current technology functionality is presently underutilized. However, across campus there are individuals who undoubtedly have first-hand knowledge and ideas worth consideration. We
believe there are two primary strategies for cultivating an environment that encourages staff members to engage in the improvement of our current systems: professional development and communication.

Targeted, accessible, and high quality training and development must become an embedded expectation that encourages staff to routinely engage in supportive professional development. Staff members should be strongly encouraged to engage in professional development opportunities outside their areas of immediate expertise. Throughout their career, staff members should be regularly and intentionally exposed to a wide range of topics that might include project management, customer service, accessibility, business processes design and management concepts, etc., in order to recognize and react to changes in the business environment and facilitate the adoption of technology.

Communication across units is the underpinning of this type of business and technology collaboration. Networking groups and consortia can achieve cost savings through sharing best practices. There are also the intangible benefits of relationship building, developing expertise, establishing benchmarks, rapid learning, avoiding duplication of errors, and establish common ground. Groups encourage entrepreneurial partnerships.

5. We recommend that the campus promote and reward the adoption of standards based approaches for technology where it promotes accepted best practices, such as in areas like ADA accessibility. Many staff functions are repetitive and predictable, and would be well served by consistent approaches. This does not preclude the adoption of flexible and adaptive methods, but rather highlights that general staff needs may be significantly less able to adapt to unguided dynamic design elements than within other campus communities.

Meeting this requirement requires business units to identify, agree to and accept recommended standards or best practices. Business units will adopt agreed upon standards when it is delivered in ways that are easily accommodated and not difficult to comprehend. Consistent communication strategies that demonstrate the benefits of standardization and best practices for the business unit will promote rapid adoption.

For example, consider that the standards proposed for application accessibility are important due to regulatory requirement compliance; however compliance itself is often not convincing enough to encourage participation. We must demonstrate that standards improve every user’s experience by creating consistency thus encouraging greater overall participation. Implementing standards that meeting regulatory compliance requirements will also increase business efficiency by removing barriers that impede users.

Consistent standards can improve workflow timeliness by promoting best practices such as key stroke consistency, information placement and help mechanisms, and predictable designs. Customer service requests will be easier to communicate and resolve because of shared approaches and expectations. Investing in standards should not be seen as a limitation, but an opportunity for key shared service areas to remove barriers for participation and improve interaction with other campus business partners.

A. Long & Short Term Objectives/Timeline

The recommendations in the preceding section are described largely as values and principles which we believe can be adopted immediately to establish a foundation from which more specific ideas and recommendations can emerge. Recognizing that budget reductions and the
implementation of ISIS will consume most resources over the next year or two, we appreciate
that it is unlikely that specific recommendations involving a direct investment of funds is viable;
however, we believe there is value in promoting a culture of collaboration built on strong
communication channels. A nominal investment in actual dollars, a commitment by leadership
to promote collaboration and communication will naturally nurture innovation and creativity thus
creating considerable intangible benefits for both the short term and long term.

Within that context, we identify several specific ideas for consideration; however, we believe that
within the context of a collaborative environment, other viable ideas will naturally emerge.

Short Term Objectives (within 18 months)
- Adopt customer service orientation with a high level transparency
- Establish an expectation of professional development and training for all staff. Communicate existing training and development opportunities.
- Identify key stakeholders and begin administrative planning for infrastructure to support 2030 goals. Encourage strategic thinking within ranks of business process owners and users.
- Establish communication channels to build relationships between ITS, other campus IT providers, and end users establishing consortiums and business network groups
- Encourage standardization (such as W3C standards for accessibility) and better search engine capabilities. Recognize and reward models of excellence within peer community to encourage adoption of such standards
- Improve people directory search capability (particularly important with discontinuance of printed directory)
- Promote document imaging (reduce cost, save space, accessibility of document)
- Promote a relationship with University Information Systems (UIS) that better recognizes the diverse and complex nature of the Boulder campus.

Long Term Objectives (within 24-48 months)
- Create business analyst positions to understand business needs and lead the development of appropriate information technologies to support those business needs.
- Build sustainable business, staff, and technology partnerships and networks across the campus to create efficiencies, improve systems and processes.
- Develop and establish meaningful benchmarks for gauging effective and efficient processes.
- Develop and establish training and development standards, expectations, and opportunities for business process owners and end users as well as information technology workers beyond what is currently offered. Encourage rapid adoption by improving communication and exposure.
- Invest in staff by improving current tuition benefits. Current credit and availability limitations reduce usefulness and potential development opportunities.
- Analyze and determine the best mix of centralized and decentralized services to maximize efficiencies.
- Faculty hiring is a critical business processes integral to our mission of teaching and research. Procedures and processes for hiring faculty on the Boulder campus are extensive and complex. The system is largely paper based with each academic unit maintaining their own systems. Begin development of a comprehensive faculty recruiting tool used across campus to eliminate current duplication and redundancy. Maintain common a database set from which a dashboard system can be developed to discern trends and their underlying cause in order to plan for the future. Utilize basic technologies such as electronic signatures to eliminate routing of paper documents.
• Identify high demand systems (shadow systems, local installations of enterprise level services and systems) and prioritize some for analysis and improved service delivery. Potential focus areas discussed included high-use, under-supported local business systems such as PeopleSoft Lite; enterprise licenses for event scheduling or time-keeping; and assorted customer help desks or communication and relationship management tools.

B. Possible Risk

Technology Risks:
Technologies themselves can present problems that distract focus on business solutions, or that move resources to technology support from process or personnel support.

Strategic Risks:
Internationalization poses great resource implications. Increased service windows and increasingly diverse customer base from culturally and technology dissimilar locations will make standardization and simplification even more challenging. Assumptions about timing, authority, regulatory priorities and so-on begin to add layers of complexity to the service and process questions raised here.

Resource Risks:
Reductions in central computing staff and a shift in support and tools from campus providers to central providers puts greater distance between customers and providers. Understanding local business needs and support requirements requires organizational changes which may be unsupportable with current resources.

We identify expertise needs that are not currently available or dedicated to the topics discussed, particularly in the analysis and process quality areas. Hiring and training these resources is unlikely given budget cuts and widespread need.

Environmental Risks:
Current and recent system-wide efforts to streamline business requirements and reduce training requirements appear contrary to the committee’s conclusion that standardization and training are needed. Sentiments about poorly received training may disrupt or negate the positive aspects that relevant and viable business technology training could provide.

Massive system changes are just coming online. These will be a distraction from energies that could be directed towards staff efficiency and effectiveness.

Support for staff and business processes has long been located far from the individual administrative units and context of localized business process. Improving that gap during a shrinking resource cycle and with existing process inertia will be all the more challenging.

C. Resource Allocation

Nominal cost - requires a cultural shift in how we approach our business:
• Build relationships between IT providers and end users establishing consortiums and business network groups
• Promote innovation and creativity to create efficiencies, improve systems and processes, and build sustainable partnerships. Promote streamlined approaches, and the creation of partnerships to improve communication and leverage the innovative work of others.
Medium costs - requires resources for development, implementation, or training:
- Standardization of web development to improve accessibility, consistency, ease of use, and consistent customer experiences. Provide services and guidance that improves campus web infrastructure search capabilities. Provide awards or recognition for examples of excellence.
- Improve people directory search capability (particularly important with discontinuance of printed directory)
- Develop remote computing technologies and guidelines to support telecommuting and access to work materials.
- Enhance document imaging (reduce cost, save space, accessibility of document) capabilities and provide support tools (guidelines, training, user manuals, testing capabilities) to simplify adoption and acceptance of the technology.
- Develop and establish meaningful benchmarks or principles for gauging effective and efficient processes.
- Analyze the mix of centralized and decentralized staff services to ensure maximum efficiencies and remove common incremental costs and unsupported dependencies.
- Establish training and development standards, expectations, and opportunities for business process owners and end users as well as information technology workers that support improved information an efficient and effective business computing environment as described in the recommendations above.

Higher cost
- Business analyst positions to understand business needs and lead the development of appropriate information technologies, procedures, and service information to support those business needs.
- Develop a comprehensive faculty recruiting process and application used across campus.
- Invest in staff by improving current tuition benefits. Current limitations reduce usefulness and potential development.

D. Responsible Parties

Responsibilities for staff efficiency and effectiveness are rich combinations of attributes and communication channels involving various parties. Observations are provided within Appendix A to provide insight into executing the recommendations of this report. This information is in no way comprehensive.

E. Evaluation

- Campus priorities are available, transparent, and supported at all organizational levels.
- Accountability for staff efficiency, effectiveness, and service programs is explicit.
- Definitions for and evaluation of efficiency and effectiveness standards are common.
- Identifiable communication forums are established.
- Management at all levels regularly promotes collaboration through recognizable communication forums and methodologies between business and technology leaders.
- Business analysis services are identified.
- Governance priority is clear and measurably adopted.
- Staff development in priority technology areas is measured and improving.
## Preliminary Observations for Matrix of Responsible Parties.

<table>
<thead>
<tr>
<th>Responsible Party</th>
<th>Primarily Accountable To</th>
<th>Primary Role for achieving recommendations</th>
<th>Primary Implementation or Communication Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration:</td>
<td>External constituents, funding and regulatory bodies, campus customers</td>
<td>Identifying direction, allocating resources, defining E/E, mission clarity</td>
<td>Direction, Priority</td>
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<tr>
<td>Campus IT Governance:</td>
<td>Business administration, faculty, research organizations, university IT governance</td>
<td>Determining tech priorities, aligning with admin direction, standards and policies, clarity and transparency</td>
<td>Priorities, Policies, and Standards, campus decisions</td>
</tr>
<tr>
<td>University Information Systems (UIS):</td>
<td>External constituents, campus administration(s)</td>
<td>Enterprise systems and services usability and E/E, relevant training and support materials, correlation between workgroups and campuses, university architecture, enterprise analysis</td>
<td>Campus administrative support guidance, standards, system policies, training materials and supportability materials</td>
</tr>
<tr>
<td>Information Technology Services (ITS):</td>
<td>Campus administration, campus IT governance, direct customers, general good service customers, contracted agreements</td>
<td>Guidelines, and support in defined programmatic areas, correlation of Campus technology activities, input to governance forums, campus architecture, programmatic analysis</td>
<td>Campus IT architecture and direction, service information and procedures, infrastructure and architectural definitions, campus IT policy, ITS training and support materials, security, forum contribution</td>
</tr>
<tr>
<td>Organizational IT:</td>
<td>Organizational administration, organizational customers, campus IT governance,</td>
<td>Campus standards and guidelines, organizational administration, awareness and development, contextual</td>
<td>Standards and guidelines, local technology practices, local business technical constraints and objectives,</td>
</tr>
<tr>
<td>Business Application Developers:</td>
<td>Organizational administration, organizational customers, campus IT governance, campus administration, organizational IT</td>
<td>Organizational administration, campus standards and guidelines, technological integration into business process</td>
<td>Application support materials, lifecycle documentation, procedural documentation, integration documentation</td>
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<tr>
<td>Staff Supervisors and Managers</td>
<td>Organizational administration, campus governance</td>
<td>Staff development, participation, resources, transition</td>
<td>Staff guidelines, opportunities, and service availability, PDQ documentation and relevance</td>
</tr>
<tr>
<td>Staff, System, and Application Users</td>
<td>Staff supervisors and managers, organizational administration, campus governance</td>
<td>Personal development, guideline and policy observance, forum contribution</td>
<td>Situational need, roadblocks, conflicts, local procedure and work process, workflow</td>
</tr>
</tbody>
</table>