COMMUNITY COLLEGE OF RHODE ISLAND INFORMATION TECHNOLOGY ASSESSMENT AND RECOMMENDATIONS PROJECT – SPRING, 2014

Executive Summary

In May, 2014, the Community College of Rhode Island hired an IT consultant, Dr. Kenneth A. Spelke, to conduct an assessment of the College’s information technology systems, services, and staffing in order to advise Senior Administration on the state of IT at CCRI. Specifically, the College was interested in learning how the IT organization was performing, if its staffing and organizational structure was appropriate for an institution of CCRI’s size and mission, and if its investment in information technology was producing desired results for the CCRI community’s IT stakeholders. Specific areas of inquiry included IT hardware, IT software, IT professional staff, and the College’s Help Desk services. Further outcomes desired from the assessment project included consideration of how to begin prioritizing a published list of 87 IT-related projects developed by the former CIO; and assistance in developing a set of criteria and other relevant information which could help inform the College’s search for a new Chief Information Officer, scheduled to begin this Summer.

The CCRI Assessment and Recommendations Project was conducted over an 8-week period from May 6, 2014 – July 1, 2014. For the first 7 weeks of the project, on-campus and telephone interviews were conducted with over 50 individuals and groups representing all major CCRI IT stakeholders, senior leadership of the College and of IT, members of the IT staff, a union representative, and the College’s former Chief Information Officer. Additionally, the consultant attended some Department of IT Senior Managers meetings and participated in a site visit to the State of Rhode Island Data Center in Warwick, hosted by the State CIO. Areas of inquiry during interviews included an oral SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) of IT, and questions about what respondents hoped to see in the College’s next CIO, and how that individual’s success may be measured. Two online surveys were also developed as part of the project – one for students and one for faculty, designed to elicit information about how these important stakeholders feel the Department of IT is performing, and where they would like to see changes in terms of the College’s IT services. These surveys, along with one focused on College staff, are expected to be distributed during the Fall, 2014 semester, and the results reviewed by the new Chief Information Officer, other college administrators, and perhaps the IT advisory groups. The final week of the project consisted of interview data review and analysis, and preparation of this report.

Overall, the state of IT infrastructure is sound; many IT services are good, though some need improvement; and there are IT staff issues which need to be addressed. That said, the state of the campus network and telecommunications infrastructure, high level of administrative interest and support, advisory structure, and CCRI’s willingness to invest in IT as appropriate, are reasons to believe the College will be successful in its future information technology operations as soon as the new Chief Information Officer joins the College and some of the organizational and other recommendations contained in this report are reviewed and adopted as appropriate. Rather than to restate the key points contained in this Report, it is respectfully suggested that the reader looks through this document, pausing to review the Recommendations which appear in bold throughout.
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Introduction

In April, 2014, the Community College of Rhode Island asked Dr. Kenneth A. Spelke, an information technology professional and consultant with 40 years of experience managing information technology services in higher education, to assist the College with a review and assessment of their Department of Information Technology. In addition to serving as Chief Information Officer at a number of colleges and universities, Dr. Spelke was Chief Information Officer for the Connecticut System of Community & Technical Colleges from 2008 - 2012. The goal for this project was to evaluate the College’s current IT operations, management, and investment in order to develop a set of recommendations for how CCRI can best maximize its investment in information technology in support of its educational mission to “...offer recent high school graduates and returning adults the opportunity to acquire the knowledge and skills necessary for intellectual, professional and personal growth through an array of academic, career and lifelong learning programs.”

A concurrent goal for this project was to identify the skills, knowledge, abilities, and personal qualities that CCRI should consider as it begins its search for a new Chief Information Officer later this summer. In order to develop a comprehensive and balanced knowledge of the current state of IT at the College, in-depth interviews were conducted over a period of 7 weeks with a cross section of stakeholders and with Department of Information Technology managers and professional staff.

CCRI’s Investment in and Deployment of IT Hardware

Generally speaking, the information technology infrastructure that exists at the College (the data center equipment, wired and wireless networks, and telecommunications system) are appropriately designed, reliable, and are meeting the College’s operational needs. The systems in place are capable of expanding in capacity (scalable), and they follow industry standards enough to enable the attachment and interfacing of new products and services when that is required.

Hardware provided for end users includes workstations, laptop computers, tablets and other devices as needed to meet work-related responsibilities; networked multifunction printers; academic computer labs; and special purpose, hardware-equipped rooms. Presently, CCRI manages over 3,300 desktop computers, 1,400 – 1,800 laptop computers, and approximately 300 tablet devices located across the

1 Dr. Spelke’s resume is provided in Appendix C.


3 See Appendix B for a list of the framework questions used during interviews with project participants.

4 A list of individuals and groups interviewed, and meetings attended for this project is provided in Appendix A.
College’s multiple campuses. The equipment observed appears to be of good quality, and the average replacement cycle of 3 – 4 years is consistent with best practices at U.S. higher education institutions. Faculty and staff are given options by the Department of Information Technology as to equipment they prefer to use (in terms of format – desktop, laptop, or tablet; and operating system – Microsoft Windows or Apple OS X), and this flexible approach to accommodating end users is a plus for the College.

It should be noted that the limited scope and timeframe for this project did not accommodate visits by the Consultant to all CCRI campuses in Rhode Island, and therefore, the observations made here are based on time spent in Warwick (Knight Campus) and a few visits to Lincoln (Flanagan Campus). That said, individuals and groups interviewed for this project work at and provide services at all of the campuses, and so, impressions that the hardware (and software – see next section) environment is properly designed and managed, and functions well, has a reasonably good confidence level.5

Recommendations regarding CCRI IT Hardware and Infrastructure:

- **Recommendation:** if it doesn’t exist, **CCRI should establish a depreciation schedule for all IT equipment of a certain value that is purchased.** This is especially true of servers that can reach end-of-life and are then no longer supported by their manufacturers.

- **Recommendation:** the College should actively **pursue the potential of moving its main Data Center hardware and operations to the Rhode Island State Data Center in Warwick.** There are many significant and beneficial reasons for doing this, including greater enterprise systems stability, savings in expensive and likely duplicative construction/renovation projects at the campuses, and a clearer path to achieving business continuity and disaster recovery.

- **Recommendation:** a link should be created from the CCRI homepage to **a live table that shows the current operating status for all CCRI major servers:** Up, Down, or Temporarily Down for Maintenance.

**CCRI’s Investment in and Deployment of IT Software**

When discussing a higher education institution’s investment in computer software, there are two major categories to consider: administrative and enterprise level software required for the College to conduct its business and to provide services; and end user software which enables faculty, students, and staff to effectively manage their computing needs. Each of these software categories were reviewed with individuals on campus who use them and help manage them. These two software categories are discussed separately below:

**Administrative and Enterprise Level Software at CCRI**

The Community College of Rhode Island utilizes two enterprise level software platforms: **Elucian Banner and Elucian Luminis** which support Finance, Financial Aid, Human Resources, Payroll, Student Services,

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5 As part of this IT Assessment Project, Web-based surveys were developed to elicit input from CCRI students and faculty about their first-hand experiences using the College’s information technology services and resources. Unfortunately, the timing for this project was such that the surveys would have had to have been distributed Commencement week, or shortly thereafter – likely resulting in a low level of response. It is recommended that these surveys be distributed after the Fall, 2014 semester is underway, and that a staff version of the faculty survey is also distributed. Responses to the questions presented in these surveys will provide metrics required to either support or refute the Consultant observations presented here.
and the MyCCRI Portal; and Blackboard Learn, the College’s Learning Management System. Both of these platforms are well established and well respected across higher education and appear to be serving the College well. CCRI self-hosts both of these applications through the Department of Information Technology, and there was wide perception that these systems are stable and well managed. Other software applications in use to support administrative functions also appeared to be appropriate and consistent with best practices employed at similar higher education institutions. The College’s Emergency Notification System, CCRI Alerts, utilizes RAVE Wireless’ product, and appears to be functioning properly.

Evisions Argos, a Business Intelligence Analytical Solution (BIAS), has been purchased by the College and is at the planning for implementation stage. This is a good product and, once deployed, should provide high quality reporting and useful analytical data through its “dashboards” and other features, contributing much to the College’s administrative functions and to CCRI’s institutional research operations. The College provides e-mail for faculty and staff on CCRI-owned servers, while student e-mail is provided via Microsoft’s Office 365 product. Both services seem to function well.

End User, Workstation Software at CCRI

As mentioned earlier, CCRI currently supports a wide range of technologies which provide end users (faculty, staff, students, and affiliates) with the tools they require to meet their administrative and academic responsibilities. Personal computer operating systems include Microsoft Windows (Windows 7, currently upgrading to Windows 8), Apple OS X for Macintosh computers, and support for mobile devices including tablets. Software provided by the College for these devices includes Microsoft Office Suite, Sophos Anti-Virus, and additional discipline-specific or function-specific software as required. Computers in the Academic Computer Labs are equipped with a good variety of applications which appear to properly meet lab users’ needs.

Recommendations regarding CCRI IT Software:

- **Recommendation:** continue building a CCRI Electronic Data Warehouse which will aid in data organization, data retrieval, and data security.

- **Recommendation:** establish and publicize a regularly scheduled CCRI Department of Information Technology maintenance window in order to properly manage maintenance and upgrades on Banner, Blackboard, Luminis Portal, and other enterprise level applications.

- **Recommendation:** the idea of a single desktop image pushed out across the entire institution should be reconsidered. While beneficial from an IT administrative standpoint, this may not be serving all campus units equally well.

CCRI’s Investment in and Deployment of Classroom and Instructional Technology

As mentioned in the last section, the Academic Computer Labs appear to be in good condition, with appropriate and reliable technology and sufficient staffing support. The technology and support situation in the CCRI classrooms, however, raises significant concern. Issues include aging hardware, inconsistency in classroom systems design, and understaffing.
Aging Hardware in the Classrooms

According to CCRI’s Web site, there are over 200 technology equipped classrooms located on the Knight, Flanagan, Liston, and Newport campuses. While the equipment refresh cycle for the College’s computing devices is 3 - 4 years, a good practice, what emerged from interviews was an alarming refresh cycle for classroom data projectors of up to 8 years. The Epson 1815 Data Projector, for example, installed in many classrooms across CCRI’s campuses, was manufactured in 2007, shipping ended in 2008, and all of these units are now out of warranty. Though it is unlikely that all projectors will need to be replaced at once, the estimated cost for replacing 200 data projectors would be around $360,000. Technology in these rooms is not limited to data projectors, but also includes computer workstations, classroom control systems, and other peripheral devices. This equipment also needs to be regularly refreshed.

Inconsistency in Classroom Systems Design

At present, according to individuals interviewed from Academic Affairs, Student Services and the Department of Information Technology, there is variability across classrooms with regard to information technology systems in place and how those are operated. This creates a dilemma for instructional staff who sometimes need to learn entirely different systems and operating procedures if they teach multiple classes or class sections in different classrooms at CCRI. As a result, and particularly if a problem arises that is unfamiliar to the instructor, who may be more familiar with malfunctions he or she has experienced in differently equipped classrooms, valuable class time can be lost. Developing a standard for technology-equipped classrooms throughout a campus and across campuses would be an improvement that would likely be welcomed by CCRI faculty.

Insufficient Staffing

At present, there are 200+ technology-equipped classrooms at CCRI, and over 30 of these rooms contain SmartBoard technology. Classroom technology needs to be supported at all hours that CCRI offers instruction, including evening and weekend classes. This is a substantial coverage obligation, and as a consequence of today’s instructors’ reliance on technology, it is essential that classroom support is available in a timely fashion, and that those responding to problems are well trained and equipped to solve them. Currently, this entire area of IT responsibility, across all campuses, is handled by five full time staff members (the Director of Academic Support plus four IT employees), supplemented by part-time workers. This situation calls for increasing full time staff on all campuses (part-timers, though invaluable, should always be supervised by regular full time employees), and “being only one deep,” meaning there is no back-up for a full time employee who becomes ill, is away on vacation, or gets called for Jury Duty, creates too much vulnerability in a services area upon which so many depend.

The staffing shortage in this unit of the Department of Information Technology is further exacerbated by the fact that, in addition to providing classroom support, these employees are also responsible for providing technology support at College Special Events. Further comment about this appears in the recommendations section which follows.
CCRI has adopted **Blackboard Learn** as its Learning Management System, or LMS. Blackboard Learn is the most widely used commercial LMS in higher education, and its maturity, stability, and features set is well regarded. Management of Blackboard Learn is a shared endeavor at CCRI. The College self-hosts the hardware in its Data Center, and Department of IT staff (Center for Instruction & Technology unit) provide faculty training and support (and student support) for this enterprise level service. Faculty training and development is also provided by the Distance Education Faculty Coordinator, affiliated with the Office of the Vice President for Academic Affairs. From interviews, it appears that the College community is reasonably satisfied with Blackboard Learn’s stability and features.

**Recommendations regarding Classroom and Instructional Technology at CCRI**

- **Recommendation**: consider outsourcing LMS Support, at least for evenings and weekends, to a third party provider like Blackboard Student Services.

- **Recommendation**: serious effort should be made to build a closer working relationship between the Department of Information Technology and the CCRI Library, especially in the area of instructional technology.

- **Recommendation**: the College needs to reassess how special events are technically supported by the Department of Information Technology. Academic Support is a small unit, and is barely managing their normal multi-campus classroom support responsibilities without also trying to provide coverage for these special, often off-hour events. If fees are collected for some of these events being held in CCRI facilities, perhaps an appropriate portion of that revenue should go to helping the Academic Support unit obtain additional personnel. In the current situation, it appears that CCRI sometimes acts like a “conference center,” but with no conference center technical staff.

- **Recommendation**: update classroom technology to a standard, which should be consistent across all CCRI classrooms. An instructor should be able to switch rooms or have different classes in different classrooms without first having to learn disparate systems and/or the peculiarities of a particular classroom.

- **Recommendation**: as mentioned earlier in this section, the Classroom Technology equipment refresh cycle needs to be shortened to no longer than 4 years... 7 to 8 years, as has sometimes been the case, creates reliability risk and doesn’t take into account rapid advances in presentation technologies.
CCRI’s Investment in IT Professional Staff

Concerns and issues pertaining to the staffing of CCRI’s Department of Information Technology were prevalent themes that emerged across almost all interviews, meetings, and conversations conducted during the Information Technology Assessment Project’s 7-week fact finding phase.

Quality and Preparation of the Staff

While there is, at CCRI, the generally held perception that staff morale and performance problems exist within the Department of Information Technology (See Interpersonal and Morale Difficulties, below), there also seemed to be strong agreement among stakeholders that the IT staff largely consists of well qualified and dedicated professionals who have both the training and the experience to serve the College well. What seems to have evolved, is a climate brought about by poor supervision and a leadership model characterized by unclear communications, a lack of transparency, and an unwillingness to be accessible to the staff. Several IT staff members reported having requested training so that they could build the skills necessary to more fully contribute to emerging technologies the College was pursuing, and, while some employees’ training requests were honored, others were denied. Allegedly, to some extent, this had to do with a system of favored and unfavored employees.

How the IT Department is Organized and Managed

The structure of CCRI’s Department of Information Technology, both in terms of general number of employees, and the units in which those employees are organized, is consistent with information technology departments at similarly sized institutions with similar institutional missions. The Department is led by a Chief Information Officer who supervises the activities of unit Directors, and in some cases, Managers, who, in turn, supervise their respective units. The Chief Information Officer at CCRI reports to the Vice President for Business Affairs, and the regularly attended meetings of the President’s Council. See Recommendations section (and Recommendations section under The Next Chief Information Officer heading) for specific ideas on how the Department of IT organization can be improved and strengthened. It is worth noting that the overall departmental organizational structure does not appear to have contributed to the current staff interpersonal and morale problems.

6 As a part of the information gathering phase for this project,
Interpersonal and Morale Difficulties

One of the immediate and most consequential challenges that will face CCRI’s new Chief Information Officer will be finding a way to restore trust and collegiality among the Department of IT staff. Several interview participants, including many IT employees themselves, described the Department as “dysfunctional” or “broken.” One staff member went so far as to say “I don’t think ‘broken’ adequately describes our problems. What is more serious than ‘broken’? ‘Fractured’ is how I would describe the current IT staff situation.” There are individuals in Department of IT units who are fearful of speaking out about their concerns for fear of retaliation by their supervisors or co-workers. Some employees were frustrated by what they felt was a lack of respect for their skills and contributions to the College. Many cited receiving ample criticism, but seldom any praise for “jobs well done.”

Staffing Needs Going Forward

The CCRI Information Technology Assessment and Recommendations Project consultant agrees with the stakeholders interviewed for this project that many skillful, talented, and dedicated employees exist in the Department of Information Technology. With the arrival of a new CIO, it is expected that an analysis of the College’s IT needs and future challenges will begin in earnest, and this will be reflected in further development of CCRI’s IT Strategic Plan. This articulation of need and future direction will, in turn, speak to any reorganization and additional staffing that may be required to best align the Department of Information Technology with CCRI’s institutional goals. It is at this stage that informed planning can occur around which individuals on the IT staff will require further training, and specifically, what type of training. Also, it will be important to identify IT staff members with the potential (and interest) to advance upward in the CCRI IT organization. This may indicate a need for providing managerial skills training for those individuals.
Recommendations regarding the CCRI IT Professional Staff

- **Recommendation**: there exists a real set of interpersonal problems, trust, and collaboration issues within the Department of Information Technology. The College should seriously consider a mandatory full day or multiple day staff retreat, held off-site, and conducted by an external professional facilitator, shortly after the new CIO's arrival. The purpose for this activity will be to expose and understand serious issues and concerns that have led to the current state of staff dysfunctionality, and to begin the process of building a new culture of service, of trust, and of cohesive teamwork across the entire IT organization. As one IT staff member observed: “I think the IT Department has many staff members with good information technology skills coupled with significant experience. What is needed is training and staff development in the area of manners and treating each other with dignity and respect.”

- **Recommendation**: several IT staff members thought it would be beneficial and positive for the President to convene a meeting of the whole Department of Information Technology staff. At that meeting, he could acknowledge the unfortunate problems that have occurred in IT, and reassure the staff that the College is committed to making positive changes in the Department in order to more closely align IT services and staff with the strategic mission of CCRI. This idea is at least worth considering, especially since it was articulated by a number of IT staff members.

- **Recommendation**: the new CIO, early in his or her tenure at the College, will need to analyze and consider whether the present senior management team (the directors and managers) are “the right people for their jobs,” or if some are contributing to the Department’s current level of dysfunctionality and morale issues. Those individuals may still have a constructive role to play in IT at CCRI, but should be reassigned to other duties that don’t include supervisory responsibility.

- **Recommendation**: all full time employees in the Department of Information Technology should be evaluated annually. This is an important responsibility of all supervisors, and it is something the new CIO should insist upon. The annual review should include a face-to-face meeting between the employee and his or her supervisor where a written summary of strengths and areas for improvement is discussed, and the employee should have an opportunity to respond in writing to what the supervisor has stated in the annual review document. Equally important, the annual review process should include “an action plan” – steps the employee will undertake in the next 12 months or so, with the supervisor’s and the College’s support, to help improve his or her skills, so that the employee is fully equipped to succeed in making a substantive contribution to the College and its mission.

- **Recommendation**: the College should hire additional full time staffing for MIS. This unit has been reliable and productive, and provides strong support for the administrative functional areas of HR, Payroll, Finance, Financial Aid, and Student Services, but they’re stretched very thin. Specifically, at least 3 positions are needed – an additional Database Administrator, someone skilled in business intelligence applications (preferably with Argos experience in a Banner environment), and an additional person to support HR, Payroll, and Finance.

- **Recommendation**: given the complexity and size of CCRI’s Web presence, an additional full time Web Coordinator with responsibility for direct campus department and unit Web support
should be hired. This will be very beneficial to campus units trying to modify and keep their Web pages properly designed and up-to-date.

- Recommendation: a number of staff members in the Department of Information Technology have been with the College for many years, and it is likely that some of these individuals are nearing retirement. It would be advisable to establish a plan for the training and development of those current professional IT employees who have potential to be promoted and to replace senior staff members when they leave. This process has greater value if not done “at the last minute,” since important institutional knowledge is often lost when senior employees depart, and this knowledge (about “how to get things done,” and “who to see to make things happen”) can often be captured through mentoring and shadowing.

- Recommendation: the College should consider establishing the position of IT Department Business Manager to help administer the department’s budget, prepare equipment purchase requisitions, provide equipment purchase quotes for College departments, and help manage software licensing. Alternatively, this could be one of the areas of responsibility for the Executive Assistant to the CIO.

- Recommendation: create an additional unit of the Department of Information Technology – the Project Management Unit. Staffing for this important function can come from internal IT staff transfers, and possibly from one or two of the currently open, unfilled IT full time positions. All IT-related projects should funnel through this office. If an approved project is to go forward, it should be tracked with project management software which establishes an executive sponsor for the project, identification of staff and financial resources committed to it, a timeline for completion, and regular updating on progress and delays toward completion. Further, an intranet Web site (College administration and staff viewing only) should be developed in order to enable CCRi administrators, and others as appropriate, to view exactly what projects are underway, and how they’re progressing. Clarizen, Genius Project, and AtTask are among the better pm software applications, and there are other good ones, as well.

CCRI’s IT Help Desk (aka “Service Desk”)

In any organization that employs information technology, the Help Desk function can be a key determinant in that organization’s success in fulfilling its objectives. The Help Desk enables end users (whether called “customers,” “clients,” “users,” or “stakeholders”) to access and successfully navigate required information and services. Interaction with the Help Desk, whether a positive and productive experience, or a negative and frustrating one, is often the first (and likely most frequent) interaction end users have with the IT Department.

While the Help Desk function is important in any higher education institution, it may, arguably, play an even more vital role in community and technical colleges, where some students, especially nontraditional ones, may have had limited experience using information technology hardware, software, and services delivered via the Internet. Initial experiences using technology are especially critical, for those early experiences “set the tone” for an individual’s self-confidence and comfort level using these tools which are essential for achieving academic success. It is for these reasons, that an examination of CCRI’s Help Desk (currently called the “Service Desk”) is so important. While the limited scope of this
project did not allow sufficient time for a careful and thorough analysis of CCRI IT's Help Desk services!
and this is something the College is strongly advised to conduct, perhaps with the assistance of the new CIO, a few general observations are provided here, along with some initial recommendations.

**Walk up Help Desks on the campuses**

The benefit of having staffed Help Desk facilities on each CCRI campus is not clear. Given the limitations of staffing, it may be more beneficial to have all User Services staff congregated in one central location, like the Knight campus, where they can provide longer hours of telephone, e-mail, messaging, chat, and other communications coverage. In any event, there will continue to be User Services staff on each campus administering the Academic Computer Labs, and these individuals, to some extent, can assist end users who may come by seeking help.

**Complaints about Long Response Times and about the Current Help Desk Phone System**

During interviews,

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**Priorities and Response Time**

The IT Service Desk consists of lecturers and full time staff. The lecturers answer the phone and emails. They also go on office visits to assist faculty and staff with their technology issues. The full-time staff goes on office visits to assist faculty and staff, provide remote assistance and advise on equipment to purchase.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Description</th>
<th>Response Time</th>
<th>Completion Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jrgnt</td>
<td>Affects more than five individuals, or is mission critical and there is no workaround available. Examples: E-Mail services are not functional; network is not available; classroom computing technology is not functioning, pending a class.</td>
<td>Will call or page Support Specialist for immediate response.</td>
<td>Within 4 hours</td>
</tr>
<tr>
<td>High</td>
<td>Affects one to five individuals, no workaround available. Example: Computer with critical data won't boot</td>
<td>Within 4 hours</td>
<td>Within 1 working day</td>
</tr>
<tr>
<td>Medium</td>
<td>Affects fewer than five people, workarounds available. Example: Can't check e-mail from one computer, but could use WebMail from another computer.</td>
<td>Within 1 working day</td>
<td>Within 3 working days</td>
</tr>
<tr>
<td>Low</td>
<td>No effect on productivity, or unsupported software. A service request that does not require immediate attention or involves long range planning. Examples: Monitor showing b/w instead of color. DVD player has no sound.</td>
<td>Within 3 working days</td>
<td>Within 5 working days</td>
</tr>
</tbody>
</table>

***The completion/response time is based on our normal business hours***

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7 The online student and faculty surveys developed as a part of this project, and planned for distribution during the Fall, 2014 semester, contain questions specifically designed to generate data on end user experiences and satisfaction with the CCRI Department of Information Technology Service Desk. An additional version of the survey is recommended to elicit input from College staff.
The operant words here are “based on our normal business hours.” While the response times and criteria for prioritization sound reasonable, there appear to be no services available, even for the most urgent of needs, during off hours. These will often be the times (evenings and weekends) when students are attempting to complete assignments, and when faculty and staff are trying to perform their work or meet deadlines.

Need for a Better, Automated, and Transparent Services Ticketing and Tracking System

When an end user contacts the Help Desk for assistance, a ticket should be created which states the nature of the problem, the date and time the service request was received, its priority level, and the service queue in which it has been placed, along with the name of the responsible IT unit expected to resolve it. A copy of this information, as an acknowledgement, should automatically be e-mailed back to the requestor, along with an issue/tracking number. The Department of IT’s Desktop Support unit is currently developing plans for a rollout of Cherwell’s Help Desk Management Software. From the demonstration the College’s IT Consultant received about this product and the way it is being customized for CCRI, it appears to be a powerful application which holds much promise were it to be properly implemented and universally adopted by the Department of IT and the College. In addition to supporting Help Desk functions, the Cherwell application has a number of other useful features including hardware and software asset inventory management.

Need for a Knowledge Base

As discussion takes place around a reorganization of CCRI’s Help Desk operations, it will be important that these plans include the creation of a full-featured, interactive Knowledge Base. This Knowledge Base will be populated by Help Desk issues that are received, resolved, and then documented with an appropriate level of detail. This will build cumulatively, so that Help Desk staff will have a reference resource for solving problems, including problems that have occurred in the past for which a solution has already been developed. A Knowledge Base can serve multiple functions, including expediting problem resolution, alerting IT professional staff to trends in service issues that may indicate a systemic problem (e.g., defective hardware, software, network issues, or incompatible browsers), and it should be made available to end users via the Internet, so that those who wish to try to resolve their IT problem without initiating a Help Desk request, may do so.

Recommendations regarding CCRI IT Help Desk

- **Recommendation**: the name “Service Desk” should be retired, and this service should go back to being called the “Help Desk,” which is how it was referred to anyway by the majority of individuals and groups interviewed. The name change was a marketing approach, and has appeared to many as disingenuous and as a means for not having to resolve the more substantive issues around delivery and quality of service. Renaming it the “Help Desk,” along with a commitment to truly making it a valued campus asset, will deliver an important message.
• **Recommendation:** reorganize the Help Desk operations. Bring all full time Help Desk staff to the Knight Campus where they will work as a unified team. Extend full time staff coverage for the hours the College actually operates and offers classes. Use part time employees assigned to the Academic Computer Labs to also assist with Help Desk needs when they are able and trained to do so. The new CIO will need to address the staffing problem of needing at least one responsible full time IT employee at each campus to supervise facilities and the activities of the part-time staff.

• **Recommendation:** if they don’t already exist, a good small brochure should be developed, printed, and widely distributed that describes CCRi’s Information Technology Services for Students (and perhaps additional versions for faculty and staff). These handouts should include guidelines for logging in to campus services, how to connect mobile devices to the wireless network, a link to information about campus IT policies, and directions on how to get help when needed.

• **Recommendation:** representatives from the Department of Information Technology should present and participate in all College sponsored orientations (new students, new faculty, new staff) so that they can describe and explain the information technology services and facilities available at the College. This would be an important opportunity to distribute descriptive materials about services (see Recommendation above) and answer questions from those new to the CCRi community.

• **Recommendation:** consider outsourcing certain Help Desk functions – like Blackboard Learn student and faculty support, resetting student passwords, etc. – to vendors like Blackboard Student Services who can provide 24/7 coverage, or services contracted to cover those specific times that CCRi staff are not on duty.

• **Recommendation:** instill a culture of service and commitment to end user support on the part of Help Desk staff. A number of individuals and groups interviewed were frustrated over what they felt was poor quality of service and difficulty obtaining services through current procedures. This indicates that the current system is broken.

• **Recommendation:** an assessment should be made about whether or not the non-Knight CCRi campuses suffer from a lack of adequate IT support. While outside the scope of this limited project, an evaluation should be undertaken to determine if students, faculty, and staff at the other campuses are receiving the support they need at an appropriate level. Perhaps, some Department of IT employees need to be transferred to the other campuses, in order to balance out service levels (if that is an issue). This could also serve as a possible solution for some of the Department’s current management problems, since Warwick-based managers could be reassigned to provide coverage at the other campuses.
Recommendations for Prioritization of Major IT Projects Currently Underway or Proposed

During interviews, meetings, and discussions conducted over the past several weeks, a number of individuals alluded to and expressed alarm over what was referred to as the “List of 87 IT Projects.” What emerged from these conversations and from a discussion with the former Chief Information Officer, was a sense that there has been some degree of misunderstanding about what this list actually is, and how best to react to it. Rather than a “to do list,” of projects the Department of Information Technology and the College units associated with them were expected to accomplish, the purpose of this list was to simply compile in one place, a collection of all IT-related needs and desired technological solutions that stakeholders across the College community have articulated. No promises were made that all or even a small portion of these projects would be undertaken – but this comprehensive list of “asks and interests” could serve as a useful starting place for ISAC, the President’s Council, and other groups to begin considering what may be needed, and how appropriate projects from the list may best be addressed and prioritized.

Since one of the goals for the Assessment and Recommendations Project was to review this list and identify at least the more important projects for the College to be considering, that is provided here. It should be noted that many of the items on the list refer to changes or additions to Banner, and the urgency of those is best left to a more detailed conversation between MIS and the College functional areas who have requested them. The number or numbers in parentheses after a project name refer to the Project ID Number on the IT Projects 2014 – 2015 document.

CCRI Information Technology Projects of High Importance / Priority

- *Implementation of Argos* to support Enterprise Reporting (7)

- Moving forward on *Disaster Recovery and Business Continuity* (46)

- *Identity and Access Management* (29). Purpose is to control access by individuals to CCRI systems. This includes establishing user roles along with permitting or denying access to services sites based on the user role. When a person’s role changes, or he or she leaves the College, permissions and access should immediately reflect those changes.

- *Enterprise Data Warehouse Project* (3, 79)

- Initiate *Change Management Procedures* (not on list) which follow industry best practices and auditor approved guidelines for how changes in enterprise systems are reviewed, approved, and documented.

- Establish process and procedures for *Data Retention Policies and Purge Schedules* (13)

- *Rack Management and “Green Initiative”* (30). This project is part of the larger, recommended initiative to relocate CCRI’s main data center functions to the RI State Data Facility in Warwick. It also connects directly with the Disaster Recovery and Business Continuity project (46)
• Password Reset Application (61)

• Unified Communications (87). This project ties together telecommunications services like voicemail, telephone, and e-mail through integration with the College’s Avaya phone system and has great productivity advantages for College units and offices.

• Digital Literacy and Information Security Awareness (45)

• ID Card Printing Shift to Academic Computing Labs (38). **NOTE: This project needs a discussion between Student Services, Anthony Dzikiewicz, and Dawn Lewis before proceeding.**

• Implementing Online Registration Capacity for Non-Credit Courses (not on list)

These 12 projects are not listed in priority order, but should be undertaken as resources permit, and in whatever order best helps facilitate their completion. If these projects can be achieved, or if significant progress can be made toward their completion within the coming year, CCRI should realize good value and benefits from them.

**Additional Recommendations**

• **Recommendation:** *While IT staff members should be vital and regular contributors to the advisory committee process, they should always be members but not chair these committees.* Implementing this approach will lead to greater trust and confidence in the legitimacy of the advisory group’s decisions and recommendations.

• **Recommendation:** A concerted effort should be made to identify CCRI students to serve on the IT advisory committees — or at least on ITAC and ATAC.

• **Recommendation:** *Serious consideration should be given to considering changes in the College’s IT governance.* In addition to advisory committees, which have definite value, CCRI should think about creating an Information Technology Policy Committee (not chaired by the CIO) which would help establish IT policies and help set IT priorities.

• **Recommendation:** *The role of ISAC should be strengthened* so that it has a more influential role in helping set administrative IT project priorities.

• **Recommendation:** *ISAC should produce an annual report, disseminated college-wide,* which details projects that have been completed over the prior year (crediting those who helped accomplish them), projects which are currently underway with an expected time frame for completion, and projects which were discussed or requested that are not moving forward, and the reasons for that (budget limitations, lack of staffing to fulfill them, no demonstrated need, etc.).
• **Recommendation:** given its importance, and the role the College’s Web site plays in the work of many campus departments and units, the College should **consider establishing a Web Site Advisory Board.** This advisory board could report up through ITAC, as do ATAC and ISAC.

• **Recommendation:** an area perhaps worthy of consideration by the College is whether the Department of Information Technology should have a more formal “Web Services Management and Support” unit, or if the Web Services unit would more appropriately be housed in Public Relations / College Marketing?

• **Recommendation:** the college needs to establish a clear policy / guideline whereby the Office of the CIO is consulted BEFORE any department purchases hardware or software or initiates a project which will have implications for the Department of Information Technology staff and resources. It is not reasonable to expect the Department of IT, with staffing and other resources limitations, to have responsibility for projects and needs that it had no input into or knowledge about, prior to a commitment being made to go forward with the project. In other words, the policy should be clear that only the CIO may commit Department of IT resources. This should also apply to grant-funded projects for which IT support will be required. A good practice would be to schedule a meeting with the CIO at the time a grant-funded project is being contemplated: “What will be required of IT if the project is funded?” “Will any direct or indirect costs be available to assist the Department of IT with the grant’s required support?” These, and others, are good questions to ask at the project planning stage.

• **Recommendation:** the College should consider creating a single, fully integrated Center for Faculty Development under the auspices of the Office of Academic Affairs. This Center would support faculty training in best practices for the use of instructional technology in support of pedagogy, online education, and enhancement of student learning. Staffing would come from a variety of campus departments, including Academic Affairs, Information Technology, and the Library. The current structure for this area appears fragmented and confusing: there is the work that Maryadele Combe does out of the Department of Information Technology, the activities of Maggie Burke in the Office of the Vice President for Academic Affairs, and the efforts of Jeanne Mullaney and the Center for Teaching, Learning, and Assessment (CITLA). It seems that it might be more beneficial to the faculty were these services coordinated and managed as a single entity.

• **Recommendation:** work should continue on the current **IT Strategic Plan (ITSP).** The ITSP planning process should include participants from across the stakeholder groups who utilize IT services, and from within the Department of Information Technology. The key will be to develop an IT Strategic Plan which directly maps to the CCRI strategic plan and to the institution’s mission. “It’s not about IT, it’s about how IT can best support CCRI’s students, faculty, and staff.”

• **Recommendation:** the Department of Information Technology should **regularly offer IT skills workshops for CCRI staff** in order to help them more effectively use information technology to accomplish their tasks and fulfill their responsibilities.

• **Recommendation:** the process through which purchases are decided should always include **direct and detailed conversation between the Chief Information Officer and the respective**
Department of Information Technology director within whose area of responsibility the new acquisition will reside. This speaks to both collaboration and transparency. As a best practice, major purchasing decisions should be known to all of the IT directors by being openly discussed at their regular Directors / CIO weekly meetings.

- **Recommendation:** continue to build on CCRI's "functional teams" partnership model between staff in the MIS unit and the functional areas they help support (Finance, Financial Aid, HR/Payroll, and Student Services). This is a great approach, and seems to have served CCRI well.

- **Recommendation:** CCRI should establish or improve upon the test environment where new services and customizations (like changes in Banner) can reside and be debugged prior to moving into the live production environment.

- **Recommendation:** CCRI needs to concentrate efforts to establish a more secure IT environment. This will require a multi-faceted approach, including establishment of IT Security Policies; procedures to follow when a data intrusion is suspected or determined; campus wide IT Security Awareness Training; and deployment of a system of Data Stewards in every College division and department. It should be noted that risk assessment and acceptable level of risk is not a Department of IT responsibility - it's everyone's responsibility. It is appropriate that IT risk be co-managed by the IT Department and the Office of Business Affairs.

- **Recommendation:** IT Security should be a part of CCRI's overall risk management function. There should be a dotted line relationship between the Department of Information Technology and the Controller's Office with regard to handling data risk and managing the College's risk posture. These concerns relate directly to audit functions and to data stewardship.

- **Recommendation:** the College needs to develop a robust IT Security Awareness Training Program for all members of the CCRI community. This training should be mandatory for all employees, and administered in a similar fashion to how HR requires all employees to receive, and periodically renew, Workplace Harassment Training.

- **Recommendation:** the College should develop and widely distribute free security awareness mouse pads throughout its campuses and at College events. These mouse pads can be imprinted with the College logo and a list of "the 10 things you can do to help protect your computer, your identity, and your College network from theft."

- **Recommendation:** CCRI needs to establish a Security Incident Response Team. This group, once in place and properly trained, will convene whenever notification is received about a possible intrusion which may have resulted in the exposure of individuals' personal identity information. Team members should include the Vice President for Business Affairs, the College Legal Counsel, the Chief Information Officer, the IT Security Officer (when hired), and the Director of Marketing, Communications and Publications. The Security Incident Response Team will keep the President apprised of all significant incidents, along with their recommendations for appropriate action.

- **Recommendation:** when logging into the CCRI system, there should be a splash screen at login that always appears: "By clicking here, I acknowledge that I have read and will comply with all CCRI policies pertaining to appropriate use of CCRI networks, equipment, services, and systems."
"To review these policies, click here." Even if users do this "automatically," the College has evidence that the user agreed to comply with CCRI appropriate use policies.

- **Recommendation:** *College IT should increase the timeout for people accessing Outlook Webmail from off campus.*... it's too short to be useful, and sometimes you lose your work because the "end session" warning is hidden behind other open desktop windows. Possible improvements include increasing the timeout to a longer session, and/or automatically extending timeout when there is user activity like keyboard strokes or mouse movement.

- **Recommendation:** *share information about this IT Assessment and Recommendations Project.* Several IT staff members commented that there have been other consultants hired and reports generated in the past, but "these were kept secret and not shared with the Department of IT staff. And this has led to mistrust and a feeling of being excluded."

- **Recommendation:** *this IT Assessment and Recommendations Project needs to generate results, whether large or small.* As one administrator expressed it: "There needs to be some tangible outcome from this consulting project so that people trust the process, even if they don’t necessarily agree with the outcome, or with all of the observations and recommendations made."

### The Next Chief Information Officer

Early in his or her tenure, CCRI’s new CIO should distribute the student and faculty surveys, along with a staff survey, in order to obtain up-to-date information about how the Department of Information Technology’s services are being perceived, and what needs to be done moving forward.

Also, the new CIO should schedule highly publicized “IT Town Hall Meetings” at each of CCRI’s campuses in order to listen to comments and suggestions, and to learn about areas of frustration among IT end users. *A special effort should be made to encourage participation in these meetings by CCRI’s students.*

### Qualities and Qualifications for CCRI’s Next CIO

During the interviews with all groups and individuals, the following question was asked:

> "What would you say are the most important qualities and qualifications CCRI should emphasize as the College begins its search for the next Chief Information Officer?"

#### Qualities and Qualifications Expressed by IT Stakeholders:

- **New CIO should have strong collaborative skills which will be needed to forge effective partnerships across CCRI and within the Department of IT**

- **Someone who will be trusted and trustworthy**

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9 Items printed in *italics* indicate responses provided by significant numbers of respondents (many people mentioning that particular quality or qualification).
- Someone who takes the time to understand the different campus units' and departments' responsibilities and works closely with them to see that their IT needs are being properly supported.

- Someone who will be effective at managing internal Department of IT operations (i.e., their current interpersonal and morale issues). “Nothing will improve until that is taken care of.”

- Someone who is committed to creating a “culture of service,” and can lead the Department of IT in a more customer-centric direction. IT needs to return to a set of values and commitments so that, once again, they are a highly valued problem-solving partner on campus, rather than “the Department of No,” that they seem to have become in recent years.

- Someone with the knowledge and ability to advise College Senior Administration and others on matters relating to information technology.

- Someone who can serve as a leader in identifying for stakeholders what is possible and practical when it comes to information technology services and tools.

- Someone who is skillful at moving projects forward.

- Someone who is good at following through on commitments.

- Someone who knows how to manage expectations (from campus units and within the Department of IT).

- Someone who acts in a timely manner, implementing projects and initiatives within a reasonable timeframe from when they are first announced.

- Someone who can move the model of the Department of IT being reactive to a Department that is proactive.

- Someone with strong decision-making and priority setting skills.

- Someone who has an understanding of Academic Calendars and understands when in a semester it is or is not appropriate to make system changes or perform maintenance.

- Someone who can create a secure and robust IT environment.

- New CIO will need to be visible and accessible. (Should regularly participate in Deans’ Council, Department Chairs Meetings, College Division Meetings, etc.)
• Someone who works well with faculty and staff

• Someone who will gain the trust and respect of CCRI colleagues at all levels

• Must be an effective communicator

• Must be a good listener

• New CIO should be a visionary leader who understands current and emerging technologies and can articulate what the possibilities are for using IT in support of the College’s mission and goals

• New CIO needs to be a strong strategic planner

• The new CIO should actively seek ways to improve the CCRI students’ experience with regard to their use of IT services

• Someone who embraces the value and importance of increasing technology and information literacy for all members of the CCRI community

• Hiring a new CIO should not just be about finding someone with good technical skills. “This person must also possess people skills, management skills, and leadership skills – there needs to be a balance.”

• The new CIO should not be so IT-centered that he or she loses sight of the larger CCRI educational enterprise, institutional mission, and institutional goals

**Qualities and Qualifications Expressed by Department of IT Staff:**

• Someone who is inclusive, collaborative, and is committed to bringing the staff into the planning and project management process

• Someone who treats the IT staff like they’re part of one team. New CIO will need to work actively to break down barriers between “silohed” Department of IT units and their staffs

• Someone who will gain the trust and respect of the IT staff; someone who can create strong and authentic relationships
• Someone who can create a climate where the IT staff respects and appreciates each other. They should be able to trust one another and like one another

• Creates a climate where employees look forward to coming to work, rather than dreading the issues and problems they will find there

• Someone who always puts the students first

• Creates a climate of transparency in the IT Department

• Will have strong one-on-one communication skills

• Someone who communicates clearly and effectively

• Needs to be a strong manager and department leader

• Needs to develop a way of including and valuing the Department’s part-time staff

• Someone with strong IT Strategic Planning skills

• Should lead by example, be a good coach to the IT staff, and operate with energy and enthusiasm

• “the new CIO should be about ‘we,’ not about ‘I’”

• Directors need more autonomy to manage their respective areas. This would enable them to be more effective at providing the services their units are responsible for

• Someone who listens to, and helps empower the staff. Someone who values staff suggestions and their ideas

• Someone who “knows what he or she doesn’t know, admits it, and then seeks out the missing knowledge or information.”

• New CIO should be a friendly person – someone who is visible and accessible. There really needs to be a true “open door policy” for staff who wish or need to see the CIO

• Someone who supports staff training and staff development which leads to retention of talented employees. CCRIT should not be a “revolving door of employees.”
• Needs to be skilful at “hiring the right people, promoting the right people, and retaining a strong staff.”

• Someone who believes that, sometimes, the “best new candidate” is already on the staff... a CIO who supports the concept of promoting qualified employees from within the organization

• New CIO should have a strong IT background, and basically understand the work and technologies of all of the units in the Department of IT – but doesn’t need to be a “techno-wizard”

• Someone with good technology judgment. The new CIO should be discriminating about when to bring in new technology, and when it is advantageous to build on existing technology. One IT staff member referred to this as being “innovative vs. incremental.”

• New CIO should develop methods for using metrics in order to accurately assess how services are or aren’t working, and how they may be improved

From these lists, it appears that the desirable qualities in a new CIO for the Community College of Rhode Island are fairly well aligned and consistent regardless of whether one is an IT stakeholder or a member of the IT staff.

What College IT Stakeholders and IT Staff Think the New CIO Will Need to Accomplish to Be Successful

All groups and individuals who participated in this project were asked:

“What will the new CIO have to have accomplished in the first two years of his or her work at CCRI for you to be able to say, “Gee, I am so glad we hired this person. He or she has fulfilled so much of what we were hoping for. This person was a great choice!”

Some responses:

• IT staff feels properly supported and valued, morale has improved, and productivity has increased

• A properly functioning IT organizational structure has been implemented and things are running more smoothly

• There are fewer complaints and union grievances

• The new CIO will have worked with the IT directors and the IT staff to help make them better at what they do
• A culture of service has been instilled and adopted across all Department of Information Technology units

• A strong partnership between the Department of Information Technology and CCRI’s IT stakeholders has been built

• The new CIO has created an atmosphere of collaboration, trust, and excitement about the potential of IT to truly enhance learning and improve CCRI’s services and functions

• **RECOMMENDATION: serious consideration should be given to making the next Chief Information Officer a full Vice President and a direct report to the CCRI President.** Information technology is a cross-cutting service that affects virtually all dimensions of a higher education institution’s operations. While this is not an essential change, and IT management can exist and succeed within many different organizational models, the point is that the CIO can be a more effective leader with a greater potential to contribute to an institution’s success when he or she is directly and intimately involved at the highest level of institutional decision-making and direction and priority setting. This recommendation is, in no way, a reflection on the leadership capabilities or clearly strong management skills of the present Vice President for Business Affairs to whom the CIO currently reports. According to the Chronicle of Higher Education’s 2013 Survey of Chief Information Officers, the trend in recent years continues toward making the role of Chief Information Officer more strategic. According to the 2013 statistics, 34.5% of higher education CIOs report directly to a President or other Chief Executive Officer, 22.5% report to a Chief Academic Officer, 21.5% report to a Chief Financial Officer, 16% report to an Executive Vice President or Chief Operating Officer, and the remainder have a variety of other reporting structures.

“Many times, discussion at the Cabinet won’t have anything to do directly with information technology, but everyone should be in everyone else’s business,” as one chancellor recently described it. Academic affairs should weigh in on business issues. Business affairs should weigh in on information technology issues. And the IT leader should contribute to discussion around reaccreditation, campus safety, etc. While it is definitely a good development that the CCRI CIO is a member of the President’s Council, that may not go far enough in fully integrating this vital area into all aspects of the institution’s operations. A final observation is that not having CCRI’s Chief Information Officer as a direct report to the President may somewhat limit the College’s ability to hire the strongest of candidates, since some potential applicants may only be interested in working at an institution where they function as a Cabinet member.

• **Recommendation: the new Chief Information Officer should be someone with extensive experience managing information technology services and personnel at a higher education institution, and preferably at a similar institution to the Community College of Rhode Island,** since the mission and needs of a community / technical college and its students are unique and different from, say, a research university or an elite liberal arts college.
• **Recommendation:** it will be important to assess the CIO candidates’ experience and ability to deal effectively and constructively within a unionized environment. Not all prospective CIOs can do this well, or have done it at all.

• **Recommendation:** the new CIO will need to build a culture of service for the Department of Information Technology. Every decision and investment made must be based on a customer-centric view: “How will this action directly benefit student success and administrative functionality?” If this basic question cannot be readily answered, then the decision and investment being contemplated is likely not worthwhile.

• **Recommendation:** the new Chief Information Officer should make an appointment with the College’s legal counsel, Ron Cavallaro, shortly after beginning work at CCRI. The purpose for this meeting will be to begin establishing a close working relationship, and to begin clarifying procedures that will help facilitate the joint efforts of Legal Affairs and Information Technology that certain incidents and issues require.

**Conclusion**

The Department of Information Technology at the Community College of Rhode Island, despite serious issues of morale, trust, and commitment, has, nevertheless, created a solid information technology environment that generally serves the College’s students, faculty, staff, and other stakeholders well. Enterprise level services like the Banner ERP, Blackboard Learning Management System, Luminis Portal, the wired and wireless networks, and campus telecommunications services operate reliably with little downtime except for scheduled maintenance. The staffing size of the department is not quite large enough, given the variety and scope of services expected and required (e.g., Instructional Technology supporting College Events in addition to supporting over 200 classrooms for all of the hours the College operates; and MIS being asked to take on increasing responsibilities, including programming and system modifications brought about by ever changing compliance requirements and “unfunded mandates” like the Affordable Care Act). If the currently unfilled IT positions could be made available to the Department, and if the recommendation to create a Project Management Unit (which should help create efficiencies) were to go forward, along with some additional funding to increase the number of part-time IT workers, then staffing may reach a level adequate for an institution of CCRI’s size. The one caveat is the need for adequate full time IT expertise and a full time supervisory presence at all campuses. The IT staff are talented and knowledgeable information technology professionals, and most appear dedicated to the College, truly embracing and supporting CCRI’s mission. As already discussed, however, many of these same individuals are at a low point in morale, some feel stressed, others worn out, and most under-appreciated. On the other hand, there appears to be a level of cautious optimism that their work situation, the quality of their department, and their potential to accomplish good things for the CCRI community could turn around with the right CIO to help lead them.

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10 By means of example, even though the Connecticut Community Colleges System Office had over 40 full time IT employees providing centralized services, each of the 12 community college campuses maintained their own IT staff and operations, varying in size from about 18 full time employees to around 6, depending upon institution size and need.
Recruiting a Chief Information Officer is never an easy process, and given the College’s recent challenges in this area, it will be especially important to develop a clear set of criteria for the personal qualities and professional skills that this new campus leader will need to possess in order to successfully solve some significant problems, re-energize the staff, and articulate a vision for all that can and must be achieved in the coming years. When asked what would be needed in CCRI’s next CIO, the words and phrases repeated most frequently were “collaborative,” “trustworthy,” and “skillful communicator with an inclusive and transparent leadership style.” It is perhaps interesting to note that in an Educause ECAR study of over 3,000 higher ed IT professionals from over 1,000 institutions, including over 350 Chief Information Officers, 100% rated communication skills as important for success as a CIO, and 31% rated technical proficiency important.\textsuperscript{11} So, what CCRI is seeking in its next IT leader is consistent with what the higher education IT leadership community thinks is most important for someone in this role.

A few final thoughts...

In fairness, not all problems encountered in reviewing the Department of Information Technology are solely Department of IT issues. Certain challenges and problems are not unique to IT, but are symptomatic of larger institutional issues (like budget reductions and State policies) that other CCRI campus units are also facing and trying to properly resolve.

Modernizing the Community College of Rhode Island’s operations through a more effective use of information technologies serves at least two important purposes. Clearly, this can lead to greater administrative functional efficiencies, and in the case of a business intelligence/analytical solution like Argos, to data driven decision-making and evidence-based strategy. Modernizing and developing the College’s IT capacity and services, however, also achieves the important (and more subtle) value of demonstrating that the College “gets it,” that they are embracing 21\textsuperscript{st} century best practices technological solutions. This is an important reputational message to deliver to the College’s stakeholders (including students — and legislators - who likely have relatives and friends at other institutions and, therefore, a means of comparison) that CCRI is a well-run and innovative 21\textsuperscript{st} century institution of higher learning.

APPENDIX A - List of Individuals and Groups Interviewed, and Meetings Attended for this Project
APPENDIX B – Framework Questions Used During Interviews with Project Participants

1. In terms of their support for your work and your office, what, if any, are your biggest concerns regarding CCRl’s IT Services?

2. If you could change anything about the CCRl Information Technology Unit’s structure or operations, what might that be?

3. What do you think are CCRl IT’s greatest strengths?

4. What do you think are CCRl IT’s greatest shortcomings?

5. In terms of your office’s functions, and understanding the financial limitations we all face, what would you say should be the five (or fewer) top priorities for IT over the next three - five years?

6. What will the next CIO need to accomplish in order for you to conclude that he or she was a really good hire?
APPENDIX C – Resume for Dr. Kenneth A. Spelke – CCRI Information Technology Consultant

Redacted in its entirety.