

Business Analytics at Mt. SAC

Per a request from a Board of Trustees Member, the following is a summary of the Business Analytics work of the Mt. San Antonio College (Mt. SAC) Research and Institutional Effectiveness (RIE) Department.

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Business Intelligence and Business Analytics

RIE uses both intelligence and analytics in its work. **Business Intelligence (BI) is about using the past data to estimate reasonable goals for the future.** BI is used in the Strategic Plan (SP) as the College sets its key performance indicators (KPI) or metrics for tracking its ability to achieve its College Goals. BI is useful as it provides a goal that the College strives to meet and a way to measure achieving this goal. Other example of BI indicators include Accreditation's Institution-set Standards and the California Community College Chancellor's Office Institutional Effectiveness Partnership Initiative (IEPI).

Business Analytics (BA) is about using the past and current data to predict (model) the future. The College's RIE and Information Technology (IT) Departments have access to millions of data points. These data are used in statistical and exploratory modeling to predict outcomes such as which students may need more program interventions to be successful. BA represents RIE's essential work at Mt. SAC. BA allows for thoughtful overlapping of research, evaluation, and collaborative inquiry. Overlaying the aforementioned with the College's organizational culture, including its strong adherence to governance, provides employees with powerful data along with powerful thought processes to tackle any issue in a highly functional manner. This doesn't mean that the College always finds a solution for every situation, but RIE believes it is one reason why Mt. SAC is known for its excellence.

It is important to note that statistics modeling, no matter how robust, naturally has error associated with it as modeling is only as good as the data in it. In students' lives, the College does not have access to all factors that might impact their ability to study, get to class, complete their assignments, or take their tests. Modeling provides a guide. It is not absolute. The RIE Department is being careful in how it uses modelling as one doesn't wish to discourage students or faculty. We believe that any student can achieve their goal given the right opportunities.

Examples of this work include looking at students' re-enrollment from one semester to the next and looking at students' academic achievement in one semester. Other exploratory modeling includes more comparisons from the intervention group to a comparison group such as is found in tracking the Bridge students as they progress over their academic years at Mt. SAC. From a student equity modeling perspective, RIE examined the market penetration rate to see how many students Mt. SAC has enrolling in the College from specific cities versus how many may be eligible to enroll. Programs that offer degrees and certificates also examine the course pattern taking of their students and offer more courses to students who are close to graduation; MAP (or degree works) will help more with this process as students use the MAP to show their intended award.

Data driven decision making is part of the organizational culture of Mt. SAC. Our major initiatives require program evaluations that are data driven. From a BA perspective, this requires the program staff and faculty to substantially explore the impact of their program on student success and to make

improvements as needed. Through the College's Program Review process (Planning for Institutional Effectiveness (PIE)), each program uses data from a BA perspective. Again, this is mandatory for resource allocations. From a qualitative perspectives, focus groups, interviews, and observational research provide further evidence of facilitators and obstacles to students' academic progress. These and most other projects that RIE completes help the College with maintaining its accreditation.

What the Research and Institutional Effectiveness (RIE) Office Provides Mt. SAC

Creating, re-designing, and evaluating the efficacy of a program or service starts and ends with students and employees. The term "research" may lead one to think about collecting information, summarizing it, and coming to conclusions. This is the rudimentary part of what the RIE Office does at Mt. SAC.

Wrapping around research are the relationships that must be built in order to bring together employees and students to discover, develop, and implement a plan to create or sustain and evaluate a program or service. Providing administration, committees, and Academic Senate with summary reports of this work is the culminating piece. Along the way, RIE uses collaborative inquiry to ensure that all parties are understanding the issues, engaged with the measurement tools, and comprehend the reports created that outline the impact of the program/service. The aforementioned clearly indicates that RIE is a key member of the team in all steps along the process.

From a technological point-of-view, RIE works with all Vice Presidents' Teams to engage in the leverage of technology to help with BA. A cloud product such as Power Business Intelligence (BI) is one product that RIE is supporting in order to provide easier access to program review data. This will allow each program an opportunity to engage further with their specific data in order to use collaborative inquiry for their program review.

It is most important to note that employees' years of experience with students provides a window into students' past and future behaviors and needs. Employees use this information to test and improve programs. It is the art and science of employees' knowledge along with BI and BA that provides the essence of data-driven decision making. This is the most exciting work for RIE! Mt. SAC's program review (Planning for Institutional Effectiveness (PIE)) drives the need for and use of this data for College policies, practices, and procedures.

Reference

Swing & Ewing Ross (March-April 2016). A New Vision for Institutional Research. Extracted on November 22, 2016, from http://www.changemag.org/Archives/Back%20Issues/2016/March-April%202016/Institutional_Research_full.html

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