

A nighttime photograph of a mountain landscape. A person in a red jacket stands near a glowing orange tent in the foreground. The Milky Way galaxy is visible in the dark sky above a snow-capped mountain range reflected in a calm lake.

perspective
GAINED

Recommendations for an IT
Staffing Plan

Prepared for

Santa Monica College

In Support of the IT Strategic Plan

BerryDunn

100 Middle Street
PO Box 1100
Portland, ME 04104-1100

Clinton E. Davies, Principal
Joe Traino, Senior Manager
Tucker Cutter, Manager

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1.0 Executive Summary

Background

The need for an Information Technology (IT) staffing plan was identified in the 2016 Accreditation Quality Focus Essay and subsequently in the [2017-2022 Strategic Initiatives report](#) created by Santa Monica College (SMC; the College). The findings of the 2017 – 2022 Strategic Initiatives Report identified that the College may not be monitoring staffing levels close enough and does not currently make staffing decisions on any agreed-upon benchmarks. As a result, the District Planning Advisory Council (DPAC) made the creation of an IT staffing plan an objective to be completed in 2020.

The College engaged BerryDunn to conduct an objective assessment of IT and develop a five-year IT Master Plan for the College. An initiative in the strategic plan is to develop a staffing plan for IT. This document provides the College with recommendations to serve as the basis for that plan.

Throughout our planning work, BerryDunn met with IT staff and managers, conducted focus groups, met weekly with IT management, reviewed all IT job descriptions, assessed the current IT organizational structure, completed peer institution benchmarking, and conducted industry research.

Why This Staffing Plan Is Important

Leadership, management, and staff in the IT Department are committed to the success of SMC. Multiple areas of the Department are functioning well, however, the department as a whole has not adapted to keep pace with the changing needs of the college.

For example, while student computing needs and aptitude has increased over the years, the College still has IT staff supervise computer labs. Many institutions have shifted away from this model to use their IT staff and spending more effectively. There is an opportunity to better utilize existing positions and acquire new skills to support SMC now and into the future.

In another example, there are overlapping responsibilities within the department, which has led to confusion for students, faculty, and staff. There are opportunities to reduce duplication of effort and improve the delivery of IT services to campus.

Although SMC appears to be heading toward implementing a new enterprise resource planning (ERP) system, no official timelines have been established, funding is uncertain, and there is a lack of buy-in from campus constituents. Several staff members indicated concerns about the future, and whether or not their jobs will be needed. A staffing plan presents an opportunity to define the future needs of the institution and consider how the role of each staff member will evolve to meet those needs based on their specific skills and interests.

Organizational Assessment Recommendations

BerryDunn conducted an objective organizational assessment of the IT Department to observe challenges and make recommendations for improvement. The results of this assessment were shared with the entire department and discussed during a department-wide staff meeting on January 17, 2020. Ten of the recommendations from the assessment are relevant to the staffing plan, as they focused on organizational structure and staffing. These ten recommendations are included in Section 4.1 of this document for reference.

Recommendations are informed by best practices and represent a future state. They are intended to provide a progressive change over the coming years to align IT positions and skills with the evolving needs of the institution. Section 5.0 of this document outlines a staffing road map with incremental steps and suggested timing for SMC to achieve the future state described in Section 4.0.

Next Steps

This document should be read and understood in its entirety. The recommendations and road map outline a specific approach; however, there are multiple ways to address the challenges SMC is facing. SMC leadership needs to consider the staffing recommendations and make decisions to set a clear path forward for the College. Once a direction has been set, SMC should formalize the staffing plan and use it to guide the Department for the coming years.

2.0 Project Approach

Approach and Methodology

The College engaged BerryDunn to lead a campus-wide process to conduct an in-depth assessment of SMC's IT environment and develop a five-year IT Master Plan. BerryDunn's approach consisted of the following:

1. Conducting preliminary planning calls with College project contacts and sponsors to discuss the scope of the engagement and plan for on-site interviews
2. Distributing an inventory request to the College to gain an understanding of the current IT environment and reviewing background information provided by the College
3. Distributing a survey to faculty, staff, and students in order to gather input and perspective on the current IT resources and services at the College
4. Conducting on-site meetings with stakeholders
5. Following up with College project contacts and conducting additional meetings as warranted
6. Developing peer benchmarking analysis
 - a. BerryDunn began the benchmarking process by conducting preliminary research to select prospective institutions. Criteria used to identify peers included the number of constituents served and the geographic location of the institution. BerryDunn confirmed selected institutions with College project leadership.
 - b. Once confirmed, BerryDunn's team scheduled and conducted telephone interviews with each institution's designated IT leader. The team conducted follow-up to clarify answers and statements as needed.
 - c. BerryDunn compared SMC and peer-benchmarking data to EDUCAUSE averages.

The report presents and explains BerryDunn's observations and recommendations. Where appropriate, BerryDunn has included exhibits to explain and support its observations and recommendations.

3.0 Current Environment

This section provides important background information about the College's IT Department and technology environment, emerging trends in higher education, and why change is needed at SMC.

3.1 Organization of IT

The IT Department is organized into five teams: Academic Computing, Center for Media and Design (CMD), Management Information Services (MIS), Network Services, and Technical Support Services (TSS). CMD and Media Services were added to the IT Department in 2018. Media Services was grouped with Network Communications, switchboard operators, and a senior tech user support specialist to form TSS.

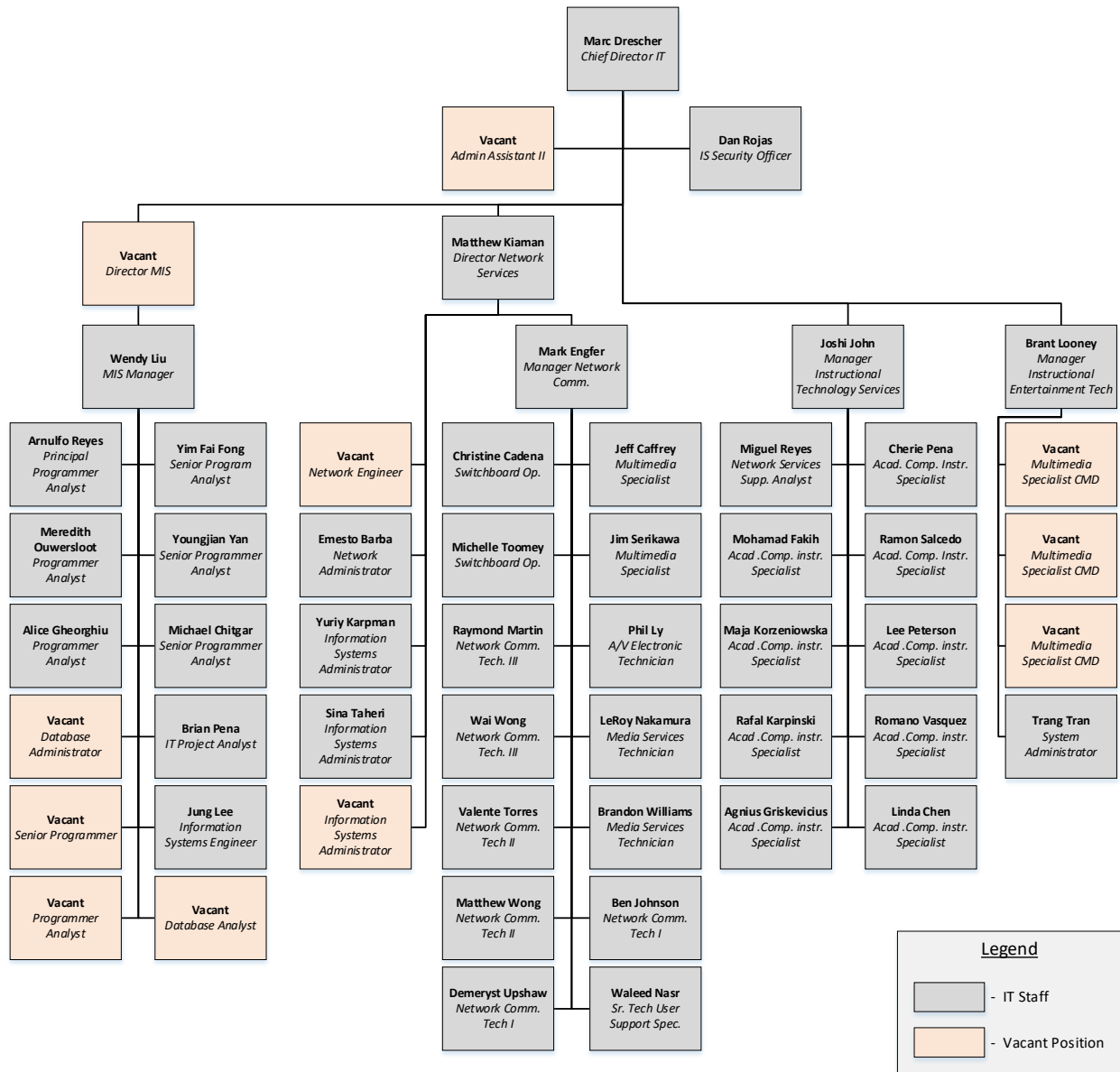
An overview of the responsibilities of each group is provided below:

- **Academic Computing** – Oversees instructional technology planning, budgeting, and purchasing for: operation of the student computer labs and computer classrooms on the main campus and satellite campuses (Emeritus, Bundy, and Performing Art Center).
- **MIS** – Creates, maintains, and expands the College's primary, centralized information system in support of the campus portal for faculty/staff, the student self-serve system, Academic Affairs, Enrollment Services, Business Services, Human Resources (HR), and other administrative areas, as well as the mission critical self-services internet access portal for faculty/staff and students.
- **Network Services** – Manages and maintains the College's mission-critical computer and network infrastructure. This includes network security, public safety technologies, account provisioning, email and web systems management, and enterprise server and storage infrastructure administration.
- **TSS** – Oversees installation, repair, and maintenance of the campus telephone systems and administrative and faculty desktop computer systems. This includes software and peripherals, physical security systems, public safety communications equipment, and fiber and copper infrastructure cabling. In addition, the group also provides and operates district switchboard services and provides technology user training.
 - **Media Services** (*currently part of TSS*) – Oversees classroom technical support, the lending out and repair of campus audio/visual equipment, duplication of College-related video tapes, CDs, and DVDs, as well as Media Production Services.

CMD – Oversees day-to-day Academic Computing IT operations at the CMD Campus. Support includes both lab and classroom and instructional support for specialized hardware and software used at the CMD campus.

The current organizational structure is depicted on the following page in Figure 1:

Figure 1: Current IT Organizational Structure¹



There are currently 11 vacant positions, which is approximately 20% of the department. In addition, the responsibilities of directors are not balanced, and managers have large spans of control. These challenges, among others, are described in this document.

¹ This figure does not include the Logistics Manager position, the Network Services Manager position, and a Systems Administrator position because the College indicated these positions would not be filled.

3.2 Trends in Higher Education

This section describes relevant trends in higher education that were considered when developing recommendations for the IT staffing plan at SMC.

Academic Lab Support – Many institutions, including some of the peer institutions noted in this document, have altered their strategies for supporting academic labs over the last decade to keep up with the changing demands and more stable technology. The support model in place at SMC was developed when computers were fairly new and students did not have much experience working with them. Now, the technology is reliable and the majority of students are comfortable with computers. As such, the students no longer need support for the technology and would benefit more from instructional lab staff with expertise in the fields they are studying. Many colleges now support labs with instructional support staff and have broadened the responsibilities of the previous IT staff to provide help desk and desktop support services. SMC has not kept up with this trend. BerryDunn’s recommendations provide an option to broaden lab staff responsibilities to leverage their skills to more than just a lab.

Cloud – Institutions are moving an increasing amount of applications and enterprise systems to the cloud. External vendors can often provide better service at a lower price largely due to economies of scale. This is fundamentally shifting the skills needed within a modern IT Department.

For example, if data is stored in the cloud rather than on campus, IT staff no longer need to continually deploy servers, apply patches, run backups, and monitor data centers. The migration to the cloud is shifting the role of several IT positions, including: database administrators, systems administrators, and programmers.

Database Administrators (DBAs): There has been a rapid increase in the amount of data collected over the past 20 years. However, according to the Bureau of Labor Statistics, the number of database administrators in the U.S. during that time has remained relatively stagnant. Cloud services such as Amazon Web Services (AWS) and Microsoft Azure have automated many tasks previously completed by DBAs. For institutions that have moved to the cloud, DBA roles have changed. In many cases, their roles have shifted from maintaining databases, backups, restores, and query tuning to focus more on data architecture, design, and analytics.

Systems Administrators: Today, many components of the technology stack (hardware, networking, operating system [OS], etc.) are provided by cloud vendors. As a result, these functions no longer need to be managed at the institution level. For institutions that have moved to the cloud, systems administrators still play a key role in keeping systems operational and managing integrations with cloud systems. However, to varying degrees, their job responsibilities have been shifted and consolidated.

Programmers: Homegrown systems like WebSIS require several programmers because everything is created and updated in-house, requiring specialized skills in different areas of a large student information system. Cloud systems are managed by the vendor and often

cannot be customized. For institutions that have moved to the cloud, programmers are often re-skilled to focus on new technologies such as AWS, Azure, and developing application programming interfaces (APIs). While there is still a need for programming skills, there is no doubt that the dedicated role is changing.

In addition, the cloud is creating the need for new functions in IT, such as vendor management, communications management, project management, integration specialization, and business intelligence analysis.

Funding and Staffing Levels – In BerryDunn’s experience, IT staffing levels have remained fairly constant in higher education over the past five years. Many institutions have invested in training and professional development to re-skill staff rather than seeking to hire externally.

Higher education has experienced reductions in state funding and some institutions have looked to IT for cost savings. As a result, sustainable funding was seventh on EDUCAUSE’s top-ten list of IT issues in 2019 and third in 2020. The following two bullets are excerpts from the 2019 issue and were called out as common misconceptions among institutional management:

- *Technology is simply a cost or overhead.* (IT investments can enable revenue generation by optimizing enrollment, improving retention, aiding in successful competition for new research grants, promoting capital campaigns, and much more.)
- *Technology budgets should not grow.* (Many institutions have chronically underfunded technology, neglecting to designate money for ongoing replacements and upgrades. And technology needs continue to increase as the value of technology grows and deepens.)

Developing a funding model that can support adoption of new services while also maintaining the growing need for existing IT services is critical to success.

User Expectations – Users come to campus expecting a seamless technology experience. This includes easy-to-use systems and fast Wi-Fi across campus. This trend will require IT staff to understand and develop IT as a world-class service organization. Students have many educational options now, and competition for students remains high.

Ever-increasing user expectations require more of a focus on customer service for IT organizations. Some institutions, including some of the peer institutions noted in this document, have director-level positions whose core responsibilities are supporting the end user.

Privacy and Security Considerations – New privacy regulations will require institutions to develop processes and policies to comply with student data protection guidelines. Additional requirements include reporting to boards, designated information security officers, and mandatory security and risk assessments.

Two of the top three IT issues published by EDUCAUSE are concerned with privacy and security:

#1 Information Security Strategy – Developing a risk-based security strategy that effectively detects, responds to, and prevents security threats and challenges.

#3 Privacy – Safeguarding institutional constituents’ privacy rights and maintaining accountability for protecting all types of restricted data.

Emerging Technologies such as AI and Blockchain – New and emerging technologies will continue to mature and become in demand. Colleges need to leverage these new technologies if they wish to remain competitive. IT will need to be ready to support these emerging trends and may need to train existing staff.

Adopting emerging technologies is important in maintaining the College’s innovative reputation. Initiative 3.2 of the College’s IT strategic plan is concerned with the adoption of emerging technologies:

3.2 Plan and Support Adoption of Emerging Technology Trends – Continually evaluate the existing and anticipated technology needs of the College, and work collaboratively with the College community to procure technology solutions that best meet the College’s needs.

3.3 Peer Benchmarking

Table 1, on the following page, compares select staffing figures between SMC, peers, and EDUCAUSE averages for Associates colleges (institutions at which the highest level of degree awarded is an associate’s degree). The EDUCAUSE data comes from the 2017 Core Data Service survey. A total of 775 institutions participated in the survey.

The following institutions participated in BerryDunn’s benchmarking study for SMC:

- El Camino College
- Long Beach City College
- Mt. San Antonio College
- Pasadena City College

Table 1: EDUCAUSE and Peer Benchmarking Data Comparison

EDUCAUSE and Peer Benchmarking Data Comparison						
Spending and Staffing Metrics	Santa Monica College	El Camino College	Long Beach City College	Mt. San Antonio College	Pasadena City College	EDUCAUSE Core Data Service 2017 Survey
Students, Faculty, and Staff full-time equivalent (FTE)						
Student FTE ²	24,155	18,140	19,478	33,756	25,650	N/A
Faculty FTE ³	718	558	582	803	779	N/A
Staff FTE ⁴	614	527	604	562	286	N/A
Central IT Staffing						
Central IT FTE ⁵	54	37.5	59.2	71.5	35	N/A
Central IT manager/director FTE	7	3	5	7	4	N/A
Number of central IT staff FTE per IT manager/director FTE ⁶	6.6	11.2	10.6	9.1	7.5	N/A
Central IT FTEs per 1,000 institutional FTEs	2.1	2.0	2.9	2.0	1.3	5.2
IT Support Services FTEs per 1,000 institutional FTEs	0.3	0.7	0.7	0.4	0.4	1.8
Information Systems IT FTEs per 1,000 institutional FTEs	0.7	0.1	0.8	0.5	0.1	0.8
Educational Technology Services IT FTEs per 1,000 institutional FTEs	0.3	0.3	0.3	0.2	0.1	0.6

² Figures based on CCC Chancellor's Office report - Full-time faculty compliance Fall 2019

³ Figures based on CCC Chancellor's Office report – Fall 2019 Full-Time faculty Obligation

⁴ Figures based on CCC Chancellor's Office report - Staffing for Fall 2018

⁵ Includes vacancies, does not include student workers or distributed IT staff. For example, IT staff that report through other areas of the college (i.e. marketing, distance education, etc.) have not been included.

⁶ Does not include IT leader.

EDUCAUSE and Peer Benchmarking Data Comparison

Spending and Staffing Metrics	Santa Monica College	El Camino College	Long Beach City College	Mt. San Antonio College	Pasadena City College	EDUCAUSE Core Data Service 2017 Survey
Enterprise Infrastructure FTEs per 1,000 institutional FTEs	0.04	0.1	0.05	0.03	0.04	0.6
Communications Infrastructure FTEs per 1,000 institutional FTEs	0.5	0.6	0.8	0.6	0.5	0.3
Information Security FTEs per 1,000 institutional FTEs	0.1	0.1	0.05	0.1	0.04	0.2
Student Worker FTEs as a percentage of total central IT FTEs ⁷	10%	0%	5%	4%	9%	8%

Takeaways

Comparative benchmarking analysis provides the following takeaways for the College:

- On average, SMC and its immediate peers have 51.4 central IT FTEs. SMC is closest to the average.
- On average, SMC has 6.6 direct reports per manager/director. However, the number of direct reports for managers at SMC ranges from 0 to 14. There is an opportunity to improve span of control. Reference Section 4.1.4.
- SMC has more educational Technology Services IT FTEs per 1,000 institutional FTEs than all of the peer institutions and EDUCAUSE average. This is because SMC has IT staff supervising labs. There are opportunities to change to adjust the responsibilities of these staff to add more value to the College. Reference Section 4.1.2.

⁷ Assuming one student worker equals 1/3 FTE

4.0 IT Organizational Assessment Recommendations

BerryDunn conducted an objective organizational assessment of the IT Department to observe challenges and make recommendations for improvement. The results of this assessment were shared with the entire department and discussed during a department-wide staff meeting on January 17, 2020.

Ten of the recommendations from the assessment are relevant to the staffing plan, as they focus on organizational structure and staffing. These recommendations are included in this section for reference and have been edited for clarity and context as needed to enhance understanding.

The recommendations are informed by best practices and represent a future state. They will take multiple years and iterations for SMC to implement. The road map in Section 5.0 of this document outlines incremental steps with suggested timing for SMC to achieve the future state.

Table 2: Summary of Observations and Recommendations

Summary of Observations and Recommendations		
#	Title	Summary
Section 4.1 Organizational Structure		
4.1.1	Hire a Director of User Services	The scope of the proposed Director of Network Communications position is too broad. The IT Department would benefit from an additional director-level position focused on frontline IT services.
4.1.2	Reorganize Frontline IT Support	Staff in TSS, Academic Computing, and CMD all provide IT support directly to students, faculty, and staff. There is an opportunity to reorganize these groups to better coordinate staff and improve service to campus.
4.1.3	Adjust the Scope of the Network Services Group	The Network Services group should include support for telecom, systems, logistics, cabling, and major projects.
4.1.4	Span of Control for IT Managers	The number of direct reports to managers has contributed to performance challenges within the department. Recommendations 4.1.1 – 4.1.3 will balance the number of direct reports to managers.

Summary of Observations and Recommendations		
#	Title	Summary
Section 4.2 Staffing and Development		
4.2.1	Perceptions of Workload Distribution	Employees perceive there is inequitable distribution of work, particularly within MIS, Media Services, and Academic Computing.
4.2.2	Vacant Positions	Several vacant positions need to be assessed to determine if they need to be replaced.
4.2.3	Job Descriptions	Some job descriptions need to be updated, as they do not consistently reflect job responsibilities.
4.2.4	Physical Location of Staff	IT staff are physically located in various locations across campus. This has hindered communication among IT staff and contributed to supervisory challenges.
4.2.5	Employee Schedules	The work schedules of several staff members and managers have been changed to accommodate personal needs, but do not best serve the needs of the district.
4.2.6	Opportunities for Professional Development and Growth	IT staff are discouraged by the lack of opportunities for professional development and growth.

4.1 | Organizational Structure

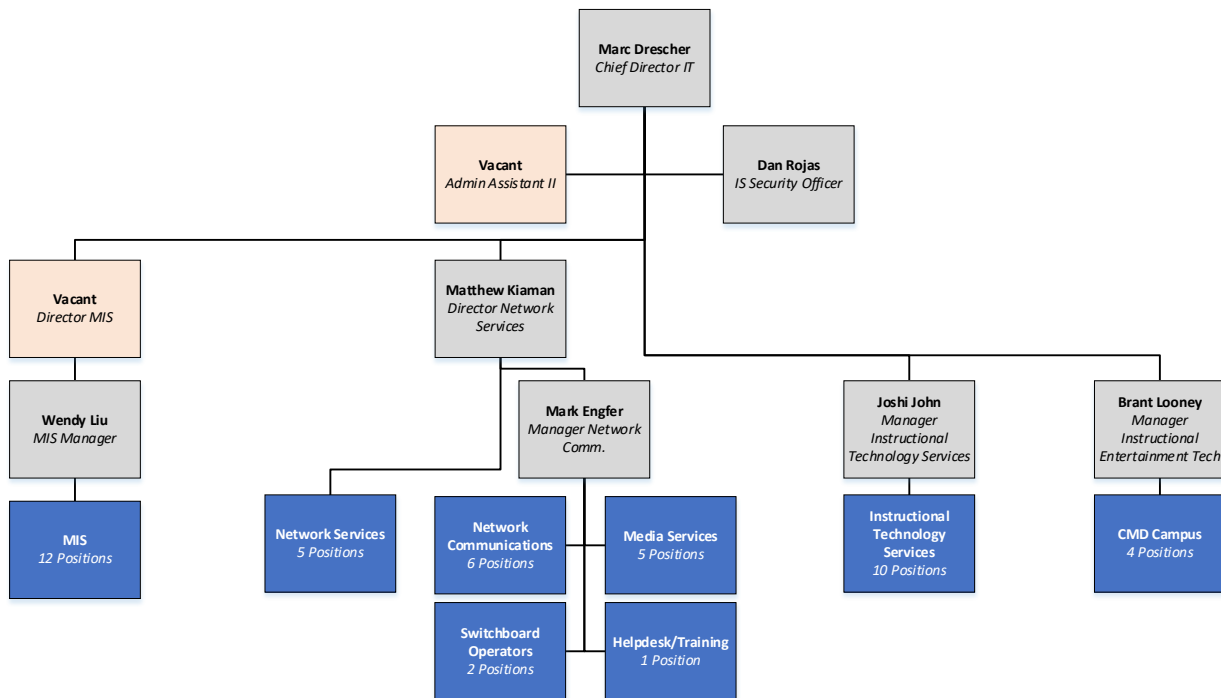
This section contains four recommendations that would change the reporting lines and responsibilities for some IT staff and managers in the department.

4.1.1 | Hire a Director of User Services

The scope of the proposed Director of Network Services position is too broad. The IT Department would benefit from an additional director-level position focused on frontline IT services.

If existing vacant positions are filled, the Chief Director will have four direct reports: the Director of MIS, the Director of Network Services, the Information Security Officer, and an Administrative Assistant. The responsibilities of the directors and the number of staff they are responsible for are not balanced. (Reference Figure 2.)

Figure 2: Current IT Organizational Structure⁸

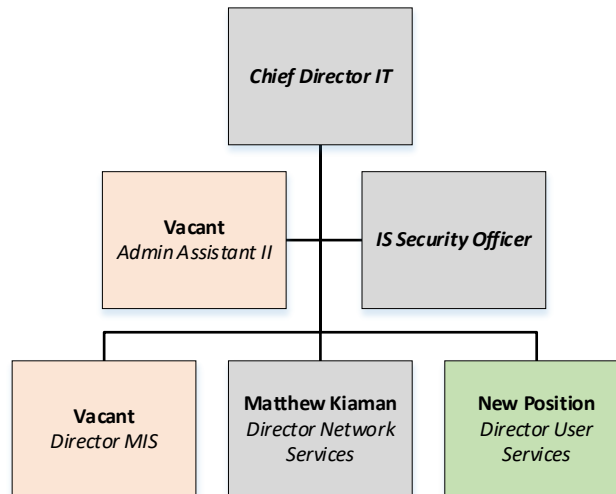


The Director of MIS has one direct report and is responsible for the MIS group. The Director of Network Services is responsible for directly managing Network Services staff, as well as overseeing TSS, Academic Computing, and CMD.

⁸ This figure does not include the Logistics Manager position, the Network Services Manager position, and a Systems Administrator position because the College indicated that these positions would not be filled.

Recommendation: SMC should create another director-level position focused on frontline IT support and restructure the IT leadership team to enable more equitable oversight of staff. Creating a Director of User Services will help the IT Department focus frontline IT support, reduce duplication of effort, and improve IT service delivery to students, faculty, and staff. (Reference Figure 3.)

Figure 3: Recommended Leadership Structure



4.1.2 | Reorganize Frontline IT Support

Staff in TSS, Academic Computing, and CMD all provide IT support directly to students, faculty, and staff. There is an opportunity to reorganize these groups to better coordinate staff and improve service to campus.

The current organization is as follows:

TSS – TSS is composed of four distinct groups: Media Services (five staff members), Network Communications (six staff members), Switchboard Operators (two staff members), and one Senior Tech User Support Specialist. Reorganizing these groups would benefit staff within the groups and add value to the institution.

Academic Computing – Academic Computing Instructional Specialist positions were created when computers were fairly new and students needed a lot of help using them. Now that computers are more reliable and students are more tech savvy, the need for dedicated IT staff in labs is lessened. At SMC, lab support staff may better serve the institution in general desktop support or help desk roles, where their services would have a greater reach.

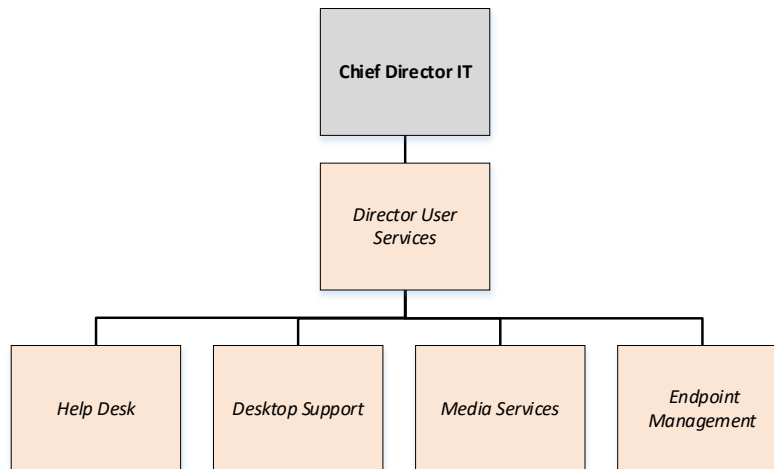
Many community colleges have moved away from IT support staff in computer labs. Lab staff move to the desktop support teams and are able to be leveraged across campus to meet

greater support needs. Labs can utilize software such as Deep Freeze to reset the image each evening to a clean baseline setup to help reduce any potential issues.

CMD – The CMD campus has a manager, three multimedia specialists, and one systems administrator. All three multimedia specialists retired in December 2019. The multimedia specialists provide instructional support for students focusing on specific software programs, such as Avid Media Composer. The majority of IT functions are handled by the Systems Administrator. There is an opportunity to better align IT staff at the CMD campus with the staff on the main campus.

Figure 4, below, proposes an organizational structure that would better meet the needs of the College.

Figure 4: Proposed User Services Organizational Structure



This model organizes user support into four key groups: help desk, desktop support, Media Services, and endpoint management. The manager and/or team lead positions depicted in Figure 4 would not entail hiring new managers, but would be filled by repurposed management positions that currently exist (TSS, Academic Computing, and CMD). Existing managers from these areas would fill three of the new roles, and their responsibilities would need to be adjusted accordingly. In addition, this model would create one opportunity for an internal promotion to a manager or team lead position. No new staff or managers would need to be hired.

The justification for organizational changes is described as follows:

Help Desk

SMC lacks a walk-up help desk that students, faculty, and staff can visit if they have questions or need help. There is a dedicated phone line to call with IT issues. A staff member in TSS is responsible for answering this phone line, and other members of the team provide backup as needed. SMC would benefit from a physical help desk that would also serve as the face of the IT Department. The first floor of the IT building would work well for a student-, faculty-, and staff-

facing help desk. Dedicated help desk staff would provide significant value to faculty, staff, and students, and would tackle tasks that are currently unaddressed. Their roles would include:

- Fielding walk-up questions, answering phone calls, and logging tickets during all hours of operation
- Resolving questions on first contact
- Escalating tickets to the necessary parties within the IT Department
- Developing formal documentation to help resolve future issues
- Training new staff
- Monitoring tickets for trends to identify problems

Desktop Support

Staff within TSS are currently responsible for supporting faculty and staff machines. Academic Computing staff are responsible for supporting computer classrooms and labs. Often, Academic Computing staff will provide support for faculty machines because they are located close by. SMC would be better served by a single team that provides support for all computers and devices.

Many institutions adopt a zone model, where desktop support staff are dedicated to specific buildings and spaces across the College. This way students, faculty, and staff become familiar with their dedicated IT staff, and IT staff become well versed in the specific technology in their zone. A desktop support team would likely consist of staff from both Network Communications and Academic Computing.

Some staff could continue to provide support for their specific students, faculty, and staff. The responsibilities of others would need to be adjusted to help ensure equitable workloads among the team. Taking a coordinated approach to desktop support would provide several benefits to the IT Department:

- Better insight into resources and improved ability to deploy staff effectively
- Improved redundancy, cross-training, and backfill
- Consistent standards and design, which will increase efficiency and provide increased support to other campus locations (e.g., CMD, Bundy, Emeritus)
- More opportunities for professional growth

Media Services

The Media Services team was recently moved into the IT Department, and the staff now report to the manager of TSS. Media Services should function as its own unit within the IT Department and report to the Director of User Services. Media Services staff provide support for classroom technology, which is an essential function at the College. At least one of the upcoming

vacancies at the CMD campus should be filled to provide classroom support. Two staff members may be required to provide coverage for all classes. These staff should report to the same manager as the Media Services staff on the main campus. This will serve to align processes and improve backup for staff.

In addition to classroom support, the Media Services group should continue to focus on its other functions, such as creating audio and video productions for instructional and administrative processes.

Endpoint Management

Endpoint management entails customizing the OS, applications, drivers, and settings on a single device and creating an image of it, then deploying this image to other devices. Multiple staff members are responsible for creating and deploying computer images. For example, an image is created to include all of the software and configurations needed for business classes. This image is then used to update all computers in the business labs. This service is very scalable with the right technology. A small team could provide these services to the entire College, which would free up a significant amount of staff time.

Coordinating endpoint management resources from across the College to form an endpoint management group provides several benefits, including:

- Improved ability to deploy computers and other devices to the entire College.
- Reduced time and effort, and making troubleshooting easier due to standardization.
- Consistent security standards.
- Improved efficiency. Staff time will be freed up to spend on student-facing functions, such as help desk, classroom support, and endpoint management.

Recommendation: Reorganize staff in TSS, Academic Computing, and the CMD campus into four groups—help desk, desktop support, media services, and endpoint management. Each team should have a manager or team lead position who reports to the Director of User Services. SMC should be able to form these groups without hiring additional staff. Vacant positions will need to be filled. Job descriptions will need to be updated or created. Some staff will need to physically move on campus.

As changes are made, SMC should assess the effectiveness of the staff levels to determine if further adjustments are needed to match demand within each team.

4.1.3 | Adjust the Scope of the Network Services Group

The Network Services group should be expanded to include support for telecom, as well as for cabling and major projects.

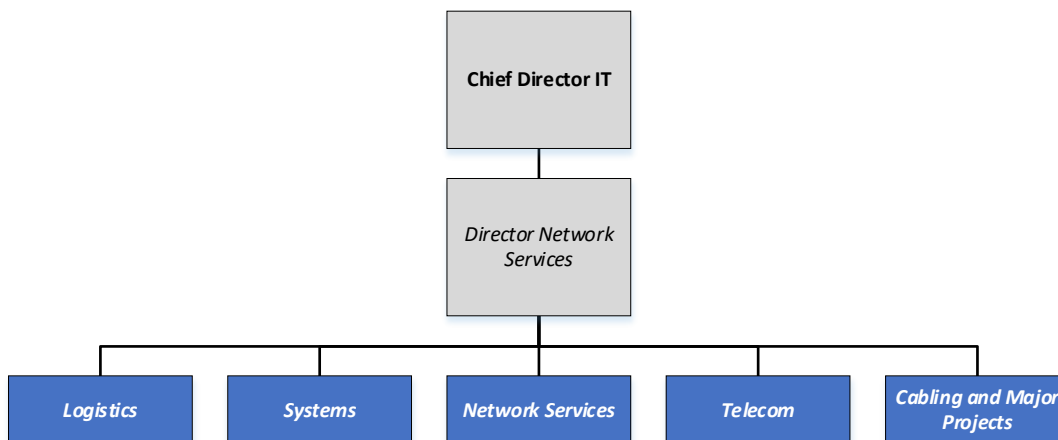
In the current organization structure, the responsibilities of the Director of Network Services are extremely broad and difficult for one individual to manage. If SMC creates a Director of User

Services (reference Section 4.1.1 and Section 4.1.2), the responsibilities of the Director of Network Services can be focused to include logistics, systems, network services, telecom, and cabling and major projects.

- **Logistics** – There used to be a logistics manager position in the IT Department. These responsibilities can be absorbed by the Director of Network Services.
- **Systems** – There are three systems administrators who currently report to the Director of Network Services and two other systems administrators on campus: one in the MIS group and one on the CMD campus. All systems administrators should be coordinated on the Network Services team.
- **Network Services** – The Network Services team currently includes a network engineer and a network administrator.
- **Telecom and Cabling and Major Projects** – There are six Network Communications techs in TSS who are responsible for telecom and cabling. The amount of work required for telecom was significantly reduced when the College migrated to a VoIP system, and demand for cabling projects is sporadic. As such, the techs have taken on desktop support and help desk responsibilities. The institution should assess the roles and responsibilities of each Network Communications tech and assign the techs to one of the following areas: telecom; cabling and major projects; help desk; or desktop support.

Figure 5 includes an overview of the services the Director of Network Services should oversee. The three areas depicted would likely not require enough staff to warrant managers in each area; however, different position classifications should exist to provide staff with opportunities for professional growth.

Figure 5: Proposed Network Services Organizational Structure



Recommendation: SMC should assess the individual roles and responsibilities of staff in the network communications group to determine the areas they should be assigned to in the proposed organizational structure. Data from the IT staff survey indicates that, based on existing workloads, telecom work requires slightly less than one FTE, and cabling and major projects require between one and two FTEs.

4.1.4 | Span of Control for IT Managers

The number of direct reports to managers has contributed to performance challenges within the department.

In a typical IT organization, an appropriate number of direct reports for managers is between six and eight staff members, but this can vary based on the factors facing each individual organization. There are advantages and disadvantages to both small and larger span of control. (Reference Table 3 and Table 4.)

Table 3: Large Spans of Control

Large Spans of Control (Current Organization of IT Department)	
Strengths	Challenges
<ul style="list-style-type: none"> Reduced cost because fewer managers are needed Increased delegation and responsibility can encourage employees Fewer layers of management can lead to faster decision-making 	<ul style="list-style-type: none"> Difficult for supervisors to manage, particularly if reports have different roles and responsibilities Employees might not feel supported by their managers, and maintaining relationships becomes challenging Lack of supervision can lead to poor discipline and poor performance Fewer opportunities for employees to grow into management roles

Table 4: Narrow Spans of Control

Narrow Spans of Control (Current Organization of IT Department)	
Strengths	Challenges
<ul style="list-style-type: none"> More time for supervisors to effectively coach and mentor employees Creates more opportunities for employees to move into management roles Less management skill is required 	<ul style="list-style-type: none"> Higher likelihood of silos developing between departments Might lead to communication challenges from upper management to staff

The MIS Manager has 12 direct reports (4 of which are vacant); the Manager of Network Communications has 14 direct reports; and the Manager of Academic Computing has 10 direct reports distributed across campus. The challenges of large spans of control are evident within the IT Department:

- Performance and discipline issues were reported in all three groups.
- There are limited opportunities for staff to grow. (Reference Section 4.2.6.)
- Multiple Academic Computing staff members expressed they did not feel supported by their manager.
- Media Services staff expressed they do not feel that management understands what they do; that they don't feel supported; and that they would rather report through a different organization on campus.
- There are significant imbalances in the workload on MIS staff. (Reference Section 4.2.1.)

Reducing the span of control would improve management's ability to lead their teams more effectively and deliver improved service to campus. It would also create opportunities for professional growth that would help improve morale within the department.

Recommendation: Sections 4.1.1 through 4.1.3 provide recommendations to restructure the IT Department that will address the span of control challenges in TSS and Academic Computing.

SMC should create two "Team Lead" positions in MIS. These individuals can help mitigate the wide span of control within the group. They can also help to promote a more structured team-based approach and develop staff within the group.

4.2 | Staffing and Development

This section contains six recommendations that seek to address existing staffing and development challenges in the department.

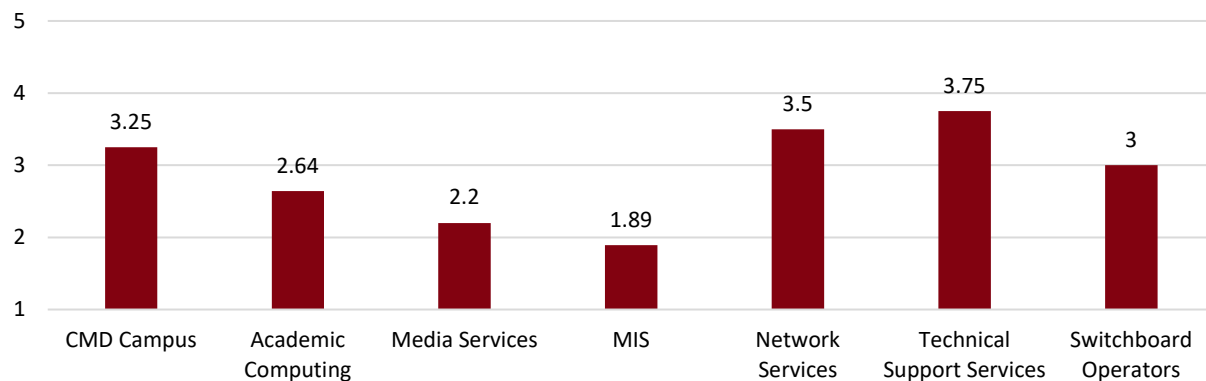
4.2.1 | Perceptions of Workload Distribution

Employees perceive there is inequitable distribution of work, particularly within MIS, Media Services, and Academic Computing.

Staff and management both expressed there is a disparity in employee performance and ability within the IT Department. Staff reported that some employees have excessive absences and do not follow scheduled work hours (i.e., they take long breaks, come in late, and leave early).

Figure 6 depicts satisfaction with workload and distribution of work by group within the IT Department.

Figure 6: Average Satisfaction With Workload and Distribution of Work by Group



MIS – Reports of workload distribution inequity is most evident within the MIS group. This can largely be attributed to the culture within the group. Programmers have historically worked on their projects independently with limited collaboration, coding standards, and documentation. Each programmer maintains their own code and modules. The more a programmer creates, the more they are responsible for maintaining. Over time, more productive employees have amassed more responsibilities and workloads have not been adjusted. Skill gaps exist within the group, and not all employees are able to support the modules and add-ons that have been created by their coworkers.

Media Services – Staff indicated that some employees within the group are performing significantly more work than others.

Academic Computing – Staff are located in the labs that they support across campus. Workloads vary significantly among staff based on the number of computers, labs, and specialized software programs they are responsible for. For example, one staff member is responsible for one lab with 34 computers, while others support several buildings and over 300

computers. In addition, some staff are responsible for creating and deploying OS images for their labs while others are not.

Staff reported that this perceived inequity has caused challenges when requesting time off. Those with fewer responsibilities have vacations approved fairly easily, while those with more responsibilities have had their requests denied.

Recommendation: Section 4.1 of this report proposes organizational changes that will address the workload distribution in Academic Computing.

The MIS group needs to focus on cross-training employees and offering professional development so all employees receive adequate training.

4.2.2 | Vacant Positions

There are 12 vacant positions within the IT Department that have remained unfilled, particularly within MIS. This increases the burden on existing staff, creates risk for the College, and contributes to decreased morale within the department.

Vacant positions need to be assessed to determine if they need to be replaced. Recommendations for specific positions have been organized into three categories:

1. Assess vacant positions and fill as needed
2. Adjust job responsibilities and fill the vacant positions
3. Wait to fill the vacant positions and adjust job responsibilities to address needs.

Table 5: Recommendations to Fill Vacant Positions

Existing Vacant Position	Recommended Action
Assess Existing Vacant Positions and Fill as Needed	
Admin Assistant II	Assess if this position is needed.
Network Engineer	Assess if this position is needed.
Multimedia Specialist CMD	Assess if this position is needed. It might be possible to fill this role with existing staff from the main campus.
Adjust Job Responsibilities and Fill Vacant Positions	
Director MIS	The future ERP system and implementation warrant a Director of MIS. However, a new ERP system is likely years away. Repurpose this vacancy to the Director of User Services to fill an immediate need for the College. A Director of MIS can be hired in the future when the timeline for a new ERP system is established.

Existing Vacant Position	Recommended Action
Director Network Services	This position is currently in the process of being hired. Narrow scope of responsibilities to focus on Network Services.
Database Analyst	Need for a database administration will be reduced by a modern ERP system; however, database skills are needed in the near term. Alter the job description to focus on system integrations, but also include database responsibilities. Job description should be broad enough to enable this role to evolve over time.
Programmer Analyst	Need for programming will be reduced by a modern ERP system; however, programming skills are needed in the near term. Alter the job description to focus on system integrations, but also include some programming responsibilities. Job description should be broad enough to enable this role to evolve over time.
Wait to Fill Vacant Positions and Adjust Job Responsibilities to Address Needs	
Database Administrator	Repurpose to address future ERP needs. Needs might vary based on selected system. Business Analysts will likely be required.
Senior Programmer	Repurpose to address future ERP needs. Needs might vary based on selected system. Business Analysts will likely be required.
Systems Administrator	Reassess needs once existing Systems Administrators have been coordinated organizationally to report to the Director of Network Services.
Multimedia Specialist CMD (2 positions)	Reassess needs once TSS and Academic Computing staff have been reorganized into help desk, desktop support, Media Services, and endpoint management teams.

Recommendation: Reference recommended actions in Table 5 above.

4.2.3 | Job Descriptions

Job descriptions do not consistently reflect job responsibilities.

Staff reported that their job descriptions do not align with the work that they are actually performing. For example, the systems administrator at the CMD campus spends a significant amount of her time on desktop support and endpoint management functions, and the job description for the Academic Computing Instructional Specialist position was last revised in 2008.

SMC should assess and update job descriptions for select IT staff whether or not they elect to pursue the organizational changes recommended in this report. If SMC moves forward with the organizational changes, they will need to create job descriptions for help desk, desktop support, and endpoint management roles. Each area should include multiple levels to distinguish skill and experience, and enable professional growth opportunities (help desk technician I – III, etc.). The job descriptions should clearly describe the differences in roles and responsibilities between levels. The personnel commission will need to be involved in this process.

Recommendation: Update staff job descriptions to align with roles and responsibilities. SMC will need to work with the personnel commission to create new job descriptions if the organizational changes in this report are implemented.

4.2.4 | Physical Location of Staff

IT staff are physically located in various locations across campus. This has hindered communication among IT staff and contributed to supervisory challenges.

The majority of IT staff are located in the campus IT building that borders Pearl Street. The Academic Computing team and units within TSS are distributed in various campus locations. (Reference Table 6 on the following page.)

Table 6: Physical Locations of Staff

Unit	Campus Location
Chief Director	IT Building, 2 nd Floor
Information Security Officer	IT Building, 2 nd Floor
MIS Group	IT Building, 2 nd Floor
Network Services Group	IT Building, 2 nd Floor
Academic Computing Group	Art Complex, Business Building, Cayton Center, Drescher Hall, IT Building - 2 nd Floor, and Life and Physical Science Complex
TSS Group	IT Building, 1 st Floor - IT Building, and 1 st Floor Lab - Library
CMD	CMD Campus

Staff expressed challenges with the communication between groups in the IT Department. Physical locations of the groups have contributed to the communication challenges and organizational siloes within the department.

The Network Communications Manager completed a study in January 2018 to assess the options for relocating his team. His study considered the Network Communications and Media Service departments, and presented two alternate options. He asserted that *“Both options will eliminate 100% of each Technician’s current shelf storage, will negatively affect the level of workspace security, and impact other factors as well, including workflow and possibly employee morale.”*

Recommendation: Regardless of whether SMC implements the organizational changes outlined in this report, it should review the physical locations of all IT staff in the department. SMC should consider the results of the study conducted by the Network Communications Manager. However, reviewing the physical locations of all staff may reveal additional options that were not considered when the study was focused on network communications and media services. Closer physical proximity can improve communications and reduce siloes between departments.

If organizational changes are implemented, then an assessment of the physical location of staff becomes even more important. Staff will need to physically move to align with new roles and responsibilities.

4.2.5 | Employee Schedules

The work schedules of several staff members and managers have been changed to accommodate personal needs, but do not best serve the needs of the district.

Colleges often stagger the hours of their front-line IT staff to help ensure support is available for all classes. SMC has taken this approach in Academic Computing, but it seems that some schedules in other groups—particularly in MIS—have been changed to align with personal

desires rather than customer needs. Reference Appendix A for a complete list of employee schedules by position and group. The variation in schedules has made it difficult to schedule meetings, manage projects, and balance workloads.

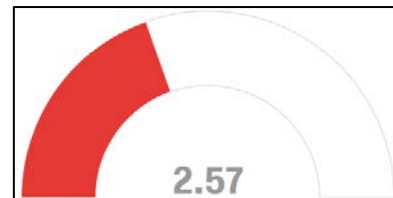
Recommendation: The Chief Director needs to work collaboratively with his managers and CSEA to align staff on a schedule that best meets the needs of the College. This should include staggered schedules for front-line staff to provide coverage for all classes.

4.2.6 | Opportunities for Professional Development and Growth

IT staff are discouraged by the lack of opportunities for professional development and growth.

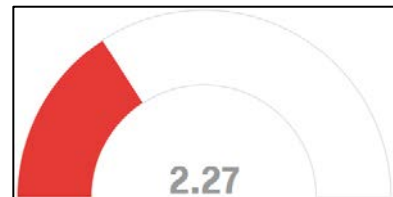
IT staff ranked professional development opportunities a 2.57 out of 5. (Reference Figure 7.) Staff indicated that they would appreciate more training in current systems and emerging technologies. SMC offers on-line classes via Lynda, but these are mostly beginner classes, and no time is allotted for training during work hours. Staff indicated that even some free training opportunities are denied because they would result in time away from work.

Figure 7: Satisfaction With Professional Growth Opportunities



IT staff ranked their satisfaction with their professional growth opportunities a 2.27 out of 5. (Reference Figure 8.) Some employees have been in the same positions for over a decade with no clear path for growth. For example, all nine staff members in Academic Computing have the same position classifications, even though workloads and qualifications vary. In BerryDunn’s experience, developing formalized individual professional development plans provides a road map with specific classes and training, costs, and timing. This can help staff stay up to date on skills and provide training in newer or emerging technology trends. More importantly, staff perceive this as the College investing in their development and growth. Leadership support and the necessary time needed to attend classes or training is critical to the success of these plans.

Figure 8: Satisfaction With Professional Development Opportunities



The IT Department is fairly flat, and employee turnover is low—particularly among managers. As of February, 2019 IT staff have been at the college for an average of 18 years and 7 months. This has resulted in limited opportunities for staff to be promoted into management roles. The classifications within the department have enabled some opportunities for professional growth. For example, MIS has Programmer Analyst, Senior Programmer Analyst, and Principal Programmer Analyst classifications, and TSS has Network Communications Tech Levels I – III classifications.

Professional development plans help ensure opportunities for all employees to advance their knowledge, skills, and abilities in ways that foster continuous improvement while fulfilling the institution's mission, vision, values, and goals. SMC's commitment to professional development is evidenced in the *Evaluation Form for Administrators, Managers, & Supervisors*.

Recommendation: There needs to be more investment in training and development. Trainings should be focused on specific technologies to keep up with the rapidly changing environment. Staff and management would benefit from ongoing development in several areas, including soft skills, customer service, and time management.

Managers need to support staff in creating professional development plans. Managers may need additional guidance from the Chief Director in this area.

Section 4.1 of this report proposes organizational changes that would create opportunities for professional growth within the IT Department.

5.0 Staffing Roadmap

Based on BerryDunn's work and supported by the peer benchmarking analysis in Section 3.2, SMC has an appropriate number of IT staff. SMC should focus on reducing duplicative responsibilities, making best use of existing staff, and planning for future needs. This section outlines 13 actions and suggested timing to address current challenges and position the department to meet the current and future needs of the institution.

While none of these actions are prerequisites for others, there is a sequence that we believe makes sense. The proposed timing outlines a plan to address change incrementally and build momentum throughout the process. Actions have been grouped into five categories:

1. Balance Management Structure
2. Assess and Fill Existing Vacant Positions
3. Focus on Employee Development
4. Implement Tiered IT Support Structure
5. Continually Assess Needs

5.1 Balance Management Structure

The new Director of Network Communications position and vacancies at the CMD campus make it an ideal time to reorganize the management structure within the IT department. This will improve span of control for managers and position the department well for future changes.

5.1.1 - Define the role of the new Director of Network Services: The scope of this role as it exists today is too broad. Section 4.1.1 recommends that SMC hire a Director of User Services, however if this is not be feasible immediately, there are actions that can be taken in the interim to reduce the scope of the role. See 5.1.2 – 5.1.4.

❖ *Timing:* February 2020 - April 2020

5.1.2 - Assess direct reports to the Chief Director: Having one or multiple managers report directly to the Chief Director would provide a more reasonable span of control for the Director of Network Services.

❖ *Timing:* February 2020 - April 2020

5.1.3 - Shift IT Management responsibilities among existing managers: Three IT positions have recently become vacant at the CMD campus. The CMD IT Manager now has one direct report. There is opportunity for this manager to take on some of the supervisory responsibilities of the other IT managers. This will help to balance the span of control. Reference section 4.1.4.

❖ *Timing:* February 2020 - May 2020

5.1.4 - Centralize IT support at the main campus: It will be challenging for the IT Department to effectively redistribute responsibilities with a manager physically located at the CMD campus. Centralizing support at main campus will enable this transition. In considering the transition, the IT Department must ensure that CMD stakeholders continue to have the support that they need. This could be accomplished by scheduled hours of support at the CMD campus and a service

level agreement (SLA). An SLA establishes an agreement between a service provider and its customers about the services provided, expectations, and timing.

- ❖ *Timing:* May 2020 – June 2020

5.2 Assess and Fill Existing Vacant Positions

There are currently 12 vacant positions within the IT department. Section 4.2.2 provides recommendations to address each vacancy. The vacant positions at the CMD campus and within the MIS department should be priorities for SMC.

5.2.1 - Assess vacant multimedia specialist positions: The vacant multimedia positions at the CMD campus could likely add more value to the institution if they were repurposed. SMC should work with CMD leadership to consider both IT and instructional needs of the CMD campus and fill the positions accordingly.

- ❖ *Timing:* March 2020 – October 2020

5.2.2 - Fill recommend positions in MIS: Uncertainty about the future direction of ERP has led to MIS positions remaining vacant. It is still unclear how long WebSIS will need to be supported into the future. SMC should prioritize the Database Analyst and Programmer Analyst vacancies described in section 4.2.2. Filling these positions will provide immediate support for WebSIS and will be valuable during the implementation of a future ERP system.

- ❖ *Timing:* March 2020 – March 2021

5.3 Focus on Employee Development

Professional development ensures opportunities for all employees to advance their knowledge, skills, and abilities to support changing needs at SMC. Employee development should be a continuous focus for SMC once the initial plans are developed.

5.3.1 - Establish professional development plans for all staff: A framework has been established to create professional development plans. Professional development plans are important because they require employees to set goals and provide a structure for the College to support employees in attaining their goals. The Chief Director should revisit the framework to make it clear and understandable for staff and managers. Clear expectations and timing should be established. Reference section 4.2.6.

- ❖ *Timing:* January 2021 – June 2021

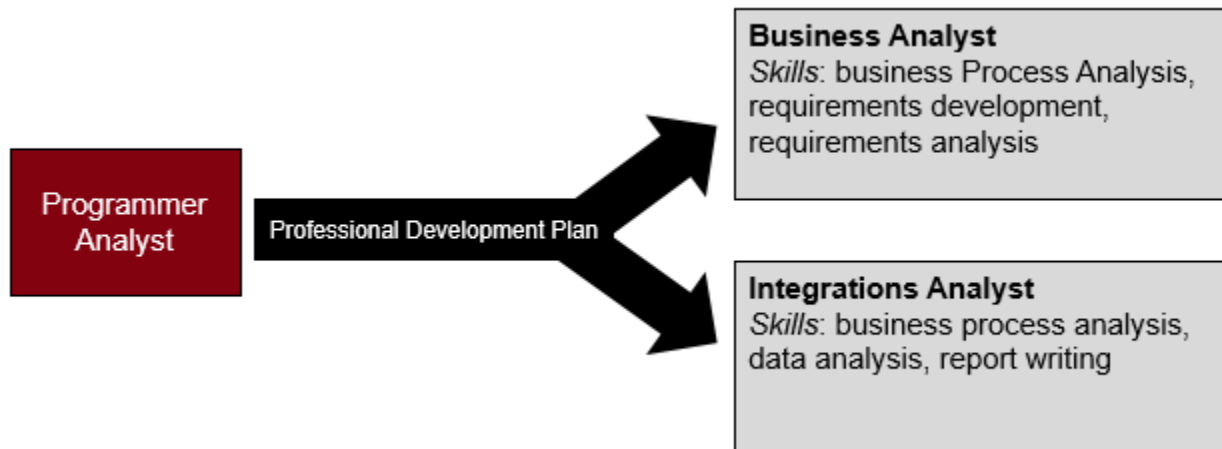
5.3.2 - Map job pathways: Section 3.2 of this report identifies several trends currently affecting IT departments in higher education. SMC needs to proactively plan for these trends as well as internal factors such as expected retirements. An effective way to do this can be job pathways mapping.⁹ This exercise is used to chart a path from an individual's current role to one that will be needed in the future. Pathways mapping focuses on the skills needed and incremental steps required to reach a desired future job. This exercise should be closely aligned with each individual's development plan. Figure 6 on the following page provides an example for a

⁹ Phelps, J. (2018, September). Scenarios, Pathways, and the Future-Ready Workforce. EDUCAUSE Review, 23–35.

Programmer Analyst. If desired, a similar path could be taken for select programming staff at SMC.

❖ *Timing:* January 2021 – June 2021

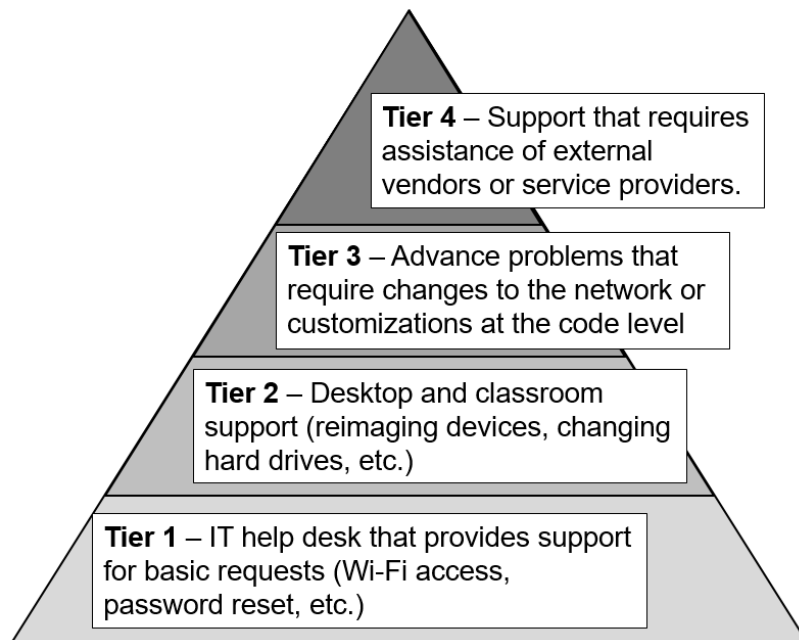
Figure 6 – Example of Job Pathways Mapping



5.4 Implement Tiered IT Support Structure

The recommendations in Section 4 of this report present significant change to the organization. The three actions in this section outline an incremental approach to reduce duplicative services and establish a tiered support structure. A tiered support structure will organize responsibilities within a department to improve the efficiency of the department. A sample support structure is depicted in figure 7 below:

Figure 7 – Sample Tiered Support Model



5.4.1 - Reimagine the role of Academic Computing: This is a significant undertaking and will require the involvement of multiple groups on campus, including the personnel commission and HR. As described in Section 4.1.2, academic computing staff support the computer labs. There is opportunity to reimagine how these staff are utilized to establish a tiered IT support structure for campus. This future state may include, for example, establishing walk-up help desks for students, faculty, and staff and restructuring the way SMC approaches desktop support. This effort will require strong executive sponsorship, focused training, and a coordinated change management effort.

❖ *Timing:* January 2021 – June 2025

5.4.2 - Reconsider role of TSS in light of the new tiered support structure: Once the tiered support structure is established and working effectively for the College, SMC should expand the model to include existing TSS staff. Again, this will entail a thorough assessment, involvement from multiple groups on campus, and a significant change management effort. Reference sections 4.1.2 and 4.1.3.

❖ *Timing:* January 2023 – September 2025

5.5 Continually Assess Needs

A staffing plan is a living document. The IT department needs to continually assess their resources and skills on an ongoing basis to support the needs of SMC.

5.5.1 - Assess needs and vacant positions: Effectively implementing the actions identified above will take significant time and effort. A lot can change during that time. SMC should continually assess vacant positions as initiatives are completed and needs change. SMC should also periodically assess the need for the proposed Director of User Services position and the need for security analysts.

❖ *Timing:* January 2020 – December 2025

5.5.2 - Align employee schedules with the needs of the department and the College: The current employees schedules have existed for years and have become engrained in the culture of the department. The Chief Director needs to work collaboratively with his managers and CSEA to align schedules and work hours with the needs of the Department and support needs of the College.

❖ *Timing:* January 2020 – December 2025

5.5.3 - Assess physical locations of IT staff and make adjustments as needed: Adjusting the physical locations of select IT staff will serve to improve communication in the department and will support the tiered IT support structure. Reference section 4.2.4.

❖ *Timing:* June 2021 – June 2022

A proposed timeline for these is depicted on the following page

5.1 | Staffing Road Map

The following timeline depicts the 13 actions that were described on the previous pages.

