

Category 4 – Measurement, Analysis and Knowledge Management

4.1 Measurement and Analysis of Organizational Performance

a. Performance Measurement

4.1a(1) The College selects data, information and knowledge assets based on their identification as key performance indicators and core measures. RCTC is implementing a Balanced Scorecard (BSC) approach to tracking performance and linking it to strategic directions and goals (Figure 2.1-3). The BSC includes a series of interconnected dashboards aligning key performance indicators and core measures. The BSC has four perspectives (learning, financial, stakeholder, and culture) aligned with eight key performance indicators (Figure 4.1-1). Each indicator has associated core measures (Figure 2.2-2).



Figure 4.1-1 – RCTC Balanced Scorecard

The BSC initiative supports one of the College’s AQIP “Vital Few” projects to better use data and information to make improvements and manage institutional effectiveness. The implementation of the BSC compliments and parallels the development of a system-wide Accountability Framework in development in the Office of the Chancellor. As previously stated, RCTC has identified eight key performance indicators. The process to identify indicators included subgroups of internal and external stakeholders. In the 2004-05 strategic planning process, the College refined and reduced its KPIs from nine to eight and core measures linked to each KPI were reaffirmed, added, or modified. Where possible, indicators have been aligned to the Office of the Chancellor’s Accountability Framework. Additionally, interlocking and cascading dashboards (not depicted) have been established for every division represented on the Leadership Cabinet. The rationale for this approach was that some indicators, such as “Enrollment” are

the responsibility of every functional area and should therefore be included on every dashboard.

Every indicator and related core measure has been defined through consensus between the data-owner and institutional research staff. Space has been provided with each core measure for data-owners to comment about what is being displayed. If a particular graph shows a negative trend, data-owners can comment on what strategies are in place to reverse this trend. If a graph shows exceptional performance or improvement, data-owners can comment on what best-practices were in place to have achieved such positive results.

These key performance indicators are aligned with college strategic directions and goals. College functional areas are encouraged to cite Balanced Scorecard data when requesting new money through the IPP. At this time, the College has charted performance and trend data for most measures. Comparative and benchmark data continue to be identified and entered (see section 4(1)a2). The intranet website for continuous improvement provides a portal to the BSC and other continuous improvement data and information. The entire Balanced Scorecard is available for viewing on the web by all individuals. The continuous improvement website also contains copies of present and past Baldrige applications and feedback reports, documentation related to RCTC’s ongoing accreditation process (AQIP), detailed presentations of key surveys done by the College, and access to the Integrated Planning Process (IPP). Data and information is being populated on the College’s continuous improvement intranet site (Figure 4.1-2) via an in-house developed data-entry tool. Identified data-owners can enter institutional data, comparative data, or performance targets in the BSC framework. Once department-level dashboards are ready, departments and programs will be able to capture data related to student learning, work systems/processes, and other performance data.



Figure 4.1-2 – Continuous Improvement Intranet Site

This year, a color-coding system has been established allowing the President and Cabinet members to quickly note

current performance for KPIs and core measures on their dashboards. The color-coding system examines an indicator's performance-to-target, performance-to-benchmark, and overall trend (positive/negative) and assigns a color indicating overall performance. The system will be largely automated once data owners meet with college effectiveness personnel to set performance tolerances within the color-coding schema (Figure 4.1-3). This system color-codes indicators meeting performance expectations as "Green", those exceeding expectations as "blue", those slightly below expectations as "yellow" and those in need of immediate attention as "red". A similar color-coding schema qualifies trend data, rewarding indicators that have shown improvement. This new color-coding schema currently includes only data from the college-level dashboard, but will be made available to programs and departments once evaluation of the current system has been completed. In many instances, overall performance will be the result of a single measure (e.g., enrollment). For other indicators, such as the Student Satisfaction Inventory Benchmarks, where a single benchmark is the average of five or more separate indicators, BSC viewers will be able to drill down to see the performance of each separate indicator to better support a plan-do-check-act (PDCA) approach (Figure 4.1-7).

Performance to Comparison Group

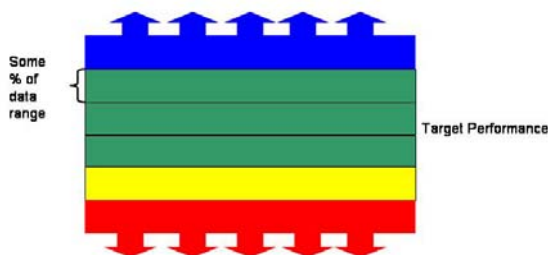


Figure 4.1-3 – Color-Coding/Performance Tolerances

Currently, RCTC collects data from a number of sources. These include listening and learning surveys, system office data reports, formal reports (audits, etc.), the Minnesota State Colleges and Universities data warehouse, the Integrated Student Records System (ISRS), and other sources. The MnSCU Information Technology Services Office has developed a portal architecture providing access to timely and reliable data and information via regional computing centers. RCTC faculty, staff, and administration can access aggregated data and information online regarding students, enrollment, facilities, finance, workforce and other categories (47 core measures in total) for current and prior years. Additionally, system-level data or data for other institutions can be accessed for comparative purposes.

4.1a(2) The College has access to a wide variety of comparative data. Comparative data is selected based upon numerous criteria. One such criterion is comparison to similar or like institutions. RCTC is one of eleven

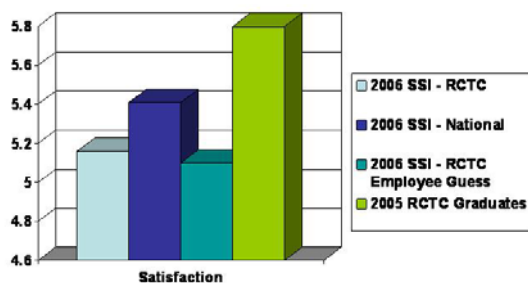
consolidated community and technical colleges in MnSCU. College performance is compared to aggregated data for this group as well as specific institutions comprising this institutional set. The College also can also compare itself to other state universities in MnSCU. Given the University Center Rochester partnership, the campus is often more university-like, thus warranting a comparison to state universities.

The College is actively involved in two organizations that share their pursuit of continuous quality improvement. This includes CQIN (Campus Quality Improvement Network), which is a membership-base organization comprised of nearly fifty two-year institutions and a couple of four-year institutions located throughout the United States and committed to quality improvement. RCTC has joined with the National Community College Benchmark Project (NCCBP) to share its data and obtain comparative data from peer institutions nation-wide.

The College is also part of AQIP (Academic Quality Improvement Process). These colleges and universities are accredited by the Higher Learning Commission of the North Central Association and are members of a Baldrige-based, continuous quality improvement orientated program guiding continuing accreditation. AQIP serves as a natural benchmarking group of institutions, and is in the process of launching its own data sharing benchmark project. Currently, each institution is required to share best practices through the posting of projects and results on the AQIP website. A subset of AQIP institutions in Minnesota, of which RCTC is a member, is MnQIP (Minnesota Quality Improvement Program). Representatives from MnQIP member institutions meet regularly to share best practices. Recently, RCTC began incorporating comparison data from the newly developed IPEDS Executive Peer Tool. This online tool from the National Center for Education Statistics, allows RCTC to compare itself to any other institution or group of institution in the nation. RCTC has identified several peer groups for comparison: all Minnesota consolidated community/technical colleges, a Baldrige Best Practices group, and a Vanguard Best Practices Group.

Another source of benchmarking is through vendors providing nationally-normed surveys. For example, CCSSE and SSI provide the College with benchmark reports comparing college performance with all institutions that are members of CCSSE and SSI respectively. RCTC is now part of a Minnesota Consortium to provide state-level CCCSE comparative data. Likewise, RCTC led the discussion with other MnSCU institutions using SSI to pool data to create state-level benchmarks. Comparative data, subsets of data, and data from multiple sources are used to determine the College's relative performance versus other institutions and are used in setting performance targets for key performance indicators and core measures. In recent years, RCTC has been engaged in a sweeping project to crosswalk the many surveys done on campus each year. Efforts have been made to link the findings of one survey to

another to ensure validity of the findings, and to add emphasis when multiple tools are supporting similar conclusions. For example, we ask students to “rate their overall satisfaction with RCTC thus far” in the Noel-Levitz Student Satisfaction Survey. In addition to comparative data provided by Noel-Levitz, we also asked this question to the previous year’s graduates on our Graduate Follow-up Survey to examine the difference between our student body at large and those who had successfully completed their degree programs. We also asked a sample of RCTC employees to guess how they felt a typical student would respond to this question to see how well their own assumptions about student satisfaction match with actual survey results. An example of comparative results can be seen in **Figure 4.1-4**.



4.1-4 – Example of Overall Satisfaction survey crosswalk

Finally, RCTC is committed to seeking out best practices, including those from non-education sources. The College is also represented in the RAQC (Rochester Area Quality Council). This is a group of Rochester area businesses and organizations that meet regularly to share quality processes and best practices. Membership includes such organizations as the Mayo Clinic, the Rochester Public Schools, Rochester Post Bulletin, Schmidt Printing, Pemstar, and the Rochester Area Math and Science Partnership. Many of these organizations (IBM and Mayo included) have presented on their best practices and quality improvement initiatives.

b. Performance Analysis and Review

4.1b(1) **Figure 4.1-5** identifies a variety of performance review processes used by the College. Recent performance trends for college KPIs and core measures (**Figure 2.2-2**) are reported in Category 7. The College also tracks findings reported in feedback reports from The Higher Learning Commission and Malcolm Baldrige National Quality Award Program. An Improvement Matrix (not presented due to space limitations) summarizes major initiatives undertaken as a result of accreditation and quality award feedback reports.

Review Approach	Participants	Frequency
Landscape Analysis (Design Documents, etc.)	Strategic Planning Committee, Leadership Council	Periodic
Baldrige Assessments	Leadership Cabinet/Council, All College Committees and Sub-committees	Annual
Academic Quality Improvement Program (AQIP) Annual Updates	Strategic Operations Committee, Institutional Effectiveness Sub-committee and Leadership Council	Annual
Senior Leaders 360 Degree Performance Evaluations	Internal and External Constituents	Annual
MnSCU Review of RCTC President	Internal and External Constituents	Annual
Integrated Planning Process Reviews	Program/Department Leaders and Leadership Cabinet/Council	Mid- and End-of-Year Reviews
Integrated Planning Process - Self-Assessments - Continuous Improvement Plans - Mid-year Review	Program Leaders, Division Coordinators, Department Leaders and Teams and Leadership Cabinet/Council	Annual
Balanced Scorecard	Leadership Cabinet and Council, All Staff	Continuous
Academic Program Development and Review	Academic Leadership, Program Leaders and Division Coordinators	Three-Year Review Cycle
Leadership Cabinet/Council Shared Governance Meetings	Diverse participants	Weekly and Monthly
Listening and Learning Approaches and Findings	Diverse Student and Stakeholders	Ongoing
Level 1-2-3 Process Reviews	Process Owners	Ongoing

Figure 4.1-5 – Leadership Reviews

Another approach used to support performance review and improvement activities has been the use of at-a-glance, one-page research summaries detailing major findings. These executive summaries highlight gaps between expectations of key student and stakeholder populations and levels of satisfaction. The resulting gap provides a means for focusing the College on issues of high importance to students and the largest gaps in satisfaction or performance. Copies of these research summaries are distributed to College personnel as attachments to the campus online newsletter *College Crossings*.

Key performance indicators, core measure data, and other information are reviewed continuously throughout the year at Leadership Cabinet and Council meetings. Because not

all issues to be addressed can be foreseen, an additional approach used by the College has been the use of Task Forces or “Rapid Response” Teams, affectionately referred to on campus as “Solve & Dissolve” committees. These teams form around problem or improvement areas and strategize on short- and long-term solutions. For example, one of the widest gap areas identified by students was the lack of early warning systems to advise them of their academic performance. A rapid response team suggested the creation of planned events on the academic calendar called “Student Success Days.” This has been accomplished and two Student Success Days were conducted in the 2003-04 and 2004-05 academic years.

The College has also been an active representative on the MnSCU Accountability Framework Task Force which has allowed RCTC the ability to monitor and inform the environment and landscape of state-wide data and information definition and collection. This has allowed the College the ability to respond rapidly to policy changes and new initiatives coming from the Office of the Chancellor. Since the performance measurement system is new and the supportive architecture is still under construction, no other formal reviews supporting change processes have been established. Once established, changes in dashboard colors or factors affecting the weighting and mathematical algorithms will be determined.

RCTC actively participates in monthly meetings with representatives from other MnSCU institutions’ Offices of Institutional Research. These meetings are organized by the Office of the Chancellor, Academic and Student Affairs Division, Research, Planning and Academic Programs. These meetings serve to provide feedback on MnSCU-wide institutional research developments such as the MnSCU Accountability Framework, share best practices, and promote quality and consistency in institutional data collection and reporting practices. Currently a MnSCU Data Users Listserv is under development and will further support these conversations.

4.1b(2) Various analyses are done to support reviews including: level- and trend-reviews via the Balanced Scorecard; gap analysis comparing importance to satisfaction levels; performance-to-target; performance compared to system averages for like institutions, services, or programs; and comparisons to national norms or comparative measures. Data from these analyses flow into the Strategic Planning Process (SPP) and Integrated Planning Processes (IPP).

The College has also developed a “Dimensions of Assessment” model (Figure 4.1-6) that supports continuous improvement through diverse analyses. This model focuses on assessment of staff development; course outcomes; program, department, and division reviews; landscape analysis; and institutional assessment. At the staff development level, assessments are completed after staff development events to determine effectiveness and

satisfaction with topics and the overall day. Course assessments are conducted by college faculty using diverse approaches, but primarily through the use of Student Evaluation of Teaching forms. Traditionally, these course evaluations were administered in class, but can now be offered online. Program, department, and divisional analyses include curriculum review, program review, instructional cost studies, and continuous improvement planning.



Figure 4.1-6 – Innovative Design Planning: Dimensions of Assessment

Supporting course, program, and departmental assessment is the College’s use of *eLumen*. This software provides for a common standards-based evaluation method to document and report student learning (often across multiple courses) while balancing curricular management and academic freedom for the faculty. Cross-disciplinary evaluation has emerged through the use of this tool, (e.g., writing standards in science courses) and is entirely the product of grassroots-level organic growth rather than top-down mandate. This approach is further detailed in 6.1a(5).

As specified in Category 2, a comprehensive landscape analysis is facilitated as part of the SPP/IPP (Figure 2.1-1). Institutional assessment is completed via accreditation, quality assessments, legislative and system audits, and other system analyses. Assessments are also linked to key performance indicators and core measures on the College’s BSC.

RCTC has adopted a Plan-Do-Check-Act Cycle (PDCA) (Figure 4.1-7) that guides the College’s continuous improvement activities. This is embedded into the Integrated Planning Process. Each program or department area has mapped their key work processes and identified process measures to help pinpoint areas needing improvement. Process mapping has helped identify opportunities for improvement that include redundancy of procedure, lack of performance measurement, and lack of clarity concerning identification of “customers” and their needs.

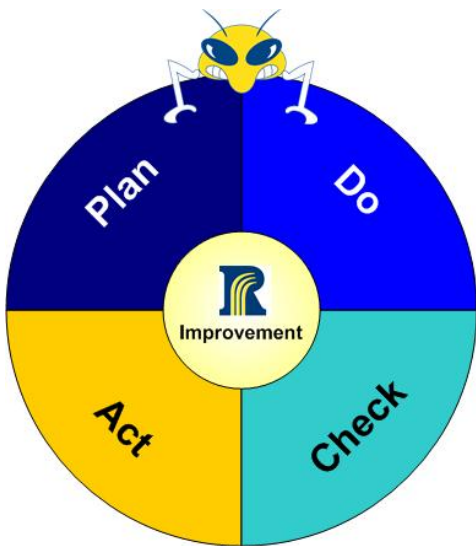


Figure 4.1-7 – Plan-Do-Check-Act Cycle

RCTC is developing an online Balance Scorecard Dashboard. The BSC features color-coded assessment of college units with drill-downs to individual indicators. Indicators are populated with specific comparative data to help define target performance (See 4.1a(1)).

The results of performance analyses and reviews are communicated in a variety of ways to faculty, staff, students and other stakeholders. Findings of research and other analyses are shared through the organizational leadership/shared governance system as information items. The weekly newsletter *College Crossings* features “Weekly Market Facts” and “Supalla’s Scribblings.” Because faculty and staff are often barraged with an overwhelming amount of data from multiple sources, “Weekly Market Facts” highlights a single research finding from local, regional, and national college surveys. “Supalla’s Scribblings” is a weekly column by the president informing faculty and staff of timely news, information, data, and other information. Additionally, two-page executive summaries or “Data Briefs” of college research studies are included as attachments to *College Crossings*.

Data and information are also available through the College intranet site. Email, Staff Development Day, “State of the College” presentations, and Open Forums are some other sharing approaches. Data and information on College performance are shared by College leadership at College and program advisory committees, department and team meetings, and in college publications like *The Stinger* and the monthly student newspaper *The Echo*. Data and information are currently made available through content embedded in the Strategic Management Software, the MnSCU ITS Data Management site, and the Balanced Scorecard and dashboards.

4.2 Information and Knowledge Management

a. Data and Information Availability

4.2a(1) All faculty and staff have access to the College intranet site where data and information is located. Workstations are available for each faculty and staff member giving them access to college websites and electronic publications. Faculty and staff can use MnSCU Information Technology Services websites that allow people to generate college reports on performance for a wide range of categories. Faculty and staff can also request customized reports from staff members who have access privileges to the Integrated Student Records System and the replicated data at regional data warehouses.

4.2a(2) The College has established work station standards that ensure hardware and software is reliable and current. Currently 99% of all full-time faculty and staff are at standard.

Network Passwords. Network passwords expire every 90 days. Faculty and staff are warned to change their password when six logins remain. This coincides with the general MnSCU timeline for changing passwords. Email passwords do not expire and do not change to coincide with Network passwords.

Workstation Security. A screen saver is activated after a system is idle for 15 minutes. Network passwords are required to de-activate the screen saver. This is a preventative measure limiting access by non-users if faculty and staff are away from their workstation.

Virus Protection. All computers connected to the Network must have current virus protection installed and activated. Workstations with the standard image automatically receive virus software updates as they become available, usually on a weekly basis.

Network Availability. The College server/network is not available between the hours of 12:00 midnight and 7:00 am for maintenance and backup. Otherwise, faculty and staff have password-protected access to email and their profile from remote locations.

File/Document Management. Files/documents stored on the hard drive are the sole responsibility of the user. Users are requested to not store files on their desktop, and shortcuts are preferred, as they don't slow the login process. Information Technology Services does not transfer, copy, etc., any files from the hard drive. Users are expected to back up files stored on the local computer to floppies or CDs. All users have a home directory on the network that will not be deleted during upgrades or transfers. The files in the home directory are backed up daily. Email information is stored on the College server so this information will not

be affected by changes made during an upgrade or replacement process.

The Computer Help Desk provides faculty and staff with a support mechanism to report and fix errors. An eight-step process has been established to assist staff and ensure responsiveness to problems.

Faculty and staff are surveyed each year in the Campus Quality Survey and asked to rate hardware and software user friendliness. Since 2000, ratings of user-friendliness have increased from a low of 3.2 to a current level of 3.6 (Spring 2006) on a 1 to 5 scale, with 5 being very satisfied.

4.2a(3) RCTC has adopted workstation and software standards for keeping the technology infrastructure current with educational service needs and directions. Common software packages are updated on cycles linked to software releases (i.e., Microsoft Office, Windows, Groupwise, etc.). Users of specialized software are consulted and make recommendations and requests for upgrades as warranted.

The College has an established procedure for the installation of new software. Only software approved and installed by Information Technology Services will be supported and/or transferred when systems are upgraded or repaired. Any software program that is not approved and does not have a license on file with the IT department will be removed. To get software on the "approved" list, faculty and staff must provide Information Technology Services with a copy of the software, license information, and purchase information. Upon receipt of these items the software is tested to ensure it does not conflict with network applications or other software installed on college systems.

b. Organizational Knowledge Management

4.2b A number of approaches are utilized to support the development and transfer of organizational knowledge. The first is through negotiated Staff Development Day functions. Each year, the Staff Development Committee plans at least two Staff Development Days. These events combine topical workshops; showcase sessions of colleagues' best practices; and offer activities linked to college strategic directions, health and safety, and other areas of interest. These sessions promote skill development and sharing across the institution. This year the Southeastern Minnesota State College's hosted a regional staff development day which included participation from RCTC and three other regional colleges. The Center for Teaching and Learning (CTL) is another mechanism whereby faculty can come together for the purposes of attending educational workshops and the sharing of teaching and learning practices. RCTC faculty

also take part in the UCR Faculty Lecture Series, showcasing RCTC and UCR faculty research.

Institutional research data is managed by RCTC's Director of Institutional Research. Institution-wide survey administration and dissemination of results are handled through this office. The results from these surveys and other surveys administered throughout the year are shared with faculty and staff through "Data Briefs" attached to the weekly *College Crossings*. Significant findings are highlighted in "Weekly Market Facts." A full copy of results are made available through the online Balanced Scorecard and dashboards. Faculty and staff are encouraged to cite specific data from these and other surveys and data sources in their continuous improvement plans.

c. Data, Information and Knowledge Quality

4.2c Consistency in data extraction and calculation is accomplished through the use of MnSCU's ITS Data Management web pages, where 47 standard RCTC and system-wide reports are accessible for multiple fiscal years. RCTC's Director of Institutional Research is also authoring an *ISRS Recipe Book* in partnership with Directors of Institutional Research from other MnSCU institutions to share ISRS data extraction and calculation methods. Updates to the guide will be shared through the MnSCU Institutional Research listserv or the forthcoming ISRS Data Users listserv.

Timeliness is ensured by data uploads to ISRS and the data warehouse in regional computing centers. Data is nearly real-time with only a short period of time lapsing between entry and access to current information. Security privileges are assigned based on the work performed and need basis. Reliability and accuracy is managed via adherence to data integrity standards set by the MnSCU System Office of Information Technology and Office of Research.

Identification, sharing, and implementation of best practices are accomplished through a variety of methods including monthly meetings of MnSCU Directors of Institutional Research, MnQIP, the Institutional Research listserv, and other regional and national conferences (e.g., AIRUM, HLC, Learning College Summit).

Data, information, and organizational knowledge properties are ensured through a combination of approaches. Integrity is maintained by controlling the level of access privileges of faculty and staff. Access is given to those individuals with functional responsibilities for data entry or managing key systems and processes at the College. Accepted procedures and standards are adhered to in the entry and use of data and information systems.