

## **5.1 - Knowledge Management**

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Knowledge Management focuses on how data, information and performance results are used in decision-making processes at all levels and in all parts of the institution.

### **5P1: PROCESSES**

Describe the processes for knowledge management, and identify who is involved in those processes. This includes, but is not limited to, descriptions of key processes for the following:

- Selecting, organizing, analyzing and sharing data and performance information to support planning, process improvement and decision making
- Determining data, information and performance results that units and departments need to plan and manage effectively
- Making data, information and performance results readily and reliably available to the units and departments that depend upon this information for operational effectiveness, planning and improvements
- Ensuring the timeliness, accuracy, reliability and security of the institution's knowledge management system(s) and related processes
- Tracking outcomes/measures utilizing appropriate tools (including software platforms and/or contracted services)

### **5R1: RESULTS**

What are the results for determining how data, information and performance results are used in decision-making processes at all levels and in all parts of the institution? The results presented should be for the processes identified in 5P1. All data presented should include the population studied, response rate and sample size. All results should also include a brief explanation of how often the data is collected, who is involved in collecting the data and how the results are shared. These results might include:

- Summary results of measures (include tables and figures when possible)
- Comparison of results with internal targets and external benchmarks
- Interpretation of results and insights gained

### **5I1: IMPROVEMENT**

Based on 5R1, what process improvements have been implemented or will be implemented in the next one to three years?

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## **Responses**

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### **5P1a. Selecting, organizing, analyzing and sharing data and performance information to support planning, process improvement and decision making**

The College uses an overarching [Institutional Research \(IR\) meta-process](#) to practice knowledge management that informs decision-making, improvement, and planning across the College. First, based on its stakeholder feedback systems (further outlined in 5P1b), the IR department selects data and information to support planning, process improvement, and decision-making. Steps two and three ensure that reports and research are properly designed and that staffing and software resources are available to organize and analyze the selected data and information. Step four provides data and information sharing through a variety of mechanisms (described in 5P1c below). The final step, conducted as part of the IR department's annual planning and assessment, evaluates the effectiveness of this process and identifies areas for improvement.

### **5P1b. Determining data, information and performance results that units and departments need to plan and manage effectively**

The College's process for determining data, information and performance results that units and departments (stakeholders) need to plan and manage effectively has several components. The IR office continuously monitors the College's strategic planning and other mission-centered priorities to forecast the measures programs and units will need to demonstrate performance toward meeting those priorities (e.g., student completion) and provides large-scale access of these data ([KPIs](#)) to programs and units. Every [KPI measure](#) (pg. 8) has a rationale aligning it with an institutional priority or value statement.

For specific data/information requests, the IR department uses an iterative process that consists of communicating with project requesters to clarify their needs and develop a framework for the report/analysis, followed by contact with the requester after project delivery to determine if the need has been met or if refinements are required. This process is repeated until the project requester is satisfied. For broader Institution-wide input, the IR office has implemented an [annual survey](#), which includes items that address the needs of units and departments. Results are analyzed, with input from the [IR Advisory Council](#), to determine areas of unmet need and to develop process improvement strategies.

### **5P1c. Making data, information and performance results readily and reliably available to the units and departments that depend upon this information for operational effectiveness, planning and improvements**

The College uses a knowledge distribution process to make data, information and performance results readily and reliably available to the units and departments that depend upon this information for operational effectiveness, planning and improvements. It includes: 1) automatic delivery of monitoring reports to stakeholders' email accounts; 2) providing data resources at the [IR Virtual Office](#), accessible to all employees; and 3) maintaining publicly available [online information](#). Additionally, data visualizations using Tableau have recently been implemented to expand data access for [academic program analysis](#) (pg. 2) and [institutional competency assessment](#). IR has expanded programs' benchmarking opportunities through participation in the Wyoming Central Station (CSI), which enables programs to compare their performance to that of other Wyoming community colleges on metrics such as [course success rates](#). IR displays [benchmarking data resources](#) for users on its virtual office site.

Over the last four years, the College has more systematically integrated data into institutional decision-making through integrating KPI data into program review self-studies, which affect decisions about action-planning. Faculty and staff embed IR data into annual academic and non-academic function assessment plans that inform programming changes.

#### **5P1d. Ensuring the timeliness, accuracy, reliability and security of the institution's knowledge management system(s) and related processes**

Since 2014, the College has significantly strengthened its data governance structure, which ensures the timeliness, accuracy, reliability and security of the Institution's knowledge management system(s) and related processes. This structure includes a [Data Quality Committee \(pg. 2\)](#), responsible for creating, implementing, and maintaining data standards at the institutional level and resolving institutional-level data integrity challenges to ensure the highest possible level of data quality, accuracy, and consistency for reliable internal and external reporting. The Director of IR actively collaborates in the Data Governance/IR Council, which fills the same functions for the Wyoming community college system.

Information security is attained through the development, maintenance and continuous improvement of both technological and human systems. Responding proactively to the Gramm-Leach-Bliley Act (GLBA), the College recently developed a multi-faceted approach to build the Institution's data security capacity:

- LCCC formed the Privacy Protection and Information Security working group (financial aid, registrar, ITS, sponsored awards) to manage data security development and compliance at the College.
- The College adopted [IT Security Policy 8.6](#) to ensure the protection of institutional information and is developing a data breach policy.
- LCCC conducted three assessments ([Federal Financial Institutions Examination Council Cybersecurity Assessment-FFIEC](#), a Homeland Security assessment, and penetration testing by a private vendor) to identify security risks, and charged ITS staff with analyzing the results and implementing risk-mitigation strategies.
- The College implemented data security processes including monitoring e-mail content, deploying a cybersecurity incident reporting system, upgrading hardware, and including data security expectations in RFPs and license agreements.

Finally, the College protects its data resources, such as Colleague, with a backup system in case of crisis situations.

#### **5P1e. Tracking outcomes/measures utilizing appropriate tools (including software platforms and/or contracted services)**

The College has implemented an annual [function assessment and planning](#) (pg. 3) process to track outcomes/measures utilizing appropriate tools. Functional areas across the College, including IR and ITS, must establish outcomes for key functions (including software platforms and/or contracted services); identify stakeholders, processes, and measures related to those outcomes; analyze measurement results, including data trends; and plan for improvement. The

function assessment and planning process includes a peer review component as well as review by institutional leadership to ensure that outcomes and measures are appropriate for the identified processes.

Using the function assessment process, the following measures/outcomes are provided as examples with appropriate assessment tools:

- IR and ITS both have implemented stakeholder surveys and track project completion times.
- ITS monitors Help Desk user requests and collects user satisfaction feedback.
- ITS also monitors system planned (for maintenance) and unplanned down-time.
- To ensure server sustainability, the database administrator monitors server activity and investigates unusual occurrences.
- Finally, ITS uses the [Federal Financial Institutions Examination Council Cybersecurity Assessment-FFIEC](#) (pg. 60) to evaluate systems' security.

IR and ITS staff collaboratively monitor and resolve issues identified by the Wyoming CSI data quality assurance processes, with the goal of no data errors reported each month.

#### **5R1a. Summary results of measures (include tables and figures when possible)**

The IR Department piloted an annual survey to collect [stakeholder feedback](#) and evaluate the effectiveness of the above-described processes in June 2018. The majority of respondents agreed or strongly agreed with survey items, indicating general stakeholder satisfaction with IR processes. The IR department also collected information on on-time completion of ad hoc projects for FY2018. The majority (54%) were completed on time.

ITS reported a three-year average of 83 percent of [Support Desk requests](#) completed within five working days. FFIEC Cybersecurity Assessment results placed LCCC in the Minimal Inherent Risk Category and indicated that the College met the minimum Baseline Level of Cybersecurity Maturity for three of 30 domains. A recent external audit found the College in compliance with the GLBA data security requirements. (This was the first time LCCC's audit included these standards.)

Thus far, ITS and IR have been able to sustain the zero errors per month rate for the data submitted to the CSI. Other IR and ITS measure results will be available when the 2018-19 function assessment process is completed.

#### **5R1b. Comparison of results with internal targets and external benchmarks**

Beginning in Spring 2018, most of the College's non-academic functions maintain assessment plans (119) that contain outcomes and internal target descriptions, a remarkable increase of target setting over the 2014 portfolio performance. Although IR earned satisfaction ratings over 70%, its internal target of 80% agreement was unmet for any of the items on the IR stakeholder survey. External benchmarks are not available for these measures since the instrument was locally developed. The IR staff also value on-time completion and expect to deliver most (at least 90%)

projects by the requested delivery date. However, from the data collected in the ad hoc project management system, it appears that this expectation was unmet in FY2018.

While ITS reported that 83% of requests to the Support Desk were completed within five working days, it did not meet its internal target of 85%. The College expects to meet 100% of the FFIEC cybersecurity assessment standards; 2018 assessment results (3 of 30, 10%) fell short of this expectation. The College's performance on the FFIEC assessment must be in perspective; most institutions have not yet built the expected cybersecurity capacity.

LCCC continues to meet its internal target for zero error rates relating to Wyoming's CSI data quality assurance standard.

### **5R1c. Interpretation of results and insights gained**

Despite initial goals not being met, the majority of respondents to IR's internal survey gave positive feedback. There was a relatively low response rate (22%) for the initial survey; only 58 of these indicated any interaction with the IR department during fiscal year 2017-18. Because of the low response rate, the results cannot be generalized to the entire population of internal stakeholders. An analysis of the ad hoc project management data revealed that the data collected were insufficient to calculate the percentage of projects delivered by the requested date. (For IR staff, the project work continues after delivery; projects are not considered complete until documentation is created and stakeholders acknowledge that the delivered report/research answered their need.)

For ITS, the data show improvement in Support Desk request completion rates over the last three years, likely due in part to personnel training, professional development and an increased focus on closing tickets in a timely manner. The results could be influenced by a variety of factors including the complexity of reported issues/requests and the availability of resources. Further analysis and better data collection (i.e., categorize completion times by request type) are needed to determine the source of the delays and continuously improve performance.

### **5I1. Based on 5R1, what process improvements have been implemented or will be implemented in the next one to three years?**

To improve the collection of stakeholder feedback and gain better understanding of the results, IR staff plan to:

- Change the timing of annual survey so more stakeholders are on campus;
- Conduct focus groups and/or interviews with stakeholders to gain deeper insights into the results, especially in areas where the results fail to meet internal targets; and
- Increase campus stakeholder education efforts, including information on IR's mission, resources, and processes.

To improve ad hoc project management data, additional variables have been added to IR's project tracking system. Whenever the delivery date is not met, explanatory notes (technical issues, inadequate lead-time, clarification needed, etc.) will be included. Additionally, IR is

hiring an additional staff member to increase capacity and improve the on-time delivery rate for ad hoc projects.

ITS function assessment planning revealed that its Support Desk ticket system was too cumbersome, making data extraction and organization laborious and meaningful analysis difficult. A new system ([Samanage](#)) with better administrative controls and data analysis tools, was implemented in spring 2018. This new system also improves communication through client e-mail notification at key points (e.g., when a request is received, who is assigned to the request, etc.), and sends clients a satisfaction survey.

In response to the FFIEC cybersecurity assessment (see 5P1d), the College developed a privacy information security plan, created the Privacy Protection and Information Security (PPIS) working group of compliance owners, and identified an IT staff person to oversee cybersecurity development and manage the mitigation of the 27 areas that fell below the FFIEC standards. While these are improvements in themselves, these efforts are regularly producing additional improvements. For example;

- IT and Human Resources collaborated to implement Security Mentor, which delivers mandatory training to LCCC employees every other month,
- IT staff plan to implement e-mail warning messaging for e-mails coming from outside the institution, and
- Contract language is regularly updated to ensure third-party vendors follow cybersecurity best practices.

To improve knowledge management, LCCC has also:

- Implemented a new campus portal that makes data access more effective.
- Operationalized SharePoint on campus making shared document development more effective.
- Implemented Tableau, which allows the IR team to analyze, display and report on data that can be updated and delivered to stakeholders more easily and efficiently.
- Expanded bandwidth to improve online research.
- Expanded benchmarking resources by participating in the Voluntary Framework for Accountability (VFA); the VFA provides student progress and success metrics that are embedded in Guided Pathways 2.0 assessment.
- Collaborated with Wyoming's CSI, which makes comparative data accessible among all seven community colleges.

Finally, the College is considering purchasing a student-facing platform (such EAB-Navigate and Civitas) that offers scalable guidance to each student; online advising with real-time student-advisor interactions; collaboration tools for students, advisors, and faculty, and analytics modeling to improve student goal attainment, among other features.