EXECUTIVE SCAN: INFORMATION TECHNOLOGY
PREPARED FOR: YOSEMITE COMMUNITY COLLEGE DISTRICT

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EXECUTIVE SCAN: INFORMATION TECHNOLOGY

Since a technology plan is dynamic and a living document that reflects the changing environment and needs of constituencies, the current Yosemite Community College District technology plan (the District, Modesto College, and Columbia College) which sections have been included in this tactical plan, and based on information gathered from senior leadership interviews.

The Yosemite Executive Scan for Information Technology is intended to continue the momentum that began with the development of the current plans.

The tactical plan includes a Vision which is a description of the ideal state of technology intended to guide Yosemite in its technology use. It is the overarching statement upon which all plan elements are based.

Since decisions and choices for technology are often difficult, guiding principles are included to provide a set of parameters for decision making.

A high-level analysis of the current and future Yosemite operating environment (providing central technology services) identified those internal and external factors that affect technology at Yosemite and the Colleges.

Goals and objectives follow from this environmental analysis and conclude with an implementation grid which serves as a bridge between strategic thinking and operational endeavors that bring the technology initiatives to reality.

SETTING THE STAGE

PURPOSE

Information Technology (IT) is transforming the process of teaching and learning and can significantly reduce barriers to education. Positioning information technology as a key component of effective teaching and learning, through innovative and timely responses to both challenges and opportunities, will play a key role in the future success of Yosemite Community College District (YCCD), Modesto Junior College, and Columbia College.

Information technologies are strategic tools to facilitate innovation in teaching, build engagement in learning, foster creative and collaborative support for research and distribute new knowledge and understanding.

Mirroring contemporary changes in information systems and communications technologies, and acknowledging student and faculty expectations for information systems, tools and productivity, will allow YCCD to remain competitive in attracting students and faculty, and innovative in collaborating in economic, social and cultural initiatives.

This Executive Scan is therefore intended to outline a path for YCCD to move into a leadership position in higher education. It introduces governance, organization, service delivery, and technical systems concepts. The preamble to the plan introduces the context and the scope of IT challenges, while the “Into Action” section presents recommendations designed to address those challenges.

The Executive Scan for Information Technology is part of YCCD’s Integrated Planning Process, the goal of which is the development and maintenance of a multi-faceted and cohesive District and both College Plans. This plan is intended to realize the purpose, values, goals and objectives identified in the
YCCD Vision Statement. Recommendations presented in the Executive Scan for Information Technology apply to the entire institution, wherever it delivers its Information Technology services.

Like all components of the District and both College Plans, this plan should be seen as a living document, capturing a moment in time, responding to perceived issues and opportunities and subject to revision and adjustment as circumstances evolve.

HOW THE PLAN WAS PREPARED

The Executive Scan for Information Technology was prepared by Ferrilli, with the assistance of a group of senior leaders for the Yosemite Community College District, Modesto Junior College, and Columbia College within the YCCD community during February 2017. This group of senior leaders is listed below and represented the District and both Colleges.

The preparation of the plan involved onsite interviews and assessment of both internal and external information systems and technology landscapes, a review of previous planning and documentation, an assessment of existing conditions, issues and opportunities, and the preparation of working papers, draft documentation, all subject to iterative revision.

During the interviews, all participants were given an opportunity to provide insight into the current level of service they were receiving from the Central IT Services organization at the District, and also provide feedback on requested services from which their institutions would benefit.

Although there was not the typical process by members of the Information Technology Committee, the focus was on receiving feedback from senior leaders within their own College and District environments, and the impact of those centralized services on their ability to meet goals and objectives.

Many people provided thoughtful comments and suggestions in interviews. Ferrilli is grateful for the valuable input contributed throughout the process, which provided the basis for much discussion and deliberation, and helped to shape the Plan for YCCD.

FEEDBACK FROM THE INTERVIEWS:

The following are some of the identified challenges or impediments to a more fully functional technology at the District and Colleges, and should be the focus of a Centralized Services IT group at the District.

- Technology refresh cycles
- Security and audit compliance
- IT Services support model and staffing
- IT Services organizational staff development
- Customer Services training in all departments
- Planning synchronization (alignment) across departments
- Integration and support of applications
- Single vision and plan for all technology across institutions
PARTICIPATORY LEADERSHIP

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District Office
Teresa Scott, Executive Vice Chancellor, Fiscal Services
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Modesto Junior College
Dr. Jill Stearns, Ph.D, President
Dr. Al Alt, Vice President, Ph.D, College Administrative Services
Dr. James Todd, Ph.D, Vice President, Student Services

Columbia College
Dr. Angie Fairchilds, Ph.D, President
Trevor Stewart, Vice President, College Administrative Services
Dr. Brian Sanders, Ph.D, Vice President, Instruction
Brandon Price, Dean of Student Equity and Success

INTEGRATED PLANNING

THE VISION
Yosemite Community College District exists to serve students and the communities (Modesto Junior College and Columbia College) that look to the Colleges for relevant, responsive and innovative educational programs and services. To this end, YCCD and its Colleges are committed to ongoing integrated planning to ensure the decisions that are made and the actions are taken across the District and Colleges; all streaming from a central vision and collective goals. At Yosemite Community College District, this vision and goals are embodied in all IT Strategic Plans and should be combined to produce one all-encompassing vision for the entire organization.

THE PLANNING PROCESS
The Vision presented in the future IT Strategic Plan should become the foundation for all Information Technology planning at Yosemite Community College District. The Executive Scan is only one important component of the Integrated Planning Process.

With this Tactical IT Plan in place, the following is a recommended planning process to generate a single vision, all-encompassing Strategic IT Plan for the entire District and Colleges.

1. Data collection and research
   - Internal and external
   - In-depth assessment of existing conditions that affect information technology
   - Review and discussion of critical issues and opportunities
   - Assessment of data and trends
2. Plan Development
   • Data assessment and analysis
   • Review of best practices across the higher education field
   • External factor assessment (SWOT)
   • Institutional readiness and education
   • Observation of current practices and management processes at YCCD
   • Consultation – internal and external
   • Preparation of working papers and draft documentation (subject to ongoing review and modification)
   • Exploration of management concepts applicable to information technology and its potential impact on institutional

3. Implementation of the Strategic Plan

4. Ongoing Evaluation and Assessment
   a. Ongoing evaluation and assessment of the quality of information technology will rest with the Centralized Services IT.
   b. A review of information technology and the success of the implementation of Tactical IT Plan is recommended to occur in 2017.
ENVIRONMENTAL SCAN

OVERVIEW

Information Technology will play a critical role in the achievement of the District’s objectives by positioning Information Technology as a key component of effectively providing all technology support services for the Colleges, under the umbrella of a shared vision.

Many aspects of society and its institutions, especially higher education institutions, are being transformed by information technology. The degree of transformation is ever changing to includes technological innovation and expanding user expectations. No longer an esoteric technical activity, IT services now encompass strategic planning, project management, business analysis, design processes, teaching and learning, and competitive innovation.

IT makes global competition a reality. IT solutions, including distance and online learning, are now expected in the higher education environment. Additionally, market niches for online education, especially in community college environments, are being created through the technologies supporting distance and online learning opportunities.

Concurrent with its ubiquitous presence and ever increasing applications, IT is faced with ever increasing financial restraints, as do many institutions, for varying reasons (ex. low enrollment). Although technology continues to evolve and new technologies drive certain aspects of business, the business of higher education continues to fall behind.

According to the Gartner Report (October 2011), the top ten general trends involving Information Technology in Education for 2012 were: (Note, this report is offered as industry standard reports utilized by many IT organizations to gage trends).

1. Evolution of Virtualization
2. Patterns and Analytic
3. Energy Efficiency and Monitoring
4. Context-Aware Applications (utilizing mobile devices)
5. Staff Retention and Retraining
6. Social Networks
7. Consumerization and Tablets
8. Compute Per Square Foot (Data Centers)
9. Cloud Computing
10. Infrastructure

Unfortunately, in 2017, this is still where many higher education institutions find themselves today. As the needs of the students change, and how they receive information, many IT organizations are unable to support these requirements. This is because of an aging, and inflexible infrastructure; a lack of staff skills to make the leap into a more cloud-focused environment; this as IT leadership struggles with resistant staff (not specific to YCCD, but industry observations), and an overall impervious model that does not encourage or support the much-needed change.
KEY IT ISSUES IN HIGHER EDUCATION

The following key issues are summarized from the EDUCAUSE 2016 Current Issues Survey and the 2016 ECAR National Study of Undergraduate Students & Information Technology summarized below. This survey is provided, that helps give insight to IT groups in higher education; collected each year, and helps to provide an understanding of the ever-changing focus of higher education.

Top Ten Higher Education IT Issues:

According to the EDUCAUSE 2016 Current Issues Survey, the top ten IT Issues for 2016 are:

1. Information Security: Developing a holistic, agile approach to information security to create a secure network, develop security policies, and reduce institutional exposure to information security threats

2. Optimizing Educational Technology: Collaborating with faculty and academic leadership to understand and support innovations and changes in education and to optimize the use of technology in teaching and learning, including understanding the appropriate level of technology to use

3. Student Success Technologies: Improving student outcomes through an institutional approach that strategically leverages technology

4. IT Workforce Hiring and Retention: Ensuring adequate staffing capacity and staff retention as budgets shrink or remain flat and as external competition grows

5. Institutional Data Management: Improving the management of institutional data through data standards, integration, protection, and governance

6. IT Funding Models: Developing IT funding models that sustain core services, support innovation, and facilitate growth

7. BI and Analytics: Developing effective methods for business intelligence, reporting, and analytics to ensure they are relevant to institutional priorities and decision making and can be easily accessed and used by administrators, faculty, and students

8. Enterprise Application Integrations: Integrating enterprise applications and services to deliver systems, services, processes, and analytics that are scalable and constituent centered

9. IT Organizational Development: Creating IT organizational structures, staff roles, and staff development strategies that are flexible enough to support innovation and accommodate ongoing changes in higher education, IT service delivery, technology, and analytics

10. E-Learning and Online Education: Providing scalable and well-resourced e-learning services, facilities, and staff to support increased access to and expansion of online education
Key Aspects of the Current Student Experience of IT:

According to the 2016 ECAR National Study of Undergraduate Students & Information Technology, the Student Study highlights that:

- Most students say technology has helped them engage in the learning process (71%); and
- Most students agree that technology used in their courses has enriched their learning experiences (75%) and;
- Most students believe technology will play an important role in their chosen career after college (83%).

This study is an important reference to show that students really do engage with technology, and look to their institutions to provide the best experience during their attendance. They are fully aware of how it impacts their experience, and more and more students are using it as one of their measurements to where they will make their final decision to attend.

CRITICAL ISSUES AND OPPORTUNITIES

Below is a list of recommendations that should address potential issues and opportunities. These are not prioritized, nor should they be considered a comprehensive list, but a guide for YCCD.

Technologies for Teaching and Learning

Mainstream capacities and IT innovation, now common in higher education (not specific to YCCD), include, but are not limited to:

- Integrated web strategies and services for faculty, staff, and students
- Ubiquitous mobile computing, infrastructure and services that enable increased mobile accessibility
- Network and infrastructure modernization; ubiquitous wireless and wired systems
- Student portals for one stop information (accessing student, finance, human resources, and payroll systems, announcements, student services, etc).
- Technology training and support (including workshops and online software training resources), learning management systems, blogs and wikis, etc. for both students and faculty
- Active learning classrooms designed with increased technology infrastructure
- Classroom lecture capture systems for hybrid and online learning

Network Infrastructure

An institutions’ network provides both a pathway to the Internet, as well as its own services (VoIP, video conferencing, etc). Network solutions (i.e. the Cloud) are not a passing trend. Although the Gartner Group predicts that, in the near future, 40% of desktop solutions will be transferred to networks; it also suggests that, during this same period, IT budget investments will see low growth.
There are significant benefits to a network-centric approach:

- Enables access by students, faculty, and staff to unlimited informational resources
- Reduces operating costs and infrastructure costs
- Enables greening (i.e., desktop obsolescence will be less relevant)
- Evergreen investing will change from the desktop to network
- Device independent (e.g. MAC, IPAD, iPhone, personal computer)
- Support student and staff equipment ownership
- Improves service through economies of scale
- Sets foundation for shared services
- The network is foundational

For the foreseeable future, the District and the Colleges must sustain both the current model, as well as transition to an enterprise strategy. Ultimately, a move to a cloud-based solution will significantly reduce maintenance, and ongoing investment requirements that have become unsustainable or supportable long-term.

**Web Services**

Web services and management strategies are a critical component of an overall IT strategy. The traditional web focus was limited to the institutional community and to social media for communications. Now components of the web include portals, social media, email, streaming media, learning management systems, web conferencing, video hosting, help desk, enterprise and client services.

The web serves all clients of the institution, including both the District and the two Colleges (Modesto Junior College and Columbia College) communities and the external community. Effective web management is essential for teaching, learning and research activity, as well as for the practical operation of Yosemite Community College District. Although institutional branding and content is typically the responsibility of marketing and communications, the governance and management of web policy and applications should generally be parallel to that of IT.

**Yosemite Community College District (and Colleges) IT Investment**

Information Technology is a major strategic District investment. There appears to have been generally good fiscal and contract management by the District, in relation to IT activities, however, the accepted methodology of concentrating on initial or “event” costing, has led to the creation of a gap in cost attribution to IT activities.; as well as, the decentralized approach, which does not allow for such advantages like economies of scale purchasing. For example, one College identifying a need, and in some cases, purchasing a solution without the knowledge of the District IT, or sharing with the other College to see if the same need exists. Therefore, the result can be a lack of integration with current systems, and also an additional purchase of a solution that may already exist in the environment.

The emphasis on initial acquisition costs has undervalued the downstream costs of maintenance and replacement. The importance of such costs becomes increasingly evident as systems expansion is fed by the geometric growth of cumulative complexity. Such complexity is not simply a function of diverse hardware and software, but more importantly of interoperability, support, and training of an increasing
and fast adopting user base. The escalating range of applications and system subcomponents that are required and requested, increases the support activity exponentially. This is due to the expectations of users that require increased functionality and integration of the implemented systems; therefore, every system development must be considered in the total environment use cost and not just the acquisition or direct implementation costs.

A very high level discussion with senior leaders, was conducted to achieve an understanding of overall costs, and budgeting for the District and both Colleges. The discussions were more focused on how purchases were made and the support of those systems, without an in-depth discuss on actual costs or budgeting. This key information is critical to creating a healthy IT organization, especially in higher education.

The development of financial and outcome metrics for IT investments are critical to the development of a system involving best practices. The institutional framework for reviewing and consolidating services and solutions to support processes, such as the summative assessment, enrollment management, admissions and registration processes, requires continued development and monitoring by information technology staff and institutional leaders. The ability to align technology with the academic needs and business needs of the overall organization, is definitely a trend and focus today, to move toward the utilization this collected data and create a more centralized, higher performing services group; that can provide state of the art technologies, to support the needs of the institutions and the students it serves.

Yosemite Community College District, along with both Colleges, must be well positioned to evaluate IT investments and IT investments must be strategic and financially sound to meet everyone’s needs. A more structured project management approach will assist in ensuring that IT activities are guided with regard to compliance to best practices. Also, the ongoing development of standard operating procedures for Information Technology Services (ITS) management will benefit from such a framework. It will also assist the ITS governance committees in their approval of projects, facilitating an operationalizing of the controls.

**Governance Model and Framework**

The introduction of a functional governance structure that reflects the nature of the District, and each of the College’s cultures, is essential to support the ongoing management and investment decision for technology. As information technology plays such a central role in many College activities, an informed dialogue must continuously take place to ensure effective use of technology. This can create several challenges, as there may be differing ideas of how to approach a centralized model for governance; but opens the discussions for everyone the opportunity for input and to understand the inter-workings of how it all comes together.

ITS governance is essential to ensuring systems investments and activities are coordinated across the District and Colleges, and consistent with the strategic and operational plans. To address these challenges; it is proposed for consideration, that the District form a federated governance model comprised of three steering committees: (1) Academic Systems (Learning and Research); (2) Administrative Systems and (3) Systems Integration (Computing Systems). Each of these committees should be formed around a cluster of common interest, which will ensure relevance to participants and
focus on the interrelatedness of information technology applications. Reporting structure for these groups should be at the highest level of leadership for the District, and College levels.

**Action:** The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups achieve this recommendation (Long-Term, meaning this will take time to determine and create, while looking to the future to always changing and adapting to current needs).
ACTION AND RECOMMENDATIONS

The thirteen recommendations that follow are the building blocks to position information technology as a key component of effective teaching and learning. It is recommended to create teams, grouped into the following five categories:

- Student Learning, Engagement and Success
- Academic Community
- Program Quality
- Community Engagement
- Institutional Effectiveness

Strategic recommendations in themselves cannot affect meaningful change; implementation will depend on their effective management to achieve a shared vision. Some recommended actions listed speak to work that is already being undertaken by the District and the Colleges in their current IT Strategic Plans; these have been included to provide a broader sense of all of the actions necessary to support Modesto Junior College and Columbia College, and Central Services.

Student Learning, Engagement and Success

The recommendations below address the first category of recommendations in supporting Academics at the Colleges. Recommendations are intended to ensure that the appropriate support and investment is provided for necessary IT interfaces between academic and student communities.

Further consultation is required to determine the relative priority, resource requirements and timeline for implementation of the recommendations in this section.

1. **Develop a Set of Student Competencies**

   Develop a set of student technology, digital media and information literacy competencies for institution and program entry and exit, including general and specific program competencies.

   Develop program and Faculty-specific accountability models to allow students to showcase and demonstrate their skills, knowledge and literacies during their studies and upon graduation through examples of learning activities, assignments, assessment and evaluation methods.

   Develop a strategic resource and support plan for these student competencies.

   **Action:** The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups and students to achieve this recommendation (Long-Term, meaning this will take time to determine and create, while looking to the future to always changing and adapting to current needs).

2. **Enhance and Optimize the Entire Student Experience**
Develop an inclusive framework and plan for reducing barriers, while enhancing and optimizing the entire student experience, from prospective students through to alumni, through the appropriate use of current and evolving technologies (considering technology integration strategies for areas such as recruitment, registration, academic advising, retention, communication, student life, classroom learning, e-learning, career and job placements, to the significant role of the library and its diverse technological resources and related literacies).

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups and students to achieve this recommendation (Long-Term, meaning this is an ongoing commitment that will always be redefined, based on student need and expectations).

**Academic Community**

The recommendations outlined below are intended to support the character, achievements and strengths of the various teaching communities of Yosemite Community College District; affirm the principles set forth by the academic communities in each College, and ensure that appropriate services are provided to support academic activities and academic and student community interfaces by IT.

3. **Develop a Set of Faculty Competencies**

Develop a set of faculty technology, digital media and information literacy competencies appropriate to both specific and general program areas. Develop accountability models to allow faculty to showcase and demonstrate their skills, knowledge, and literacies. Develop a strategic resource and support plan for these faculty competencies.

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups, Academic representative, and Human Resources representative to achieve this recommendation (Long-Term, meaning based on competency needs of the institutions).

4. **Develop a Set of Employee Competencies**

Develop a set of employee technology, digital media and information literacy competencies appropriate to both specific and general program areas. Develop accountability models to allow employees to showcase and demonstrate their skills, knowledge, and literacies. Develop a strategic resource and support plan for these administrative competencies.

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups, and Human Resources representative to achieve this recommendation (Long-Term, meaning based on competency needs of the organization).
Program Quality

Recommendations outlined below are intended to define the role of IT involvement, in terms of leveraging the facilitation and enhancement of teaching and learning environments.

5. Redefine the Learning Environment

Create an inventory of all current learning spaces, including both physical and digital spaces, in relation to teaching and learning.

Develop a set of standards of best practices for physical, digital and flexible learner-centered classrooms and learning spaces (e.g., library, learning commons, quiet study spaces, academic support centers, group meeting spaces, e-learning environments, video, audio and web conferencing connected classes, small tutorial, demonstration rooms, multi-presentation classes etc) of today and of the future.

Create a maintenance and upgrade plan, including resources, that allows for the physical, digital and flexible learner-centered spaces to be maintained at a consistent level for optimal learning, meeting needs of programs, students and faculty and ensures we have healthy, safe, viable and sustainably-sound learning spaces.

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups and students to achieve this recommendation (Long-Term, meaning this is a long-term commitment to a changing environment that will impact learning for the entire District and Colleges).

6. Implement Integration Models and Strategies for Effective Technology Use in Teaching and Learning

Develop, educate and implement integration models and strategies for enabling employees and students in effectively demonstrating technology, digital media and information literacy competencies using appropriate current and evolving technologies, tools and resources.

Provide subject-specific examples from evidence-based research and best pedagogical practices of technology-enhanced curricula, including suitable teaching and learning strategies, e-learning models and subject-specific tools and resources.

Design integration models and strategies with a variety of support frameworks and resources to allow faculty and administration to foster their professional development experiences.

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups, faculty and academic leaders, to achieve this recommendation (Long-Term, meaning this is an ongoing process, and will be a living and breathing document that will grow and expand over a long period of time, based on need).
Community Engagement

Recommendations outlined below are intended to optimize the effectiveness of Yosemite Community College District (Modesto Junior College and Columbia College) communications, activities and synergistic relationships with prospective faculty, students, regional, national and international education partners and supporters in regional communities. A general goal should be to develop a cohesive strategy that incorporates consideration of the following elements, utilizing technologies:

7. Develop Yosemite Community College District Web Plan (including both Colleges)

Develop a comprehensive web services plan that takes into account all administrative and academic needs.

Action: The Director of Communications (or representative of the District) and the Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups, faculty and academic leaders, to achieve this recommendation (Long-Term, both colleges will need to create a team of representatives to work together to determine their branding reputation and offerings. This will require a lot of teamwork, individually, and collectively as part of the District branding).

8. Build Regional Connectivity Structure

Create an inventory of digital connections and spaces, both digital and physical, supporting relationships with regional communities and educational partners.

Collaborate with IT leaders within regional communities and educational partners, develop standards for the connections and spaces and practices for maintaining them.

Develop a set of best practice-based standards for connections to and information technology services and infrastructure within all Yosemite Community College District sites and Colleges.

Create a maintenance and upgrading plan, as an integral component of the Technology Master and Continuity Plan, which ensures that physical and digital spaces are maintained at a consistent level throughout the District.

Action: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups and students to achieve this recommendation (Long-Term, meaning this will take a longer timeframe to accomplish, but should be addressed to start the process).

Institutional Effectiveness

Recommendations outlined below are intended to provide improved institutional effectiveness and IT service delivery, transparent and accountable policies, procedures, planning, administration and governance.

9. Develop a federated governance structure which reflects the District and College’s cultures and ensures integration
• Form committees around constituencies. Each constituency is formed around a cluster of common interests, to ensure issues under discussion are relevant.
• Integrate constituency committees through the formation of a Systems Integration Committee.

Establish IT governance processes, which will support technology design and selection, systems management and administration, technology acquisition, the formulation and review of IT policies and standards, and system and technology planning for students, faculty, and staff.

9.1 Academic Systems Constituency

Inventory Academic systems, identify primary system owners and establish an Academic Systems Committee; a constituency formed around teaching, learning and research.

Develop terms of reference for an Academic Systems Committee, encompassing IT governance responsibilities to ensure Academic Systems are coordinated, cohesive and supportive of the College’s objectives.

Identify Academic System representation on Systems Integration Committee.

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups and Academic leaders to achieve this recommendation (Long-Term, meaning many systems have been in place for many years and determining ownership and accountability will take time; this should begin in a reasonable timeframe, but expect it will take longer than expected to complete).

9.2 Administrative Systems Constituency

Inventory administrative systems, identify primary system owners and establish an Administrative Systems committee; a constituency formed around administrative systems.

Develop terms of reference for an Administrative Systems Committee, encompassing IT governance responsibilities to ensure administrative IT activities are coordinated, coherent and supportive of District and College’s objectives.

**Action**: The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups and Administrative leaders to achieve this recommendation (Long-Term, meaning many systems have been in place for many years and determining ownership and accountability will take time; this should begin in a reasonable timeframe, but expect it will take longer than expected to complete).

9.3 Systems Integration Committee Overall IT Governance Integration

Develop terms of reference for a Systems Integration Committee, including membership from constituency committees and other stakeholders.
Develop terms of reference for the Systems Integration Committee, encompassing IT governance responsibility to ensure integration and coordination, from a holistic perspective.

**Action:** The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups, using input and representation from the Academic Systems, Administrative Systems and Systems Integrated Committees above. (Short-term, meaning this should be done as soon as possible to begin the process of having this committee engaged as new and updated technologies are brought into the environment).

10. **Implement IT Project Management**

Develop and implement policies, protocols and process to support IT Project Management.

**Action:** The Vice Chancellor of Information Officer will work collaboratively with appropriate stakeholder groups to accomplish this recommendation. (Short-Term)

11. **Develop Technology Policies, Procedures and Processes**

Develop and update standards, protocols, policies, procedures and processes for the role technology will play at Yosemite Community College District institutions.

For example, use of “cloud” computing and social media in class learning, privacy protection of student information, flexible learning experiences, learning management systems and integrated products, e-learning directions and models, educational technologies, infrastructure development and upgrading, email, encryption and storage of personal data, cross-institutional communications and collaborations, regional campus support and involvement, refresh cycles, mobile computing initiatives, off-site access, sustainable practices, student services, copyrighted materials, acceptable use, accessibility and barrier-free learning, research, purchasing and acquisition processes, support commitments etc.

**Action:** Once formed, the IT governance committees defined under Institutional Effectiveness, the Vice Chancellor of Information Officer will develop appropriate and timely technology-related policies, procedures and processes for governing how technology is used, accessed and supported at throughout Yosemite Community College District, Modesto Junior College, and Columbia College. (Short-Term, meaning this process should begin immediately to address policies, procedures, and processes as a baseline; will change over time and provide guidance for the organization).

12. **Develop a Technology Master and Continuity Plan**

Complete a phased, short, medium and long range Master Plan for technology, including wired and wireless infrastructures, communications equipment components, data capacity, security features, operating strategies, etc. This plan must parallel campus physical plans, and include:

- Identification of operating standards for network technology and infrastructure;
- Assessments of systems and conditions;
- Establishment of a clear plan for the phasing out of (old) technology and the phasing in of (new technology);
- A stable reliable network configuration that conforms to industry best practices;
- Compliance with industry standards in appropriate areas; and
- Identification of system disaster and continuity plans.

Identification of system disaster and continuity plans

Develop a Systems Contingency Plan. This plan is a disaster recovery plan related to systems.

**Action:** The Vice Chancellor of Information Officer, working with the governance committees define, will collaboratively complete this recommendation. (Short-Term, meaning this should be done as soon as possible and begin the process of putting this in to place; it will be a living and breathing document that will live with the organization and change as necessary).

13. **Information Assurance and Risk Management**

As a major employer and a higher education institution, Yosemite Community College District is expected to comply with new and more complex regulations by state, local and federal agencies. All District and College technology must be aligned with the State & Federal regulations as well as IT audit requirements.

Compliance maybe forcing many organizations to expend resources and efforts that cannot help security or drive the organizational mission forward, rather these limited resources should be targeted towards driving a security culture and people controls which will result in improved and durable results. A mature organization should have performance targets rather than compliance targets.

A risk management approach would focus on the organizational mission and concentrates those limited resources on high priority security threats and opportunities to develop a balanced security program. This approach uses information security as a strategic asset and a business opportunity to improve the organization.

A focus on compliance can falsely reassure an organization into thinking they are secure because they have complied with a regulation or audit finding. Pursuit of passing an audit or obtaining a certificate of compliance can lead an organization into the deceptive belief that because the system is certified it is secure. Without people controls, and continuous monitoring and improvement over time, a system cannot be secure – information security is not a state (only a point in time), but a process. There is a greater need for a strong risk management approach, and would therefore long-term result in a reduced need for the compliance approach. Consideration should be seriously given to creating a security-focused individual to ensure this area of IT is not ignored and found to be a serious detriment to the security of its staff, faculty and student information systems.

People controls is a key component moving of an organizational risk management strategy management. Management should be engaged in developing a program which balances technology, people, and policy controls to ensure the best return on investment. Investment in people tends to (people controls and an information security culture) have a higher return on investment, because people and culture tend to improve over time.
HIPAA, FERPA, state and federal guidelines, as well as other regulations and standards, should be examined to evaluate the correct balance of technology, policy, and people controls.

**EXECUTIVE SUMMARY**

Despite the many challenges that community college face today, community colleges are the key to the future and to so many citizens in this country. Technology is a major enabler of that work that is still needed to be done. With all of this comes the need to focus on the areas of Access, Affordability, Student Success, and Workforce and Resources.

The work outlined in this report provides a guideline for fundamental areas of focus for the Information Technology group, as the District and Colleges examine and rethink the need for centralized services and operations (including IT); and to find resource opportunities that will allow the District and Colleges to serve its students in a continued tradition of excellence and innovation. Technology continues to be a major player in all initiatives and provides the synergies for the entire system. The ability for Yosemite Community College District and its Colleges to fulfill its fundamental mission of teaching and learning, is increasingly dependent on technology. It must be actively engaged in the design, development, and innovative application of technology for teaching and learning to remain competitive.

The vision for technology must be strong and keenly focused on information technology at a District-wide and College-wide level; collaboratively architecting, planning, and implementing in a way that minimizes investments, yet delivers highly effective learning and administrative systems, and communications. This new vision for IT, would capitalize on its greatest strength; (true for all IT groups in higher education specifically) the ability to recognize opportunities and leverage economies of scale. However, not lost in that new vision, is the need to keep pace with students and faculty who depend on those technologies. Integrated into this new vision, must be the ongoing research into emerging technologies, mobile devices, consumerization, and all other changes that we constantly face in our changing world.

The focus of this IT Tactical Plan, should guide the Yosemite Community College District in the realization of the system’s innovative view of information technology, and assist in the reengineering efforts to become more efficient with resources. This plan counts on innovative thinking and cooperation between the District and Colleges, and all constituents to accomplish the goals. It has outlined several goals and strategies that will guide investment and direction into the future. The success of Yosemite Community College District and its Colleges, will be measured in this millennium, in large part by the achievements of technology to reach all other strategic goals and objectives of the enterprise.

Although the District, as well as both Colleges have written IT Strategic Plans, the focus for this IT Plan is to look beyond just the use of technology; creating a culture of innovation that requires careful planning and proper accountability, with strong support; resulting in a long-term, supported and repeatable approach and one that will stand the test of time. Rather, the ultimate goal is to strategically invest in empowering the centralized IT group, to take increased responsibility for
leveraging technologies, through smarter investments, and a more integrated approach to long-term supportable and sustainable technologies.