



Highlights

IBM SPSS Decision Management for Student Retention combines powerful predictive models and business logic with a simple and intuitive user experience to help educators and administrators quickly and easily:

- Improve graduation and persistence rates
 - Determine which students are at risk of dropping out, from first year freshmen to upperclassmen
 - Identify student issues early on – such as learning problems, financial challenges or difficulty fitting in with institutional culture
 - Optimize intervention measures for those students with a high risk of dropping out
 - Adopt a subscription based, Software-as-a-Service model to avoid up-front hardware, software, staffing and ongoing maintenance costs
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Take the guesswork out of student retention

Identify at-risk students and intervene early with IBM SPSS Decision Management for Student Retention

Student attrition is a costly problem for many colleges and universities. According to a recent survey, only two-thirds of enrolled students are retained from their freshman to sophomore year¹. The loss of these students also means the loss of tuition revenue, higher costs for recruiting new students and a devalued school reputation as dropout rates rise. With IBM SPSS Decision Management for Student Retention, your institution's administrators and faculty can reach out to students early, when they first show signs of at-risk behavior for dropping out. This solution identifies key variables that lead to success and failure, and helps guide administrators with data-driven recommendations that improve retention and keep students enrolled.

IBM SPSS Decision Management for Student Retention is a proven early diagnostic solution that answers critical questions such as: Which first-year students are at risk of dropping out? What steps can be taken immediately to improve graduation rates? Which interventions are most likely to succeed for a particular student or group of students? IBM SPSS Decision Management for Student Retention provides a single decision engine that spans all aspects of the institution, empowering multiple decision makers to quickly, accurately, and consistently ensure that they are retaining as many students as possible. For example:

- Presidents and chancellors can track predicted retention and graduation rates, along with related financial information, to ensure that their institutions are more likely to receive high national rankings and remain profitable



- Deans of specific colleges can more easily identify at-risk students and receive data-driven recommendations of the most successful intervention strategies for preventing students from dropping out
- Institutional researchers can gather data efficiently from different offices within the institution, process it and quickly receive and deploy reports
- IT teams can integrate IBM SPSS Decision Management for Retention with all existing data sources and current IT systems
- Professors and curriculum specialists can review predicted scores and see which program changes would improve student performance
- Professors and academic advisors can predict each student's strengths and weaknesses within a subject area, as well as their final exam scores
- Advisors can provide a list of data-supported intervention strategies to professors for low-performing students

With IBM SPSS Decision Management for Student Retention, educators and administrators can gain greater insight into the various factors that affect retention and graduation rates, and provide personalized, data-driven interventions for each student.

Business Benefits

IBM SPSS Decision Management for Education offers several applications to help address challenges faced by colleges and universities by optimizing and automating the multitude of decisions that must be made every day. Applications include:

- IBM SPSS Decision Management for Student Retention
 - IBM SPSS Decision Management for Institutional Advancement
 - IBM SPSS Decision Management for Financial Aid Management
 - IBM SPSS Decision Management for Campus Security
 - IBM SPSS Decision Management for Enrollment Management
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The price of student attrition

Everyone pays a high price for student attrition. Colleges and universities lose tuition revenue and risk a diminished reputation when drop-out rates rise. They also incur the expenses related to attracting new students. Taxpayers, state governments and the federal government also pay. From 2003 through 2008, states appropriated almost \$6.2 billion to colleges and universities to help pay for the education of students who did not return to school for a second year². During this same period, states gave over \$1.4 billion and the federal government over \$1.5 billion in grants to students who did not return for a second year³.

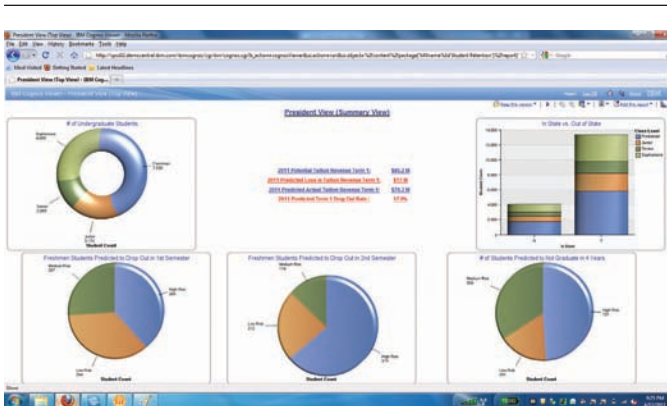
There is also the cost to the students themselves. The investment students make in their college education is recovered over the years following graduation through higher paying jobs and superior career opportunities. Students who drop out not only lose that educational investment, but are also likely to struggle with the repayment of long-term student loan debt. Students who drop out will also not become alumni who can be counted upon to make contributions during institutional fund drives. And when you consider the institutional costs to recruit new students to replace those who have dropped out, you can see the costs of poor student retention are significant and lasting.

Improving retention, one student at a time

Ensuring that students stay enrolled through graduation helps control the high costs of attrition, making students more satisfied with their educational experience and contributing to the vitality of your institution.

IBM SPSS Decision Management for Retention leverages all available student data – such as financial aid assessments, academic performance, demographic information, survey responses, attendance records – to help professors, advisors, institutional researchers, deans and other administrators make better decisions both inside and outside of the classroom.

Data is fed into a predictive analytics engine built specifically to predict which students are likely to stay enrolled and which are likely to drop-out. Then, from an intuitive web-based graphical interface, users can view a complete student profile and receive real-time predictions about the student's future progress, along with insight into which intervention measures are most likely to be successful.



Users can create predictive views based on their roles at the institution. For example, Provosts and Presidents could quickly view demographic, financial and predictive information such as the percentage of students that are at high risk to drop out, and the resulting short-term predicted loss in tuition revenue.

Baruch College, which is ranked among the top 15 percent of U.S. colleges, was looking for a way to attract and retain the students most likely to thrive and succeed. Using IBM SPSS software, the college was able to better integrate data across all units. This led to a 7.1 increase in applications to its business school – when other schools were seeing sharp decreases – and a 21 percent annual increase in transfer students. Baruch also used IBM SPSS technologies to improve the placement of freshman in introductory courses, which significantly reduced drop outs.

Knowing which students were at risk and knowing where to focus enabled the College to provide interventions to keep at-risk students enrolled and on track for graduation.

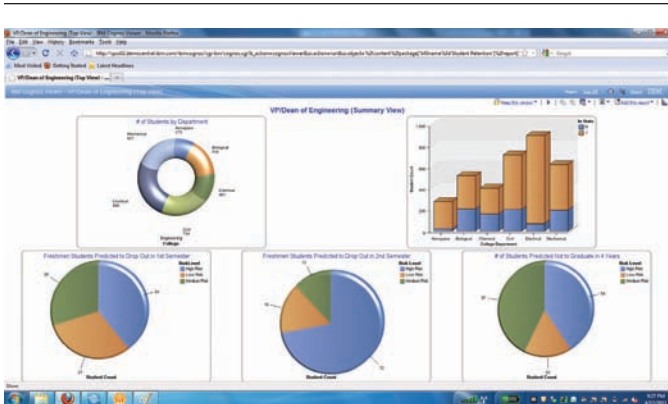
IBM SPSS Decision Management for Student Retention enables your institution to automate, standardize and optimize decisions based on flexible criteria that you set and can later modify as needed.

Boosting graduation rates

U.S. colleges and universities are ranked on various standards, including what percentage of students obtain a degree and how many do so within four years. But today, only half of students enrolled in a college or university receive a bachelor's degree⁴. A low graduation rate can lead to a diminished reputation and make it more difficult to attract and enroll desirable students.

To improve graduation rates, educators and administrators must answer questions such as: What factors play a role in predicting graduation rates? Which individuals will succeed with early intervention? How will taking specific steps, such as offering tutoring opportunities, expanding support networks or encouraging a student to live on campus, impact drop-out rates?

IBM SPSS Decision Management for Student Retention answers these questions and can help schools identify and address the issues that traditionally contribute to lower graduation rates, including poverty, student age, lack of family support, substance abuse and other variables.



Vice Presidents and Deans are able to access a more granular predictive view of their specific college, such as the College of Engineering.

The solution recommends interventions and readily shares these recommendations with those who interact daily with students. The software also captures additional information about each student interaction, enhancing its ability to more accurately predict future student behaviors.

Advisor View (Top View) - IBM Cognos Viewer - Windows Internet Explorer

Advisor View (Summary View)

Student ID	First	Last	Risk Level	Academic	Financial	Health	Intervention	General
20100040	CHRISTINA	ONE	High Risk	Prep Course + Academic Coach	None	None	Early Program	None
20100041	JILLIAN	ONE	Medium Risk	None	None	None	None	General Advisor
20100042	LAURA	BERNSTEIN	Low Risk	None	None	None	None	General Advisor
20100043	AMANDA	BERNSTEIN	High Risk	None	None	None	None	General Advisor
20100044	CHRISTOPHER	BERNSTEIN	Low Risk	None	None	None	None	General Advisor
20100045	JORDAN	BERNSTEIN	Medium Risk	Prep Course + Academic Coach	None	Health Advisor	Early Program	None
20100046	SHERON	BERNSTEIN	Low Risk	Academic Advisor	None	None	Student Mentor	None
20100047	LAURA	BERNSTEIN	High Risk	Prep Course + Academic Coach	None	None	Early Program	None
20100048	DOUBLAS	BERNSTEIN	Medium Risk	None	None	None	Buddy Program	None
20100049	BRUNA	BERNSTEIN	High Risk	Prep Course + Academic Coach	None	None	None	None
20100050	JOSHUA	BERNSTEIN	Low Risk	None	None	None	Student Mentor	None
20100051	SARAH	BERNSTEIN	High Risk	Prep Course + Academic Coach	None	Health Advisor	Early Program	None
20100052	CHRISTOPHER	BERNSTEIN	Low Risk	Prep Course + Academic Coach	None	None	Early Program	None

Advisors are able to view reports for all of their students that are at-risk of dropping out, so they can better advise each student individually.

American Public University System, an online university serving more than 70,000 distance learners from the U.S. and more the 100 countries, wanted to boost student retention and academic excellence. By deploying IBM SPSS solutions, the university can now predict with 80 percent certainty at what point a given student is likely to drop out. Replacing guesswork about student retention with predictive models gives the university a sound basis for accurate decision making and yields more effective intervention strategies.

Deliver consistent, accurate decisions every time

IBM SPSS Decision Management for Student Retention provides a single decision engine that can be used across all areas of a university or college, leading to better decisions at every level. The simplicity of the interface makes the technology accessible to everyone, while leveraging the analytical horsepower of predefined predictive models. And, your institution can easily develop and modify “what if” scenarios based on your knowledge about your student body and your institutional policies.

As a “closed-loop” solution that continually incorporates valuable feedback into the decision-making process, it’s an ideal approach for institutions that want to proactively address changing student conditions and maximize the benefit of every student retention-related decision.

IBM SPSS Decision Management integrates easily with existing reporting systems and dashboards (such as IBM Cognos), providing seamless delivery of analysis to decision makers. And, because it connects to current enterprise information systems and technologies, IBM SPSS Decision Management for Retention helps you achieve a higher return on investment (ROI).

The software can be accessed through a standard on-premise licensing option or via the web as Software-as-a-Service (SaaS). With the Software-as-a-Service option, IBM delivers a fully hosted service as a monthly or quarterly subscription. IBM provides and manages both the software and the technical infrastructure, so that you can focus on the analysis and results without worrying about hardware, software, staffing levels or ongoing maintenance costs.

Find out how proven IBM SPSS technologies can help your college or university turn operational information into actionable insights that ensure the highest levels of student retention. Go to www.ibm.com/spss or call 1.800.543.2185 for more information.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, predictive analytics, financial performance and strategy management, and analytic applications provides clear, immediate and actionable insights into current performance and the ability to predict future outcomes. Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest productivity, confidently automate decisions and deliver better results.

As part of this portfolio, IBM SPSS Predictive Analytics software helps organizations predict future events and proactively act upon that insight to drive better business outcomes. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. By incorporating IBM SPSS software into their daily operations, organizations become predictive enterprises – able to direct and automate decisions to meet business goals and achieve measurable competitive advantage. For further information or to reach a representative visit www.ibm.com/spss.



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- 1 2010 Retention/completion summary tables published by ACT Inc.
- 2 *Finishing the First Lap: The Cost of First Year Student Attrition in America's Four Year Colleges and Universities*. American Institutes of Research.
- 3 *Ibid.*
- 4 "Colleges are failing in graduation rates," *New York Times*, September 8, 2009.



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