Waverly Community College

BI Requirements
Student Retention – Post COVID

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BUSINESS REQUIREMENTS

Table 1: List of Business Requirements

Identifier	Name	Description	Priority
RQMT	Student Retention	The BI solution must be able to source students who begin their programs, students who fail their programs, students who withdraw from their programs, and students who are dropped for non-payment. Each of these groups should break out at the college level, the department level, the program level, the course level, and the section level. These should be able to be filtered by year or range of years, semester, online, hybrid, or in-person courses, days of meeting for in-person and hybrid courses, and faculty or adjunct member. This data should be aggregated into attrition and retention rates for each of these levels and filters as well as giving the ability to view in raw numerical format. Student retention data should be able to be filtered by all student demographic data points, student financial data points, student social data points, student involvement, and students' prior coursework data points	High
DMOG	Student Demographics	The BI solution must be able to source student demographics. These must include race, ethnicity, age, gender, and first college attendance in family.	Medium
FINC	Student Financials	The BI solution must be able to source student financial data. These must include whether a student is using financial aid or paying out of pocket, percentage and dollar amount of financial aid for tuition and fees, type of financial aid, if financial aid is covering tuition only, tuition and fees, tuition, fees and textbooks, or tuition, fees, textbooks, and excess financial aid, the amount of excess financial aid needs to be able to be filtered. The solution must be able to see a students expected family contribution, if a student is considered a dependent or independent student, whether a student submitted a FAFSA or not, a student's yearly income from their FAFSA and number of dependents. The solution should also be able to include if a student's payments are on-time or if the student is delinquent, and if a student pays in full or is on a payment plan.	Medium
SOCL	Student Social Information	The BI solution should be able to source student social data to include if a student partakes in any social programs offered by the state of their residence such as Medicare, unemployment, and others based on the offerings of the state.	Low
IVMT	Student Involvement	The BI solution should be able to source a student's college involvement levels to include if a student is assigned an advisor, if a student is assigned a success coach, number of advising appointments, number of success coach appoints, if a student is seeing a school counselor, number of counseling appointments, student club involvement, number of meetings attended	Medium
CRSE	Student Coursework	The BI solution should be able to source student's prior coursework. This will need to include current, high school, and transfer GPA, GPA by course, program, and department, freshman, sophomore, junior, or senior status, number of transfer credits, credits taken and credits left in program,	Medium
SCAL	Scalability	The BI solution must be scalable to add further BI requirements as time elapses. The solution must also be scalable to encompass further project justifications as time elapses.	High

Scalability

- Requirement description

It is imperative this solution be scalable to further departments, business justification, and business requirements.

- Data sources

¬ No data required

- Business and data transformations

Data Points:

¬ None

- Business metrics or Key Performance Indicators (KPIs)

N/A

- Business processes

The business process that will be affected by this is the institution effectiveness department.

- List business groups involved and describe type of involvement

Institutional Effectiveness department.

- List business owner(s)

¬ Angela Lunsford, Director of IE

  - Angela will be responsible for supplying the data and working with the BI team to identify the data.

- List subject matter expert(s)

¬ Ashley Copola, IE

  - Ashley handles current IE requests for data.

Student Coursework

- Requirement description

Student coursework is responsible for student graduation and student success.

- Data sources

¬ Student transcripts

- Business and data transformations

Data Points:

- ¬ Students prior coursework
- ¬ Students current, high school, and transfer GPA
- ¬ Students freshman, sophomore, junior, or senior level
- ¬ Students transfer credits
- ¬ Students credits remaining
- ¬ Students credits taken

- Business metrics or Key Performance Indicators (KPIs)

Data will be categorical and numerical and must tie into retention.

- Business processes

The business processes that will be affected by this requirement include the records department.

- List business groups involved and describe type of involvement

The records department is the source of record for this data and they are the data creators.

- List business owner(s)

- ¬ Martha Smith, Director of Records
    - Martha will be responsible for supplying the data and working with the BI team to identify the data.

- List subject matter expert(s)

- ¬ Maya Gomez, Records
    - Maya handles current student transcripts

Student Involvement

- Requirement description

Student involvement encroaches on the advising, counseling, and student affairs departments. This information is used to better and round a student's time at Waverly College, ensuring they are successful, on track, and receiving a robust and well rounded experience.

- Data sources

- ¬ Student Engagement
- ¬ Advising
- ¬ Counseling

- Business and data transformations

Data Points Required

- ¬ Assigned advisor
- ¬ Assigned success coach
- ¬ Number of advising appointments
- ¬ Number of success coach appointments
- ¬ Seeing counselor
- ¬ Number of counseling appointments

- Business metrics or Key Performance Indicators (KPIs)

These data points will be in the form of yes/no and numerical data points. The data must tie to student retention.

- Business processes

The business processes that will be affected by this requirement include the student involvement, advising, and counseling processes.

- List business groups involved and describe type of involvement

The student involvement, advising, and counseling departments will be the source of record for this data and are the owners of the data.

- List business owner(s)

- ¬ Harold Leslie, Dean of Student Affairs
  - Harold will be responsible for supplying the data and working with the BI team to identify the data.
- ¬ Sherry Lee, Director of Advising
  - Sherry will be responsible for supplying the data and working with the BI team to identify the data.
- ¬ Michael Currens, Director of Counseling
  - Michael will be responsible for supplying the data and working with the BI team to identify the data.

- List subject matter expert(s)

- ¬ Lucy Mechling, Student Involvement
  - Lucy currently manages all student clubs and affiliations
- ¬ Rachel Smith, Advising
  - Rachel handles current advising scheduling software
- ¬ Heather White, Counseling
  - Heather currently handles counseling scheduling software

Student Social Information

- Requirement description

Student social information is used by the student assistance department both in pointing students to these programs, or aiding students in maintaining their eligibility. This department oversees students who are at risk of leaving school due to financial and wellbeing issues in their living situations.

- Data sources

¬ Student assistance department houses this information

- Business and data transformations

Data Points Required

¬ Student social program involvement

- Business metrics or Key Performance Indicators (KPIs)

These data points will be in the form of yes/no data points

- Business processes

The business processes that will be affected by this requirement include the student assistance department.

- List business groups involved and describe type of involvement

The student assistance department will be the source of record for this requirement and they are the owners of the data.

- List business owner(s)

¬ Leslie Gayle, Director of Student Assistance Department

  - Leslie will be responsible for supplying the data and working with the BI team to identify the data.

- List subject matter expert(s)

¬ Leslie Gayle, Student Assistance

  - Leslie currently handles student assistance

Student Financials

- Requirement description

Student financials are used by the financial aid department to ensure a student receives the correct financial aid packages. The Bursar's office uses student financial data to ensure student

tuition and fees are paid in a timely and correct manner. The bookstore uses student financial data to process textbook purchases.

- Data sources
  - ¬ Financial aid houses students FAFSA's and all other financial aid data.
  - ¬ Bursar's office houses student payment information.
  - ¬ Bookstore houses student textbook purchase information.
- Business and data transformations

Data Points Required

- ¬ Is the student using financial aid or paying out of pocket
- ¬ Is the student a dependent or independent student
- ¬ How much financial aid is being received
- ¬ Is financial aid covering only tuition, tuition and fees, tuition, fees, and textbooks, or tuition, fees, textbooks, and excess aid
- ¬ Amount of excess financial aid
- ¬ Student's EFC
- ¬ FAFSA Submitted
- ¬ Number of dependents
- ¬ Yearly income
- ¬ On-time payments or delinquent
- ¬ Paid in full or payment plan

- Business metrics or Key Performance Indicators (KPIs)

These data points will be in the form of yes/no data points, dollar amounts, percentages, and numerical data. These will need to tie to student retention.

- Business processes

The business processes that will be affected by this requirement include financial aid, student payments, and bookstore transactions.

- List business groups involved and describe type of involvement

The financial aid department, Bursar's office, and Bookstore will be the sources of record for this requirement and they are the owners of the data.

- List business owner(s)
  - ¬ Dennis Roth, Director of Financial Aid

    - Dennis will be responsible for supplying the data and working with the BI team to identify the data.
- Andy McNeal, Director of Bursar's Office
    - Andy will be responsible for supplying the data and working with the BI team to identify the data.
- Traci Ray, Bookstore Manager
    - Traci will be responsible for supplying the data and working with the BI team to identify the data.

- List subject matter expert(s)

- Rae Gardner, Financial Aid
    - Rae currently handles student FAFSA's
- Joyce Collins, Financial Aid
    - Joyce currently handles student scholarships and grants
- Rick Perry, Bursar's Office
    - Rick currently handles student payment plans
- John McAllister, Bursar's Office
    - John currently handles student collections
- Yolanda Rowe
    - Yolanda currently handles student bookstore payments

Student Demographics

- Requirement description

Student demographics are kept stored through the admissions department and are used for financial aid and funding sources for students and the college.

- Data sources

- Student applications house the demographic information.

- Business and data transformations

Filterable by:

- Race
- Ethnicity
- Age
- Gender
- First college attendance in family

- Business metrics or Key Performance Indicators (KPIs)

Data points will be categorical or yes/no and need to tie to student retention.

- Business processes

The business processes that will be affected by this requirement include the admission and application process.

- List business groups involved and describe type of involvement

The admissions department will be the source of record for this requirement and they are the creators of the data.

- List business owner(s)

¬ Kaitlyn Allen, Director of Admissions
    - Kaitlyn will be responsible for supplying the data and working with the BI team to identify the data.

- List subject matter expert(s)

¬ Madelyn Reynolds, Admissions
    - Madelyn handles current student admissions processes.

Student Retention

- Requirement description

Student retention is the life-blood of the college. It is responsible for funding and college payments which keep the college running and allow for further improvements to programs. With low levels of retention Waverly College is losing funding and income used to keep programs cutting-edge. Improving student retention is the main goal of this BI solution.

- Data sources

¬ Students who begin their programs
¬ Students who fail their programs
¬ Students who withdraw from their programs
¬ Students who are dropped for non-payment

- Business and data transformations

Filterable by
¬ College Level
¬ Department Level
¬ Program Level
¬ Course Level
¬ Section Level

- Student Demographics
- Student Financials
- Student Social Information
- Student Involvement
- Student Coursework

- Business metrics or Key Performance Indicators (KPIs)

Data needs to be transformed into attrition, completion, and retention rates.

- Business processes

The business processes that will be affected by this requirement include records, financial aid, the bursar's office, counseling, advising, and the student assistance program.

- List business groups involved and describe type of involvement

The records department is the source of record for this data and they are the data creators. The filterable items will come from subsequent sources of record for each item. The curriculum department owns the information on level breakdowns for the college.

- List business owner(s)

- Martha Smith, Director of Records
    - Martha will be responsible for supplying the data and working with the BI team to identify the data.
- John Hall, Director of Curriculum
    - John will be responsible for supplying the current and historical curriculum data and working with the BI team to identify the data.

- List subject matter expert(s)

- Jayne Doe, Records
    - Jayne handles current student retention.
- Katie Hall, Curriculum
    - Katie handles current and historical curriculum changes

DATA AND DATA QUALITY REQUIREMENTS

Data sources

- ¬ Enrollment Statistics
    - Banner
        - Existing Source
        - Current SOR
        - Excellent Data Quality
        - Record Department owner and SME
- ¬ Curriculum Statistics
    - Curriculog
        - Existing Source
        - Current SOR
        - Missing historical data, must be sourced from paper copies or entered into Curriculog
        - Curriculum Department owner and SME
- ¬ Student Demographic Statistics
    - Applications in Dynamic Forms
    - Excel spreadsheet exports from dynamic forms
        - Current SOR
        - Data currently difficult to access
        - Some data incomplete as applications do not require all fields
        - Admissions Department owner and SME
- ¬ Financial Data
    - FAFSA forms
        - Current SOR
        - Data currently difficult to access
        - Excellent data quality
        - Financial Aid owner and SME
    - Financial aid scholarships and grants
        - Employee spreadsheet
        - No official SOR
        - Poor data quality
        - Financial Aid owner and SME
    - Student payment information
        - Payment software
        - Official SOR
        - Excellent data quality
        - Bursar’s Office owner and SME
- ¬ Social Statistics

    - Student social program involvement
        - Employee spreadsheet
        - No official SOR
        - Poor data quality
        - Student Assistance Department owner and SME
- Student Involvement
    - Navigate advising software
        - Current SOR
        - Missing historical data
        - Excellent data quality
        - Advising Department owner and SME
    - Counseling scheduling software
        - Current SOR
        - Missing historical data
        - Excellent data quality
        - Counseling Department Owner and SME
    - Student club involvement
        - Employee spreadsheet
        - No current SOR
        - Poor data quality
        - Student Affairs owner and SME
- Student Coursework
    - Banner
        - Current SOR
        - Excellent data quality
        - Records Department owner and SME
- Scalability
    - Data requests
        - Employee kept document
        - No current SOR
        - Poor data quality
        - IE Department owner and SME

Data cleansing

Student data from each source will need to be reconciled. All data from employee managed spreadsheets needs a new system to source the data or for the employee to input the data as it is captured so that it becomes a SOR for the data point. There are no inconsistencies across SOR's as the data does not overlap.

Master Data Management (MDM)

MDM will be used to ensure all data directs back to the correct student and that all student identification numbers in each data source are correct.

Data acquisition

All data should be acquired in house and no external acquisition should be required.

FUNCTIONAL REQUIREMENTS

BI use cases

BI will be utilized to improve student retention and to track completion rates among the college. The goal is to be able to build an algorithm to predict students who are at risk of not completing their degree and provide them with the needed resources so they are able to complete their program.

Analytical process workflow and user interaction

IE department will be responsible for analyzing the data and building the algorithm. IE will be responsible for monitoring and reporting all retention and completion data to the administration of the department. The student assistance department will be responsible for utilizing the algorithm and determining which student need what interventions and communicating this to the various departments for student assistance.

Analytical styles needed

The BI styles needed will include analytical hub platforms, and self-service BI tool, and predictive analytics with the ability to expound upon this as the project grows, or new use cases are added.

TECHNICAL REQUIREMENTS

Type of Requirement	Information
New Technology Direction	All new technology will be on the cloud.
Data Center Location	The data center will be located in the cloud.
Hardware/Software Vendor	Software must be Microsoft compatible.
BI Appliances	New BI Appliances are required and should be from the same vendor as the web services.
Web-Services	There should be online web service dashboards.

Database Access	The new BI team will initially be the only ones to have access to the dashboard. Access will be expanded in the future.

PRIORITIZING REQUIREMENTS

Identifier	Name	Priority
RQMT	Student Retention	Must Have
DMOG	Student Demographics	Should Have
FINC	Student Financials	Should Have
SOCL	Student Social Information	Nice-to-Have
IVMT	Student Involvement	Nice-to-Have
CRSE	Student Coursework	Should Have
SCAL	Scalability	Must Have