Data-Driven Enrollment Management: Proactively Recruiting and Retaining Your Student Body

- The audio portion of this event will come through your computer speakers. (see adjusting volume control below)
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US/Canada Toll Free: 866-469-3239
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*****Event Number: 665 371 575**

Upon joining the call, you will not hear hold music**. Periodic announcements will be made to test the volume through your speakers.**

Q & A

- Type any questions into the Q&A Tab on the right

Adjusting volume control

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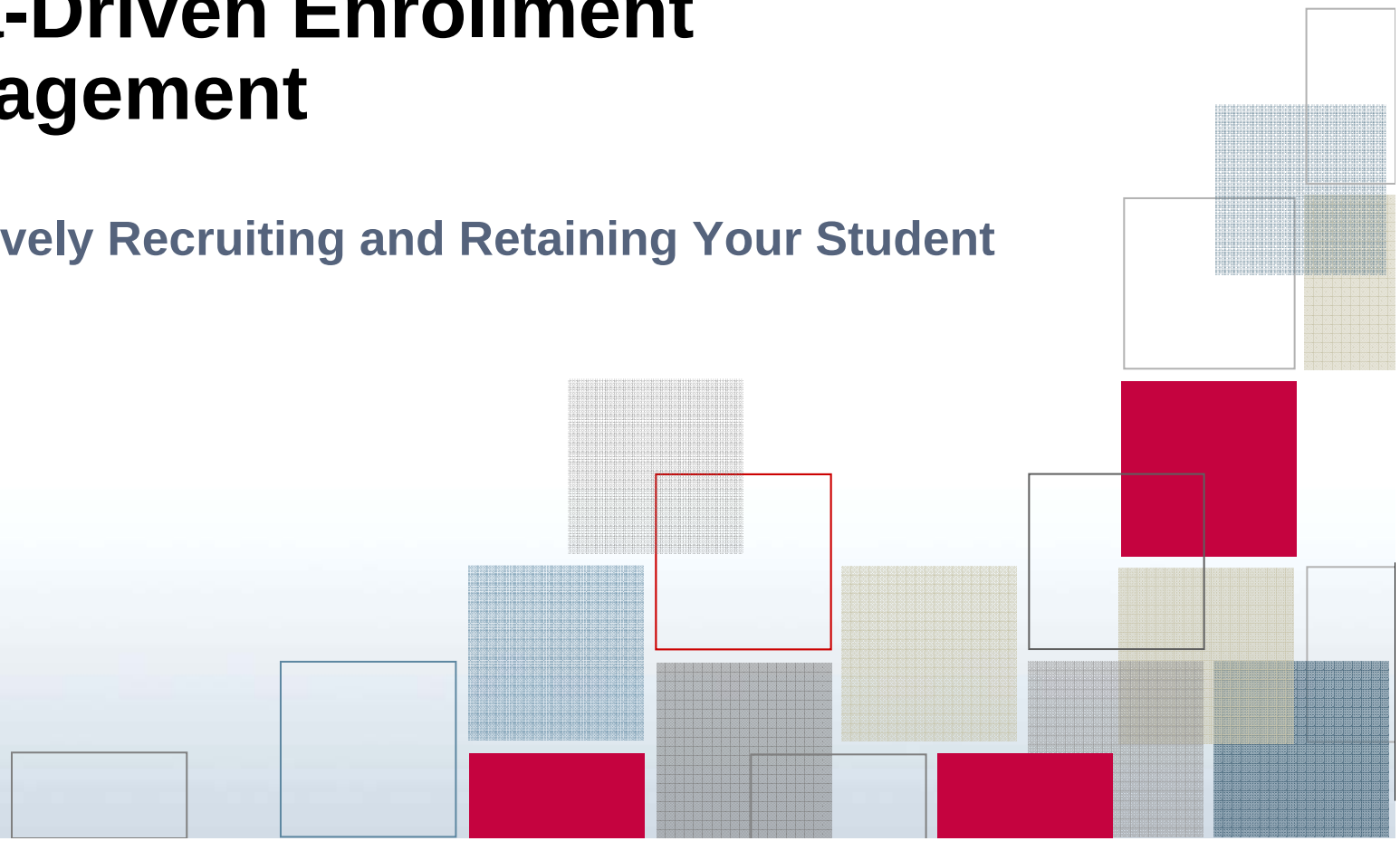
Data-Driven Enrollment Management

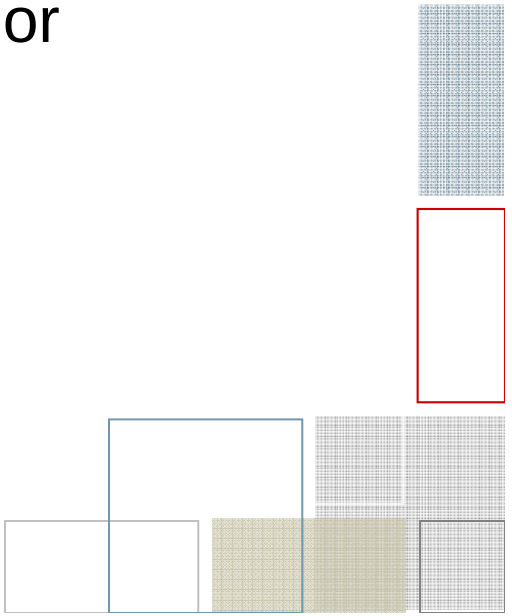
Proactively Recruiting and Retaining Your Student Body



Commonly Asked Questions

1. Will I be able to get copies of the slides after the event?

2. Is this web seminar being taped so I or others can view it after the fact?



Commonly Asked Questions

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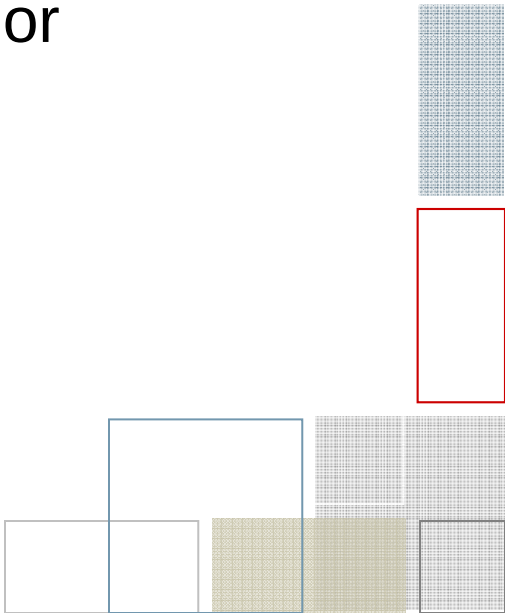
Yes

2. Is this web seminar being taped so I or others can view it after the fact?

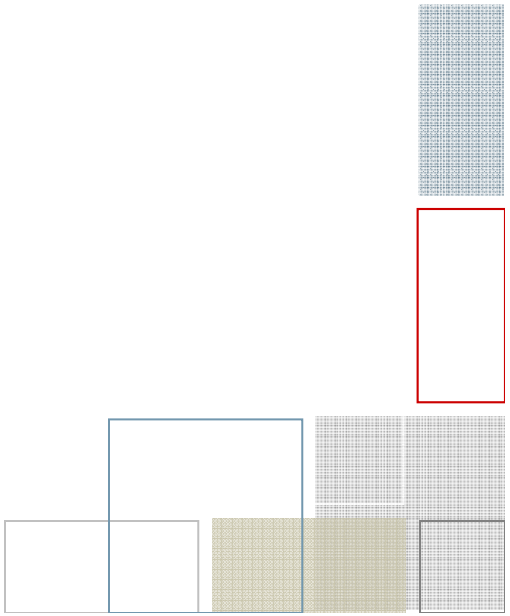
Yes

www.spss.com/events



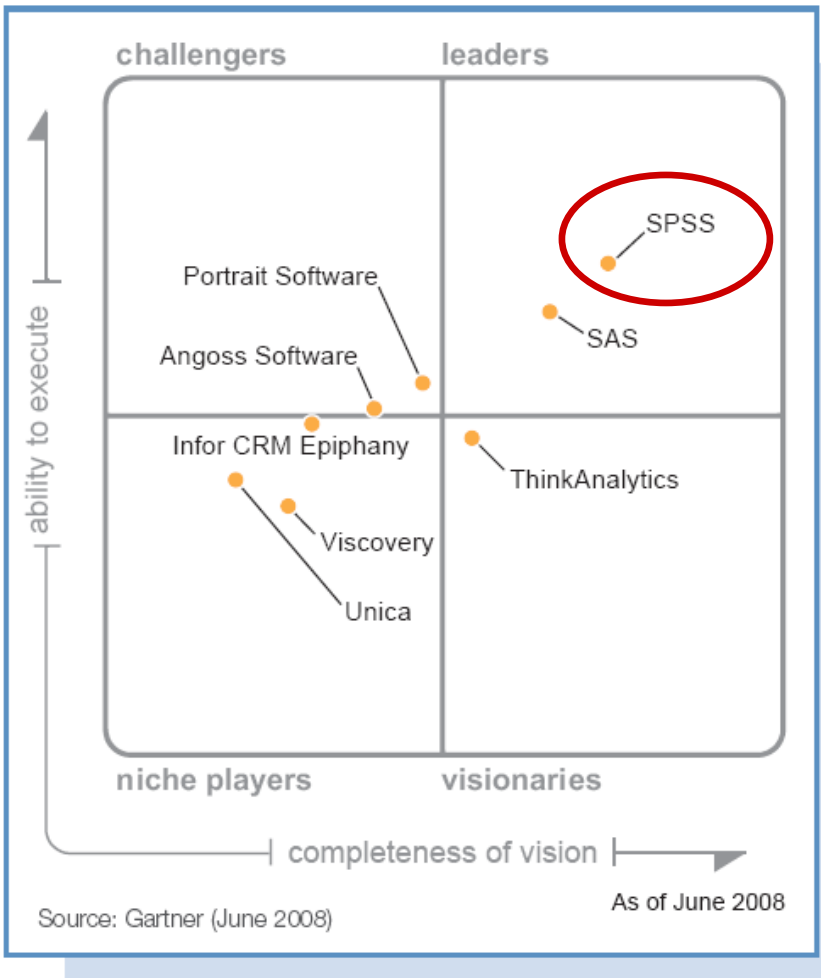
Agenda

- Who is SPSS?
- What is Predictive Analytics and how does it apply to Enrollment Management?
- The state of analytics in Enrollment Management
- The ROI of Predictive Analytics in Enrollment Management
- 3 Key Ways Predictive Analytics can help your Enrollment Management Office
  - Benefits
  - How the technology works
  - What you need to know to get started
- Who's doing this? Examples from the Field
- The ROI of Predictive Analytics
- Why SPSS?
- Summary



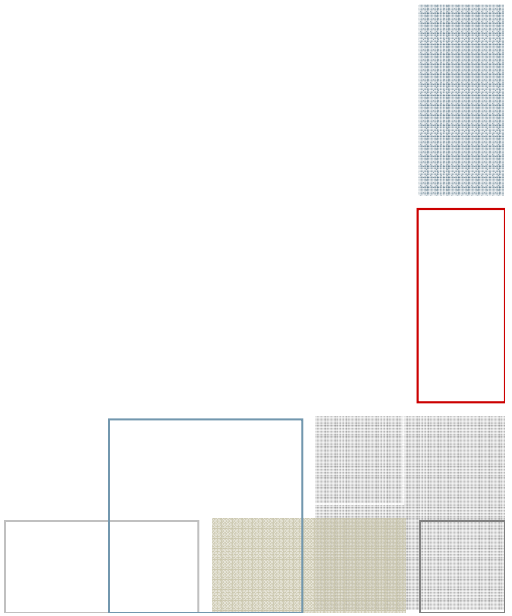
Who is SPSS?

- Global market leader in predictive analytics
- Top 25 software company
- Founded in 1968 at Stanford.
- NASDAQ-listed (SPSS) in 1993
- Operations in over 60 countries
- Customers: All 129 of the top U.S. colleges and universities ("America's Best Colleges 2005," *U.S. News & World Report*)

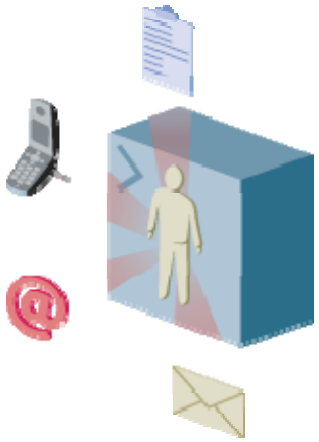


What is Predictive Analytics?

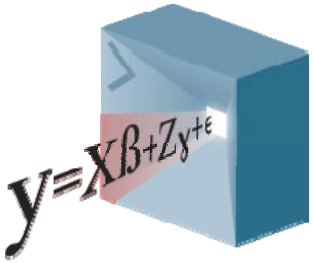
- Predictive Analytics is…
  - A method for collecting and analyzing data– attitudinal, behavioral, structured, unstructured, etc.– in order to understand applicants, students, or other constituents; and use this insight to direct, optimize, and automate **data-driven decision making.**
- Predictive Analytics delivers…
  - Return on Information
  - Return on Investment



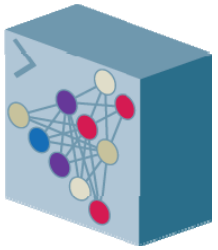
What types of technology constitute "Predictive Analytics?"



Data Collection

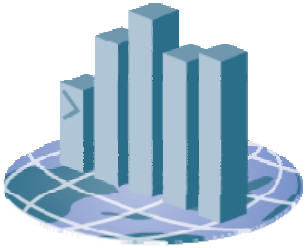


Statistics



Data Mining

Text Mining



Web Mining

Optimization and Deployment

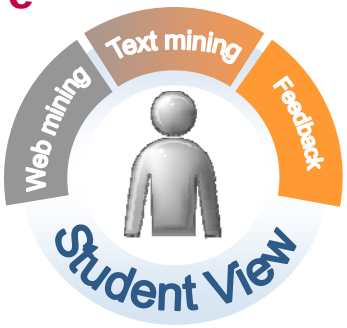
How are these technologies applied to Enrollment Management?

Capture contextual information and utilize all data sources available

Predict

Recommend the most appropriate action to take; eg: what form of merit or financial or merit aid to offer an applicant, whether or not intervention is necessary to keep a student in school, etc.

Capture



Store detailed data on applicants, students, etc.

Act

- Event invitation
- Phone call, email, direct mail
- Meeting with recruiting or advising officer
- Referral to Student Success Center
- Etc.

What are institutions doing today?

Table 7-10. Use of Academic Analytics in Enrollment Management and Retention

Enrollment Management (N = 356)	Mean	Std. Deviation
Automatically alert appropriate officials when an enrollment metric falls outside a desired range	2.75	1.449
Forecast future demand for courses	2.50	1.176
Identify potential students who are the strongest prospects for admissions	2.95	1.312
Tailor a recruiting strategy for an individual prospective student	2.38	1.283
Retention (N = 362)	**Mean**	**Std. Deviation**
Identify students who may be at risk academically	3.14	1.217
Alert an appropriate official when an academic intervention with a student is warranted	2.56	1.319

(1 = almost never, 2 = occasionally, 3 = sometimes, 4 = usually, 5 = almost always)

Source: ECAR, Academic Analytics: The uses of Management Information and Technology in Higher Education, Phillip J. Goldstein, December 2005.

How can predictive analytics be applied in our Enrollment Management Office?

Idea 1: Ongoing, multi-channel data collection

- Benefits:

Data Collection

•Better understand attitudes, preferences, values to better target admissions offers, improve engagement of current students, etc.

•Create another touch point with your applicants and students and demonstrate that you value their opinion

•Increase the accuracy of predictive models- by up to 30%

Ongoing

•Ongoing data collection keeps you abreast of changes in prospective and current student opinion

•Allows you to create benchmarks of where you are compared with past performance

Multi-channel

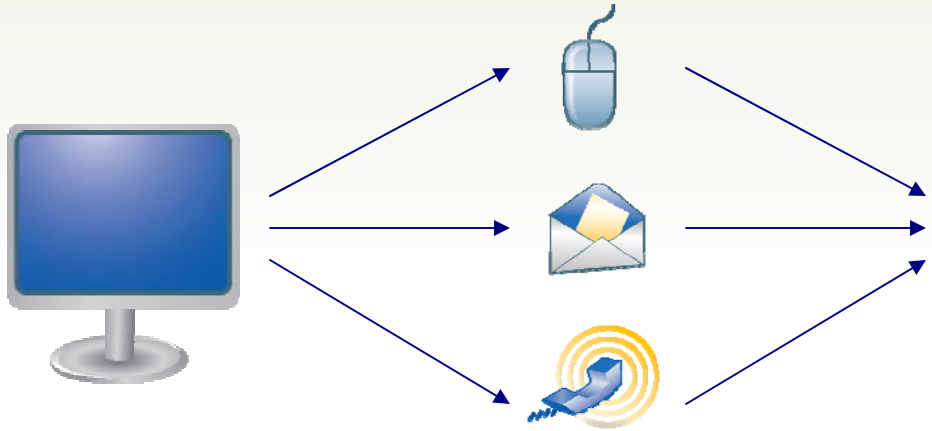
•Collecting across multiple channels increases response rates

Ways data collection can be used in enrollment management

- Collect survey data from prospects who have just visited your campus
- Easily bring in feedback from alumni interviews with prospective students
- Gather current student opinions on your admissions process
- Survey students at critical times, such as assessing their satisfaction and engagement during the first 90 days
- Assess student satisfaction with academic and campus programming
- Complete information missing from current student records
- Collect information on the courses students intend to register for the coming semester
- Etc.

Idea 1: Ongoing, multi-channel data collection

- How the technology works:

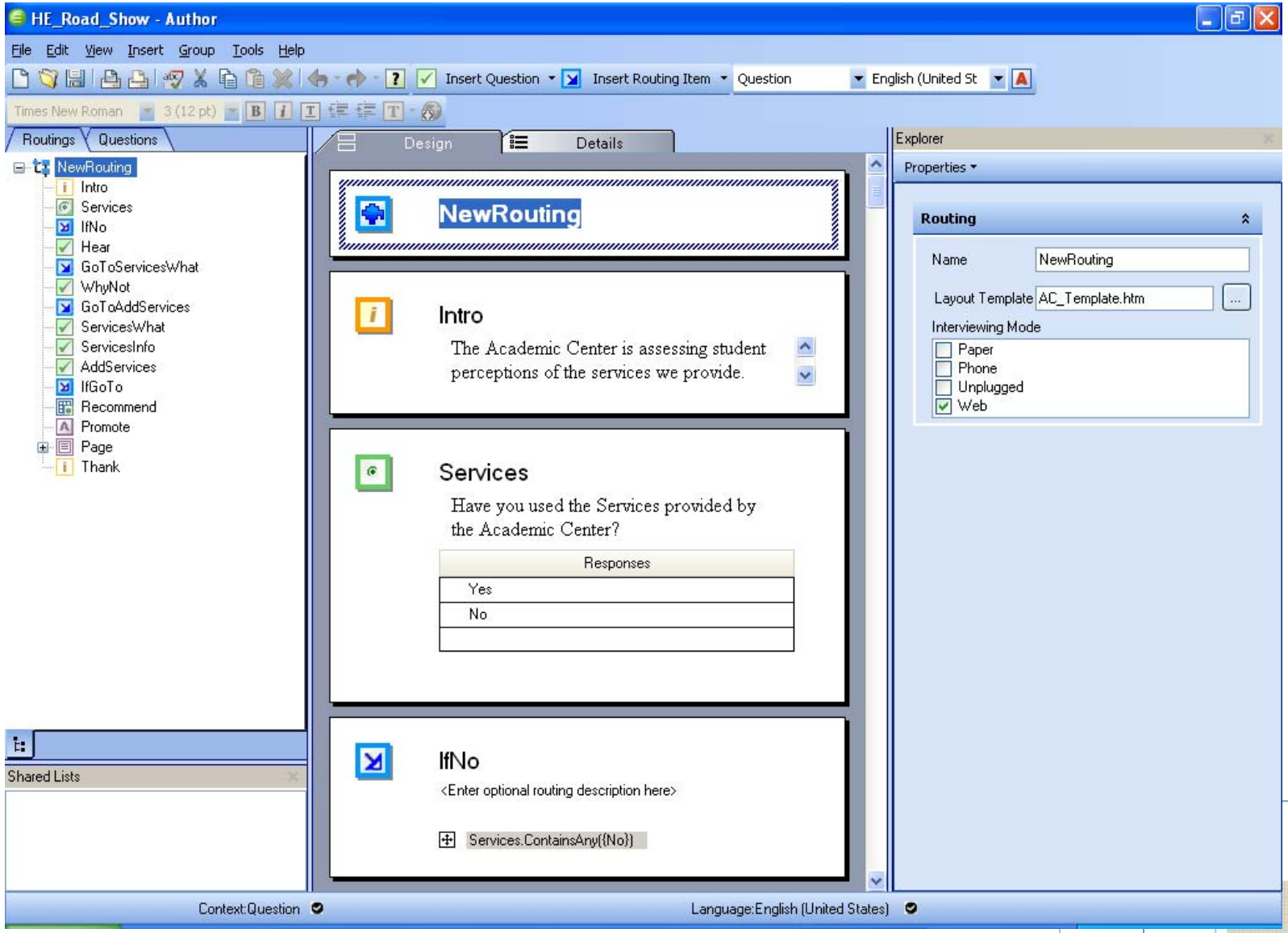


User creates a survey from scratch, or utilizes a pre-built template or pre-defined questions from the Data Library

The same survey is deployed via the Web, Paper, and over the Phone, depending on the appropriate method for the given constituent group

Results are compiled in one dataset and easily reported on or combined with existing data for further analysis (eg: predicting at-risk students)

Idea 1: Ongoing, multi-channel data collection



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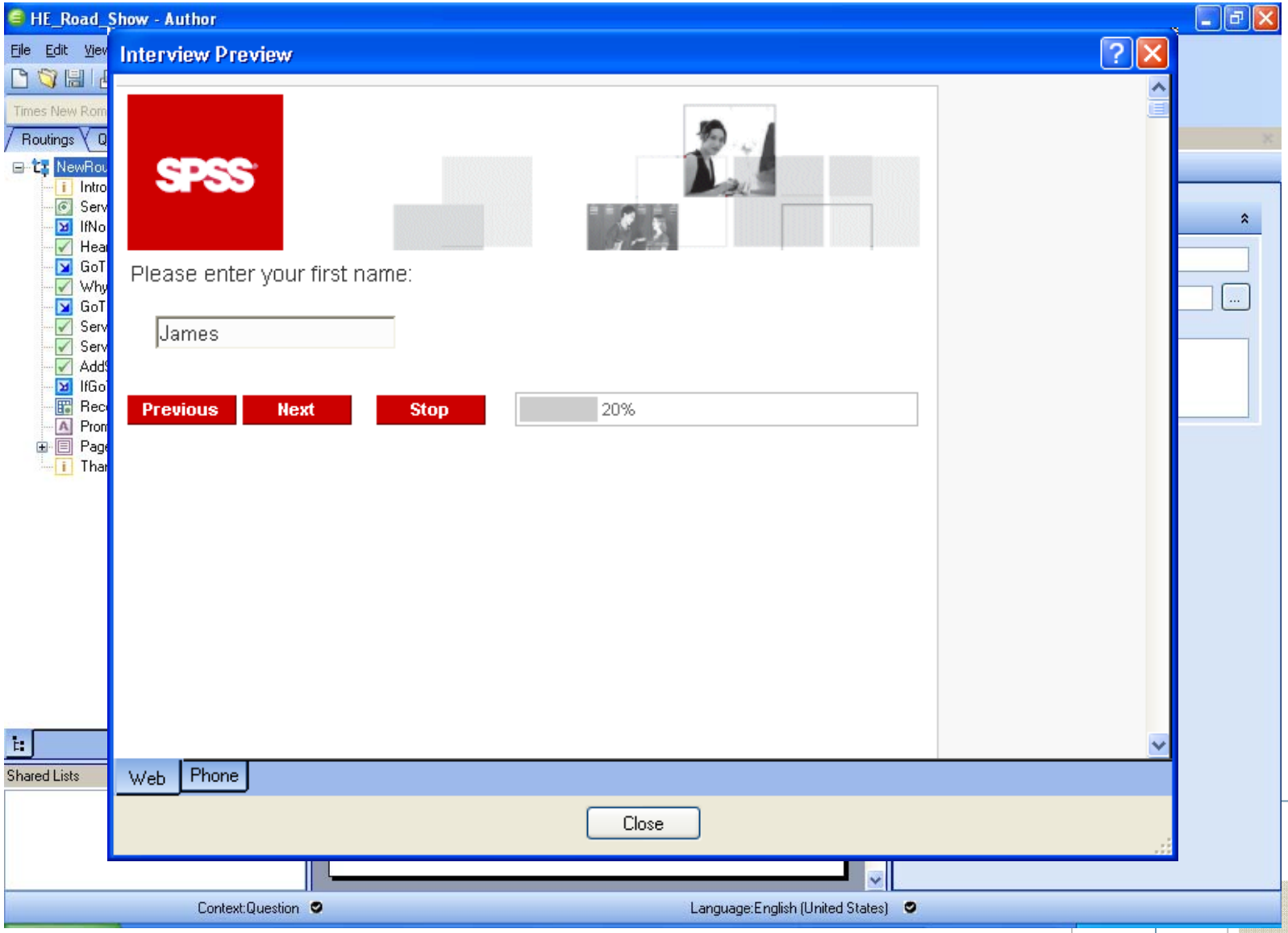

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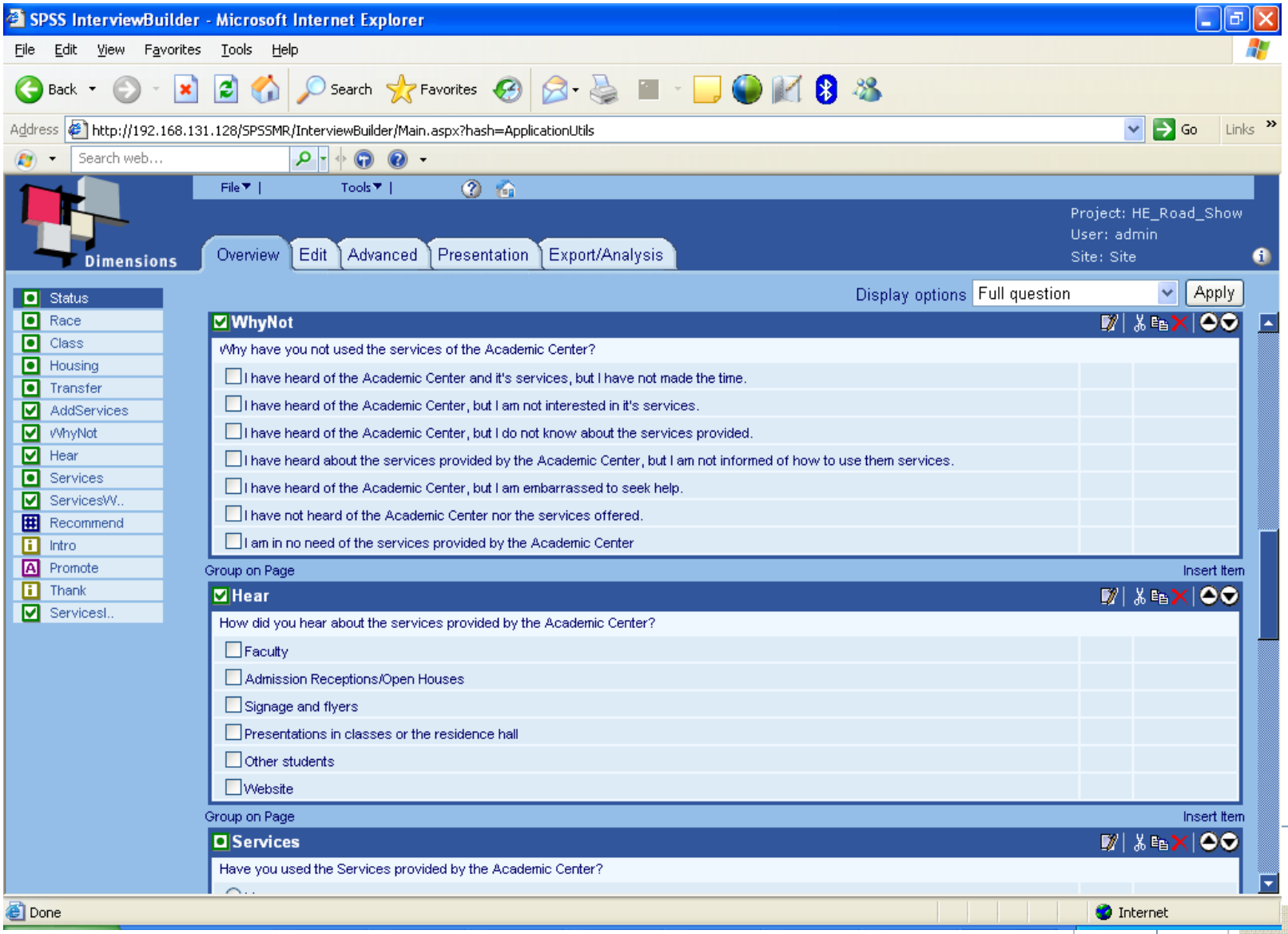

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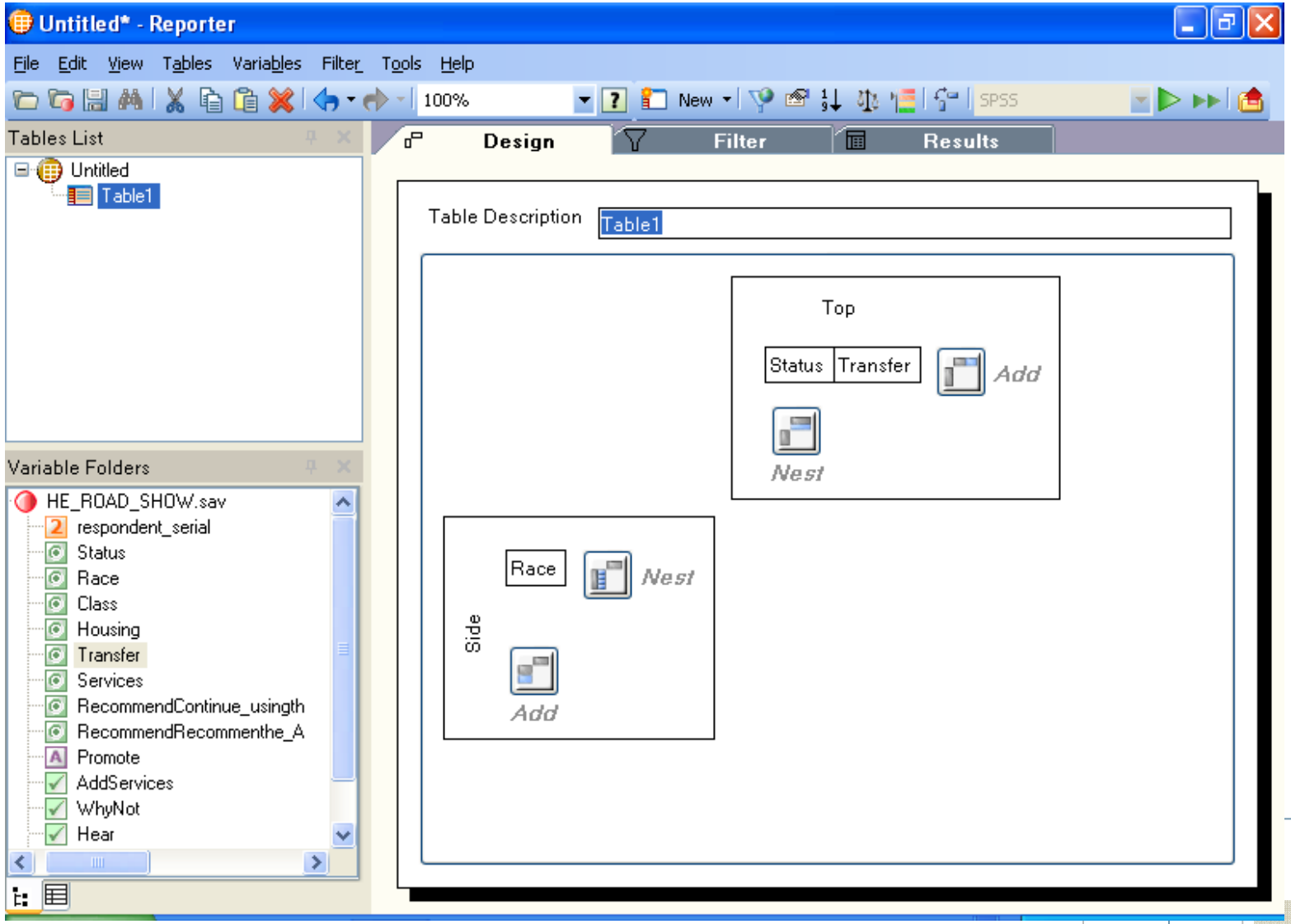

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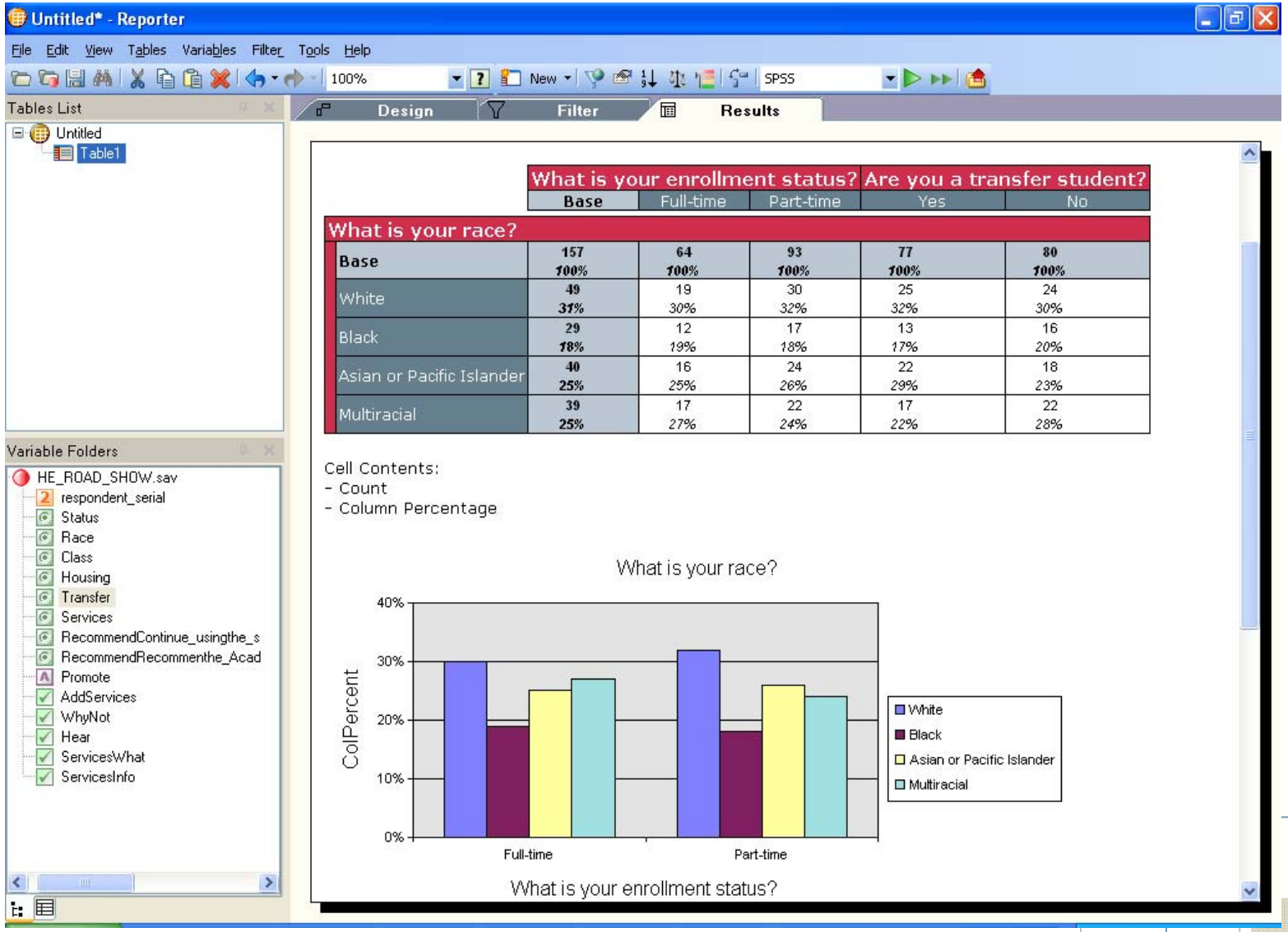
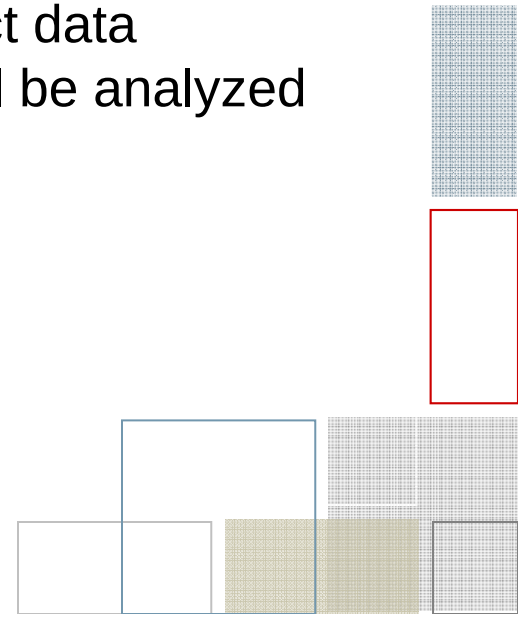


Idea 1: Ongoing, multi-channel data collection

- Tips for getting started:
  - Create a data collection plan and stick to it:
    - Outline Goals
    - Inventory what data you already have
    - Make sure your questions and survey are well-designed
    - Make sure you are using an appropriate channel for your target audience
    - Reduce and reuse!
    - Take advantage of natural interactions to collect data
    - Decide who/what/where/when/how the data will be analyzed and used in decision making



Idea 2: Leverage text data in a meaningful way

Idea 2: Leverage Text Data in a Meaningful Way

- Benefits:

Text Mining

•80% of all data within an institution is unstructured (text) data

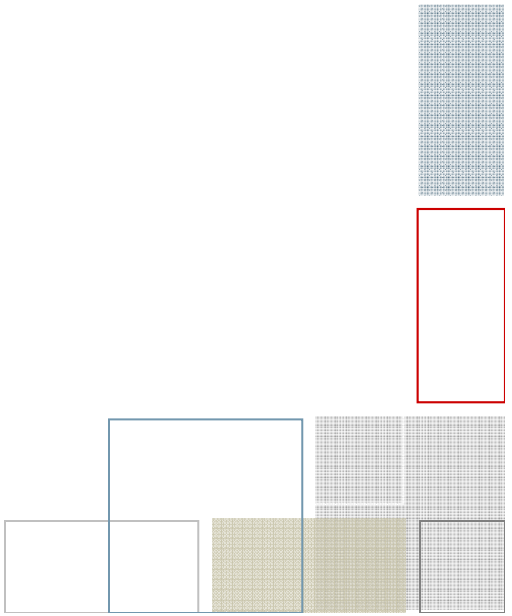
•Leverage comments from application essays, social networking portals, course management systems, emails, recruiter or advisor notes, etc.

•Text provides more rich, accurate view of applicants' and students' opinions…in their own words

•Attitude is the best predictor of action

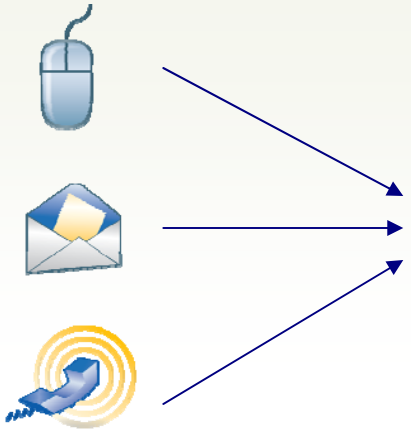
•Drastically reduce staff time spent reading and coding open-ended responses

•Increase the accuracy of predictive models– by up to 40%



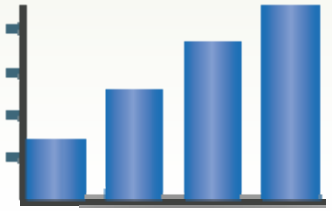
Idea 2: Leverage Text Data in a Meaningful Way

- How the technology works:



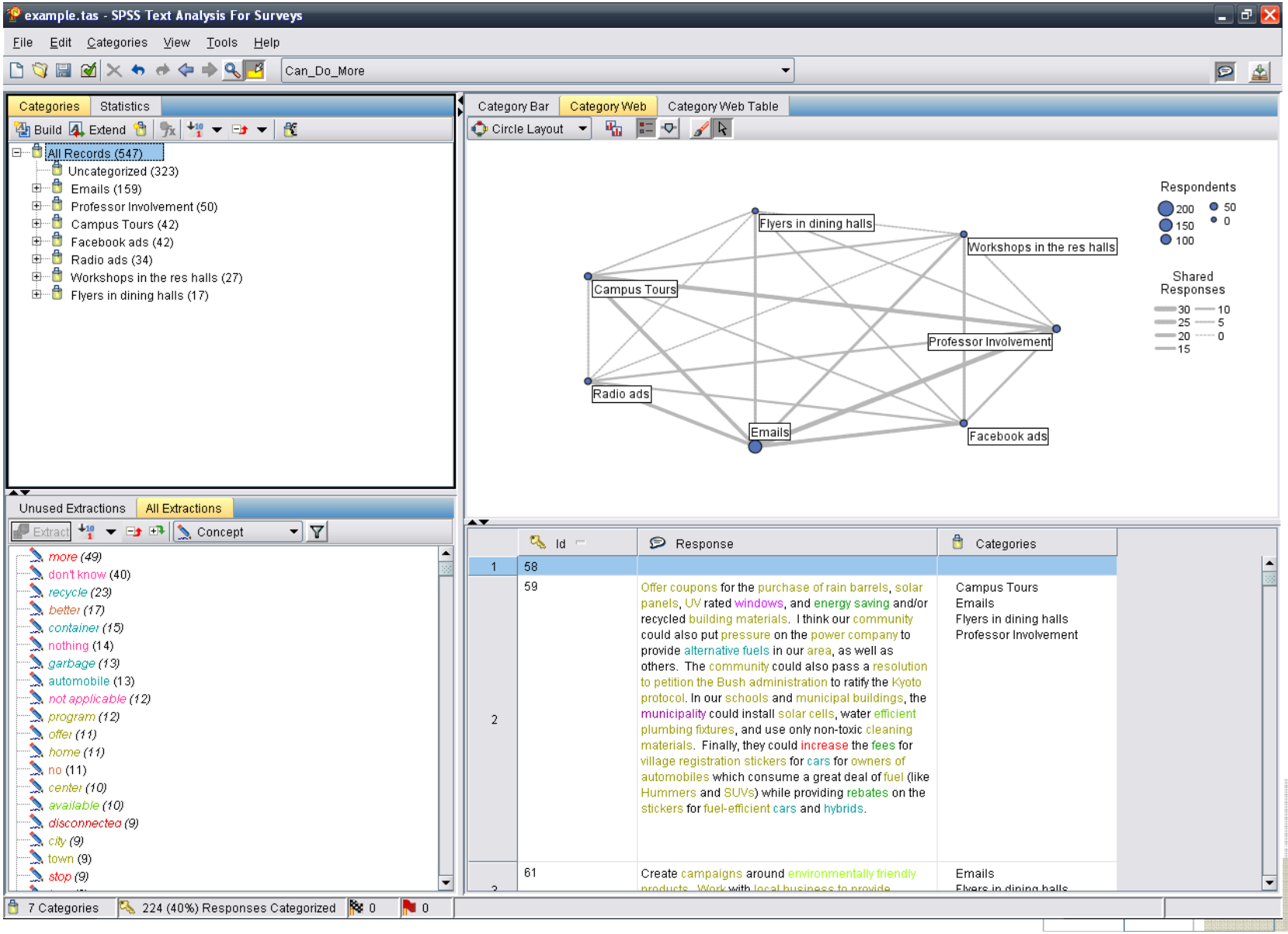
Institution has text data from open-ended survey responses, application essays, comments on course management system or social networking sites, from emails, advisor notes, etc

The data is loaded into text analysis software and the concepts are extracted and categorized



Results are compiled and summarized in a report and can now be combined with numerical data for more accurate data analysis

Idea 2: Leverage Text Data in a Meaningful Way



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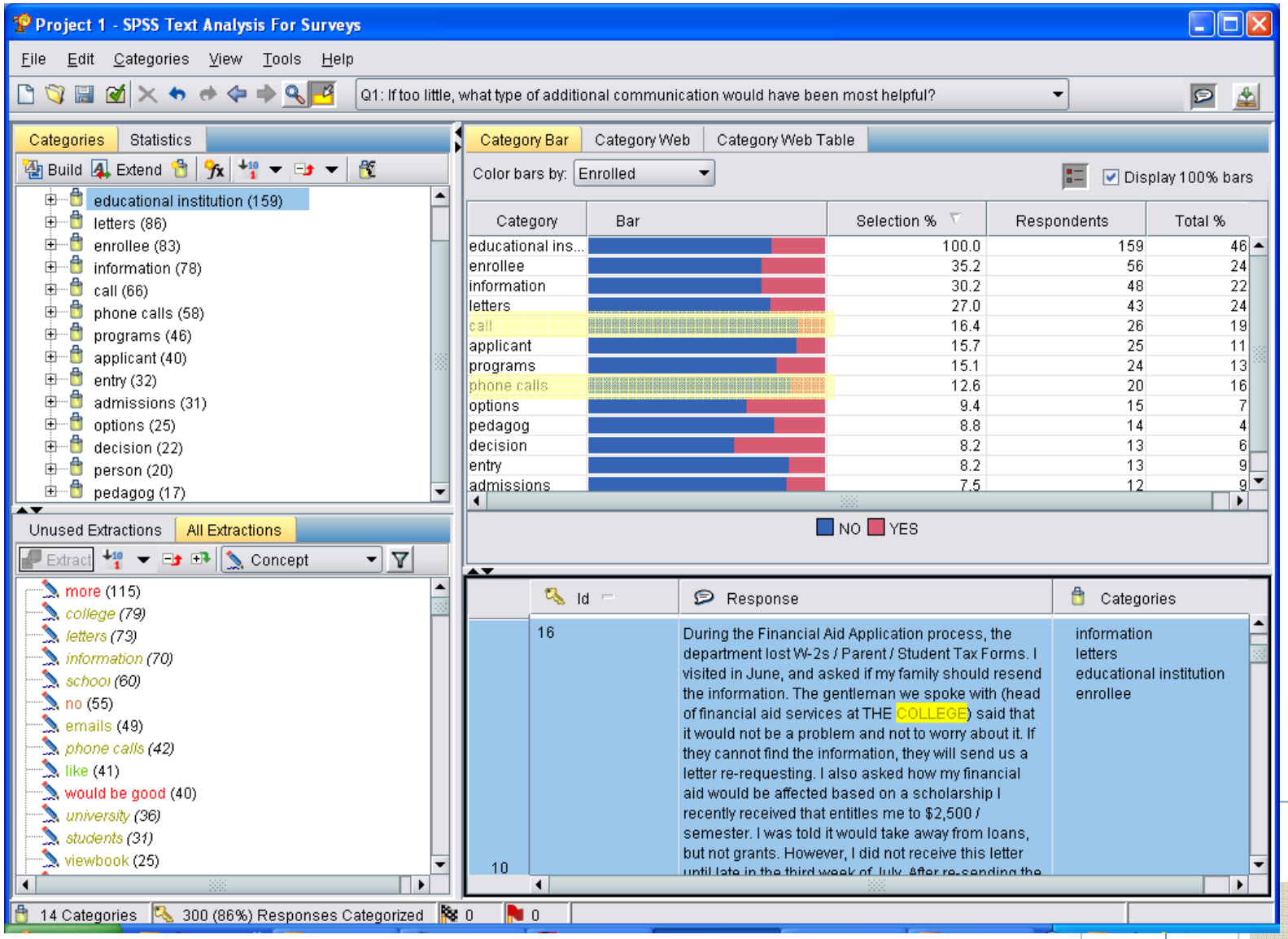
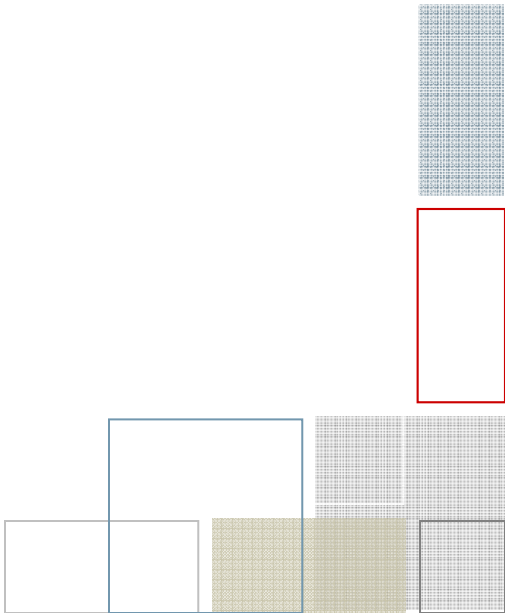


Idea 2: Leverage Text Data in a Meaningful Way

- Tips for Getting Started
  - Inventory your on-hand text data
  - Determine what further information you'll need and how you'll ask for it
    - Be specific! For example, "What did you like?" is a different question than "What didn't you like?"
  - Consider when and how you will collect this data and where it will be stored



Idea 3: Use predictive modeling to inform and drive decision making

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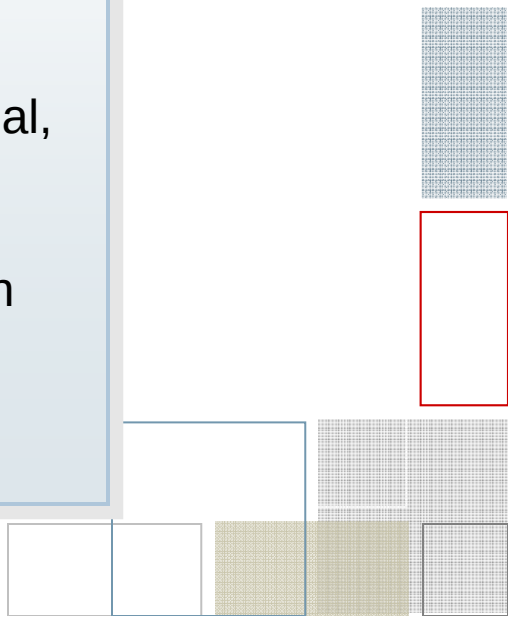
- Benefits:

For Recruiting…

- Better focus budget, financial aid, and admissions staff resources on prospective students who are most likely to enroll
- Target prospective students in the right way, at the right time, with the right message
- Reduce your recruiting costs by 25-40%

For Retention…

- Proactively identify at-risk students
- Determine and take action to prevent the key triggers of student attrition
- Focus advising, residential, financial aid, and student success resources on keeping at-risk students in school



Idea 3: Use predictive modeling to inform and drive decision making

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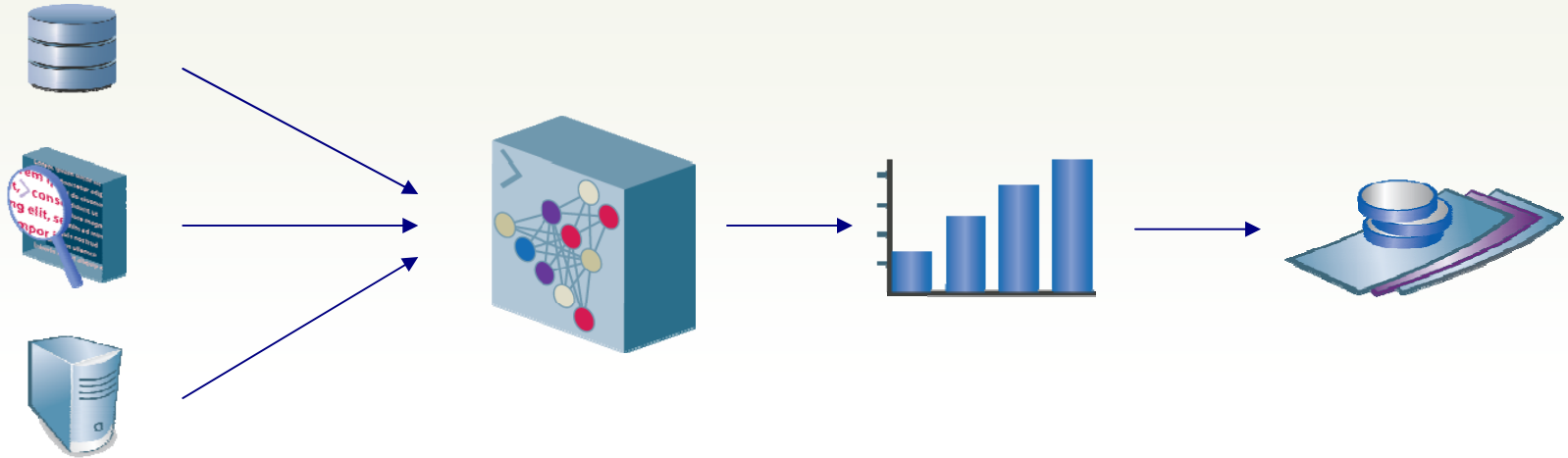


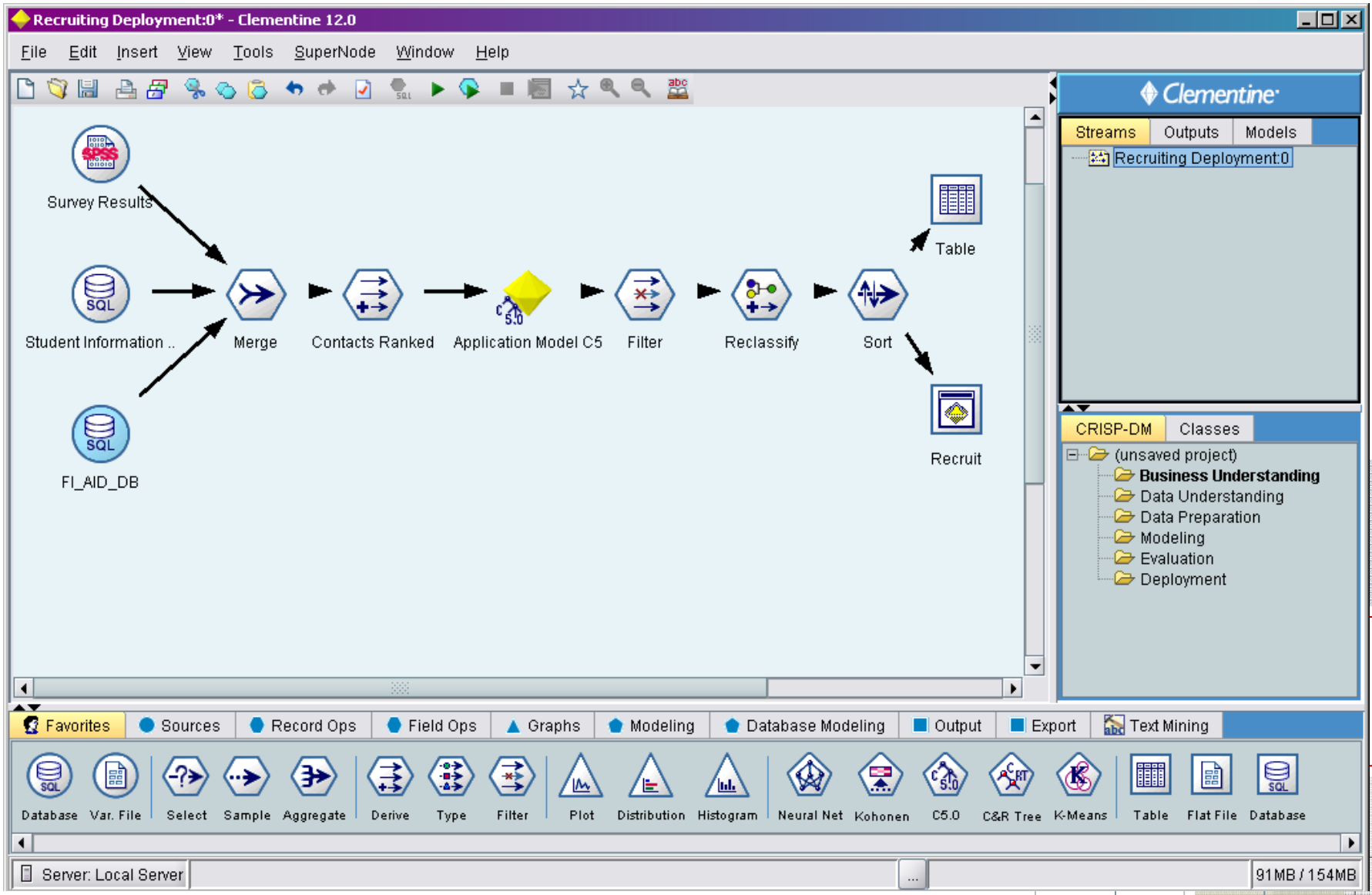
Institution has data in databases, in spreadsheets, from surveys, and many other sources.

Data mining combines these sources into one dataset and makes sense of the patterns and trends in the data.

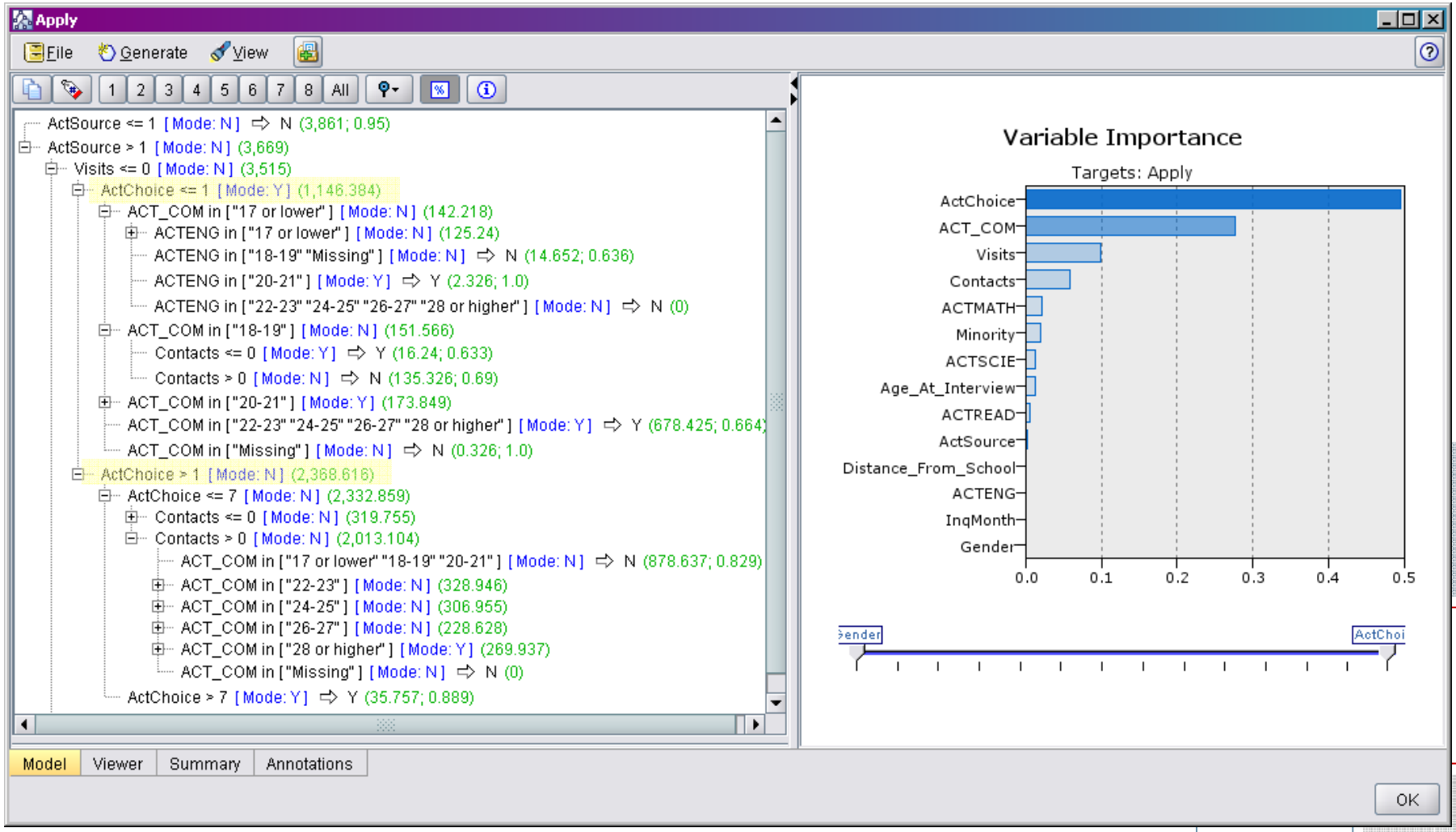
Results are compiled and can now be pushed back into your SIS system, deployed to a dashboard, or assembled in a report for decision making.

By making better decisions about who to target, what form of contact or intervention to use, what amount financial aid to offer, etc., you cut costs and meet enrollment goals.

Idea 3: Use predictive modeling to inform and drive decision making

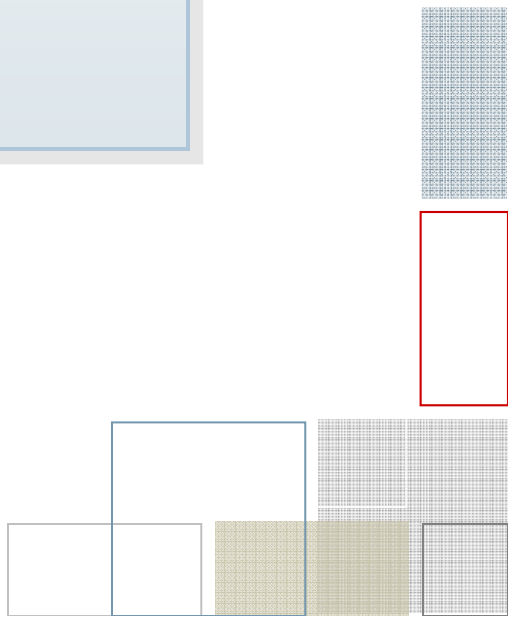


Idea 3: Use predictive modeling to inform and drive decision making



Two Approaches to Modeling

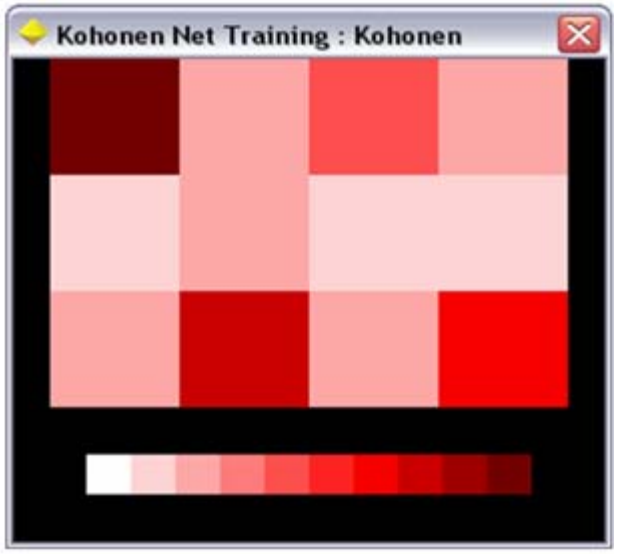
Supervised Learning	Unsupervised Learning
Classification/Decision Trees Regression Algorithms Association	Clustering
Predict outcomes	Find natural groupings

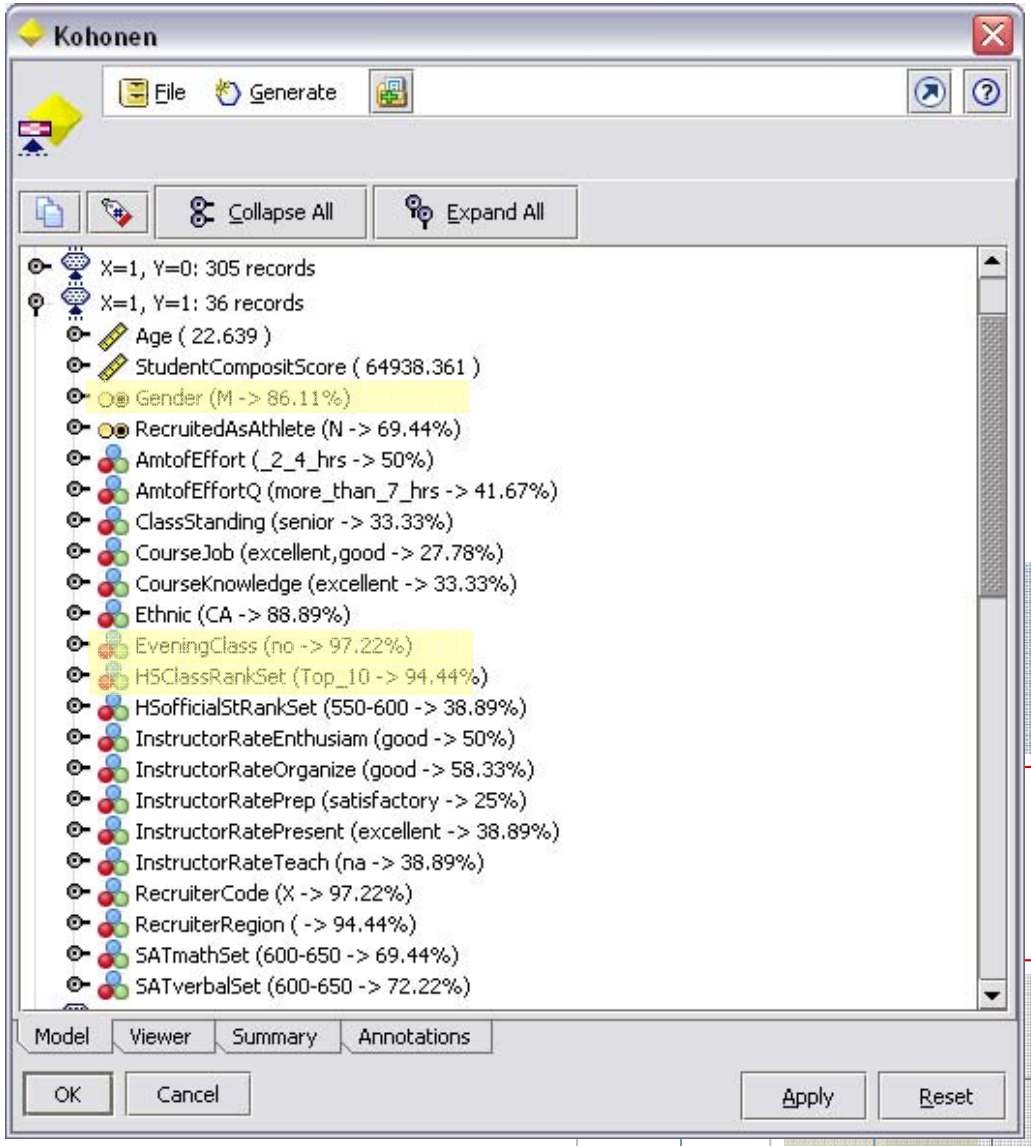


What is Unsupervised Learning?

- A data mining technique when we do not know the output or outputs
- A set of techniques that are used to group cases together that have similar characteristics
- Can be thought of as finding ‘useful’ patterns above and beyond noise…or “fishing” for information

Unsupervised Learning: Clustering (Segmentation)





Unsupervised Learning: Clustering (Segmentation)

Cluster * Persist Crosstabulation

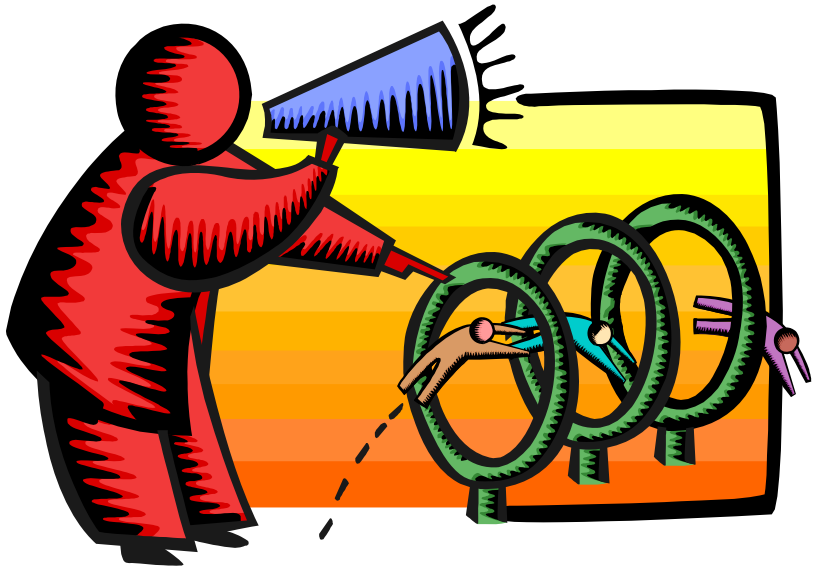
% within Cluster

		Persist		
		Non-Persist	Persist	Total
Cluster	1	27.2%	72.8%	100.0%
Total		27.2%	72.8%	100.0%

27% of students in this cluster,
with this *combination of characteristics*,
did not stay at the institution!

What is Supervised Learning?

- A technique when we know the output or outputs
- We will “Supervise” the algorithm and tell it what we want to predict.

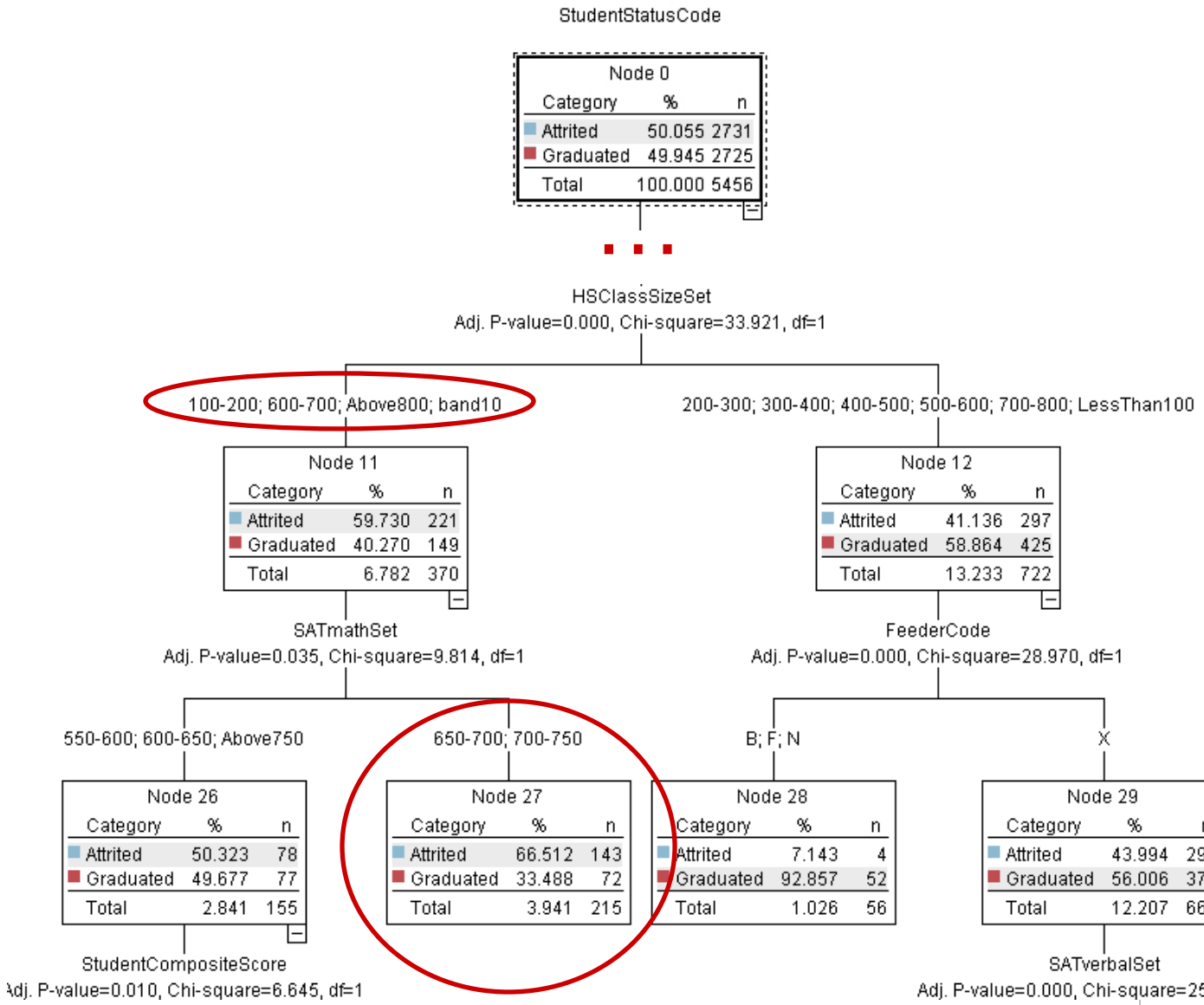


Supervised Learning: Classification

Inputs **Target**

Age	HSClassRankSet	StudentCompositScore	CollegeTestScore	HSClassSizeSet	SATmathSet	SATverbalSet	Gender	StudentStatus
20	default	65643	126	band10	650-700	650-700	M	Graduated
20	Top_10	66464	245	200-300	550-600	500-550	M	Graduated
21	150-200	60369	0	500-600	550-600	550-600	F	Attrited
21	50-100	61266	288	200-300	650-700	600-650	M	Graduated
20	Top_10	72393	47	200-300	700-750	550-600	M	Graduated
21	50-100	60094	213	200-300	550-600	500-550	M	Graduated
20	10-25	69216	0	300-400	700-750	550-600	M	Attrited
19	10-25	69924	508	400-500	Above750	650-700	M	Graduated
20	default	62686	325	band10	600-650	650-700	M	Graduated
22	Top_10	61519	381	LessThan100	600-650	600-650	M	Graduated
21	Top_10	60563	835	400-500	500-550	500-550	M	Graduated
20	default	67530	511	band10	700-750	600-650	M	Graduated
20	Top_10	67064	148	200-300	650-700	Above 750	F	Graduated
20	25-50	61752	611	200-300	600-650	600-650	M	Graduated
19	10-25	66119	938	100-200	600-650	650-700	M	Graduated
21	25-50	63689	111	300-400	600-650	600-650	M	Graduated
23	10-25	60007	0	100-200	550-600	550-600	F	Attrited
20	Top_10	70092	$null$	100-200	700-750	650-700	M	Attrited

Supervised Learning: Classification



From very small or very large HS class

+

High score on SAT Math

=

More likely to leave

Supervised Learning: Classification

Apply[Y]

File Generate

id	Segment	Score	Cover (n)	Frequency	Probability
	All segments including Remainder		7,530	1,691	22.46%
1	**ACTENG, Contacts** ACTENG = "28 or higher" and Contacts > 2	Y	52	44	84.62%
2	**ACTMATH, ActChoice** ACTMATH = "28 or higher" and ActChoice IS MISSING	Y	59	55	93.22%
3	**ACT_COM, Distance_From_School** ACT_COM = "28 or higher" and Distance_From_School = "0 - 40,000"	Y	71	60	84.51%
4	**ACTMATH, ActChoice** ACTMATH = "28 or higher" and ActChoice <= 1	Y	123	97	78.86%
5	**ActChoice, Visits** ActChoice <= 1 and Visits > 0	Y	55	42	76.36%
	Remainder		7,170	1,393	19.43%

Model | Summary | Settings | Annotations

OK | Cancel | Apply | Reset

ACT Math Score of 28 or higher

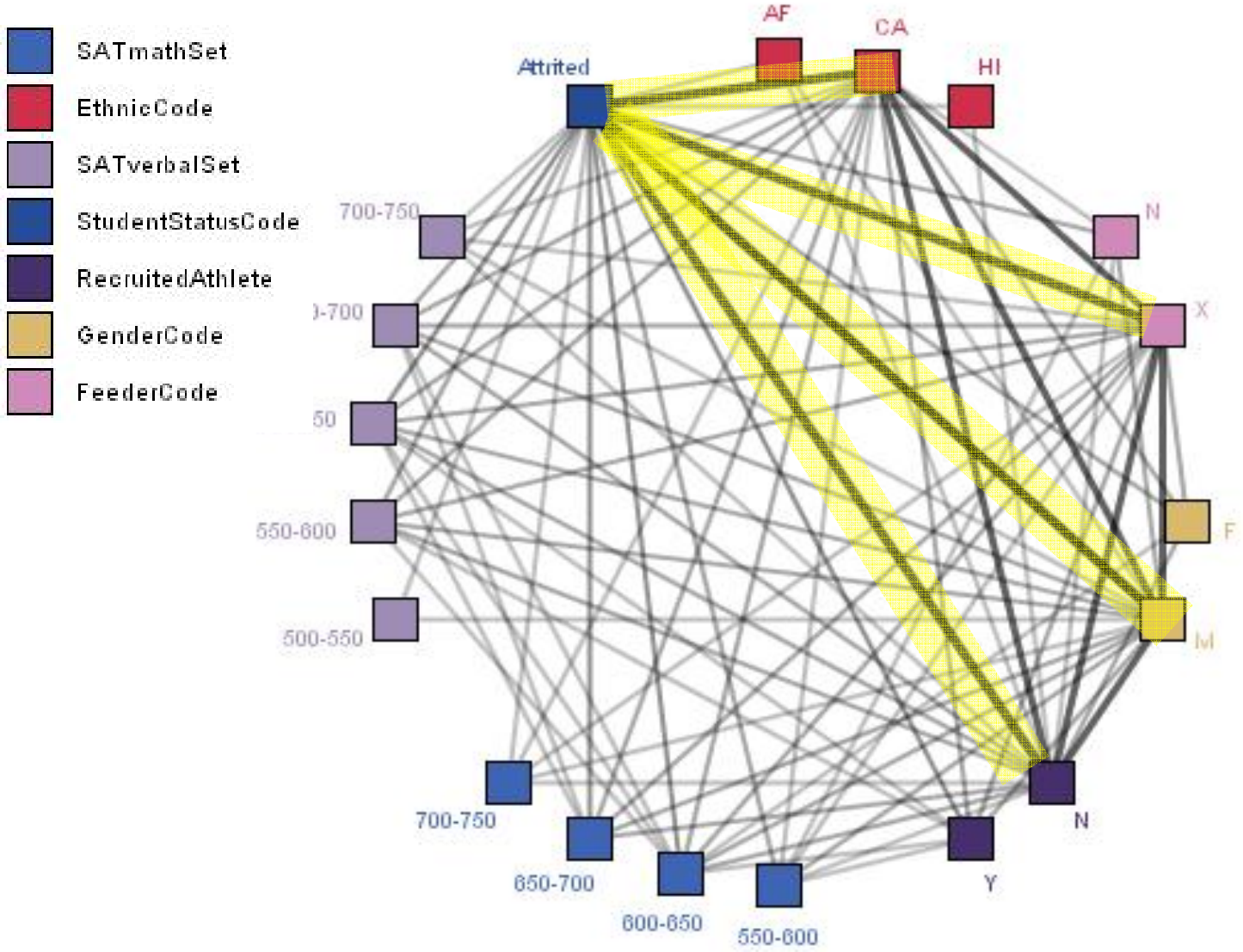
+

Did not select a school to send ACT scores to

=

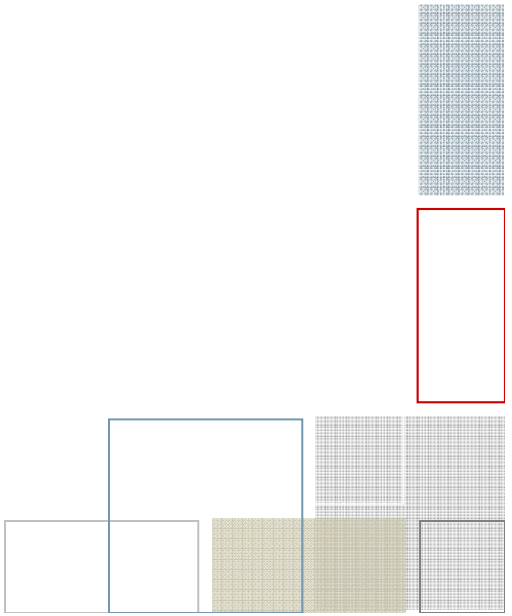
MOST likely to enroll

Supervised Learning: Association



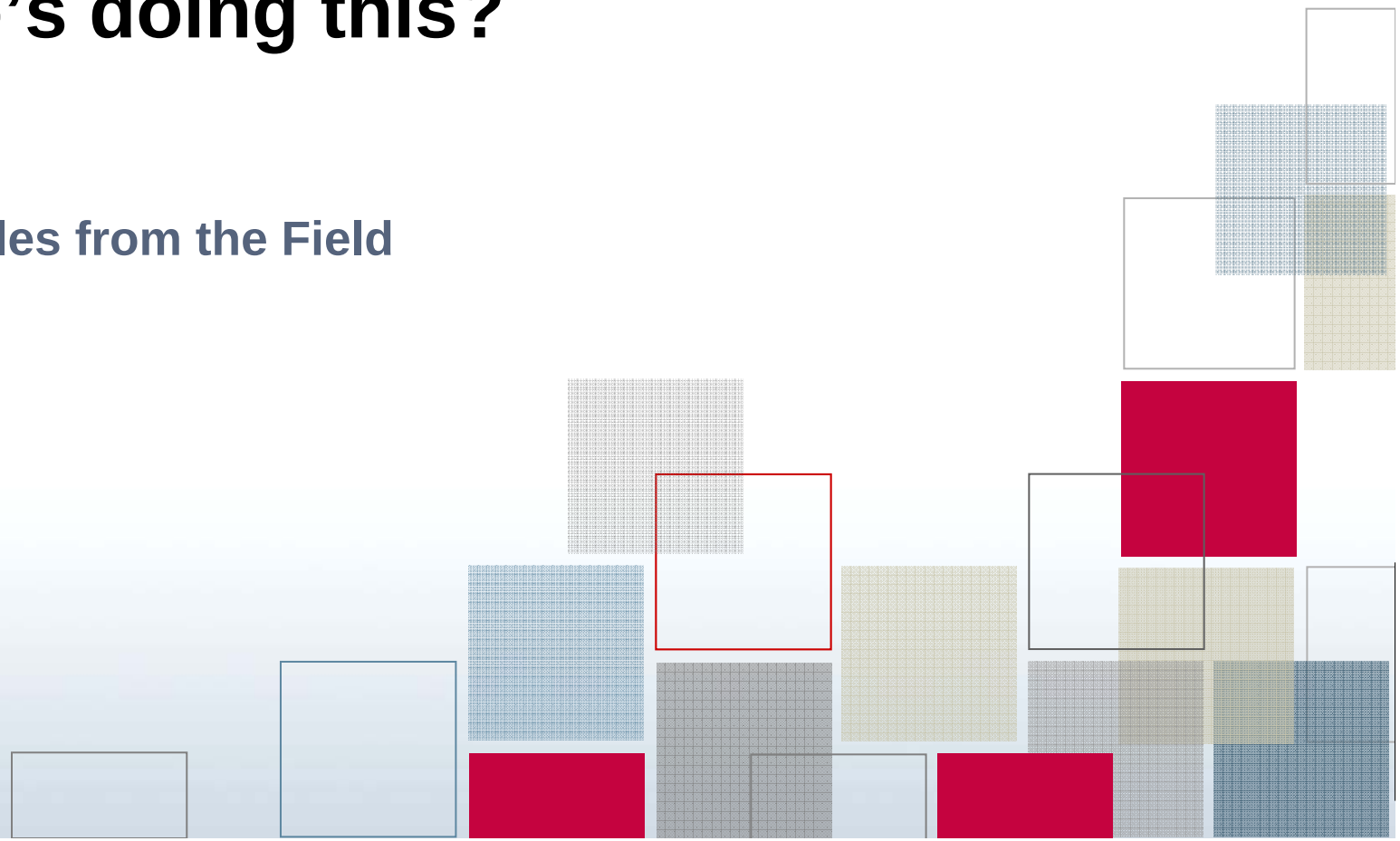
Idea 3: Use predictive modeling to inform and drive decision making

- Tips for Getting Started:
  - What data do you have? Do you have enough?
  - Is it the right kind?
    - What do you want to know? Can you answer the question you're asking?
  - Is it intact?
    - How many records are complete enough to include in a model?
  - Do you need more?
    - Are you collecting feedback that you need?



Who's doing this?

Examples from the Field



Who's doing this?
Columbia College Chicago

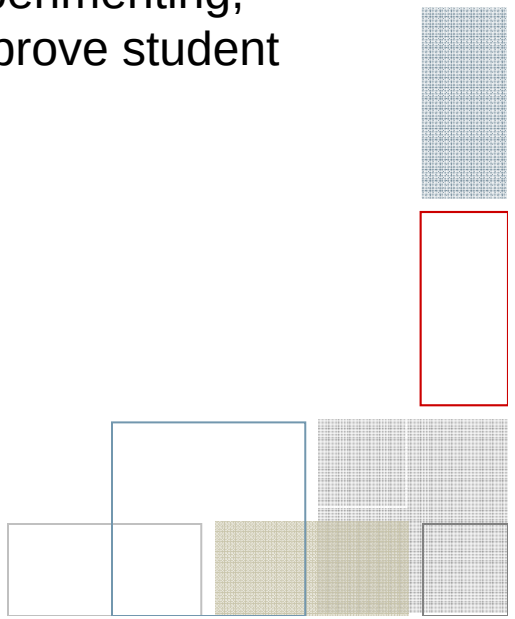
Columbia COLLEGE CHICAGO

- **Profile:**
  - Arts and Media College in Chicago's South Loop
  - 10,771 Undergraduate Students
  - 728 Graduate Students
- **Situation:**
  - Significant enrollment growth, but only 63% first year retention rate
- **Information used:**
  - Student Demographics / Residency
  - Academic Preparation
  - The Economics of Attending College
  - Parental Support of Goal
  - Student Certainty of Goal
  - Strength of Program and Student Perception of Program Strength

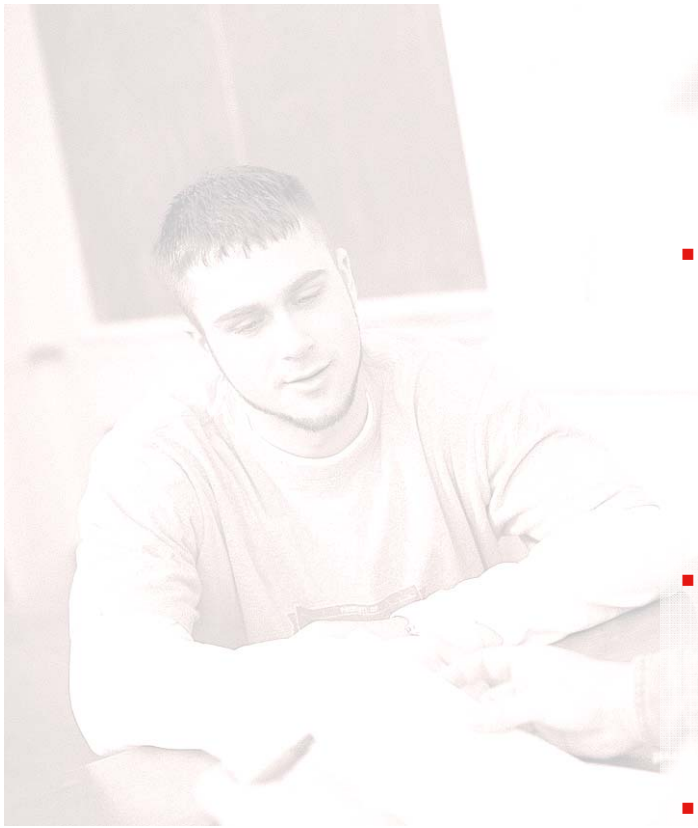
What kind of results are seen from doing this?

Columbia COLLEGE CHICAGO

- **Drove change at the institution through policy:**
  - Ended late applicant registration
  - Developed proactive advisement pilot
  - Educated faculty on why students leave and how to recognize warning signs
  - Formed a cross-functional enrollment management team
  - Improved data collection
  - Now constantly testing, experimenting, revising, reassessing to improve student retention



Galveston College plans resource levels and increases student retention



- **Profile**
  - Community college in Galveston, TX
  - 2,400 full-time students
  - 8,000 workforce development and continuing education program participants annually
- **Situation**
  - Were administering a 240-question survey of emotional skills to all student each semester to determine student needs for success
  - Process was time-consuming and data-entry was cumbersome
- **Data collection from SPSS Inc. helped them to:**
  - Reduce time-to-analysis by 50%
  - Improve accuracy of student scoring
  - Provide real-time information on student needs
- **They put results to use by:**
  - Scores used to proactively identify at-risk students and predict resource needs to enable success and keep students in school

Who's doing this?
Cabrillo College

- **Profile:**
  - Two-year community college in Aptos, California
  - 14,500 Undergraduate Students
- **Situation:**
  - Wanted to determine
    - Which students are likely to return for more classes?
    - What types of courses can be offered to attract more students?
- **Information used:**
  - Level of Educational Aspiration as measured by:
    - Course Units (# of units per course)
    - Course Withdrawal (academic stress self adjustment)
    - Course Volume (# of courses taken)
  - Financial Aid

What kind of results are seen from doing this?

- **Used results of analysis to:**
  - Predict which students were unlikely to return and enable proactive interventions by faculty and administration to provide:
    - Academic Counseling
    - Financial Aid Adjustments
    - Curriculum Assistance
  - Increase state funding by approximately $750,000 with every 1% increase in FTE
  - Offer more relevant courses for student body at more convenient times
  - Reduce marketing costs

Enroll: Return on Investment

	Avg. Spent on Recruiting per Enrolled Student	Average Size of Incoming Class	Predictive Analytics can reduce marketing costs by:	**An average school could save (per year):**
2-Year	$121	969	25-40%	**$29-47K**
4-Year Public	$398	1943	25-40%	**$193-309K**
4-Year Private	$1941	433	25-40%	**$210-336K**

Experience: Return on Investment

	Avg. Incoming Class Size	Average Tuition:	Percentage of Students who Receive Institutional Grants	Avg. Amount Given in Financial Aid per Student	Avg. Retention Rate (Year 1 to Year 2)	Increasing retention by just 1% could save a school:
2-Year	969	$2361	8%	$1,200	51.4%	**$21,947**
4-Year Public	1943	$16,640	21%	$2,900	67.6%	**$934,447**
4-Year Private	433	$23,712	50%	$7,100	70.2%	**$261,904**

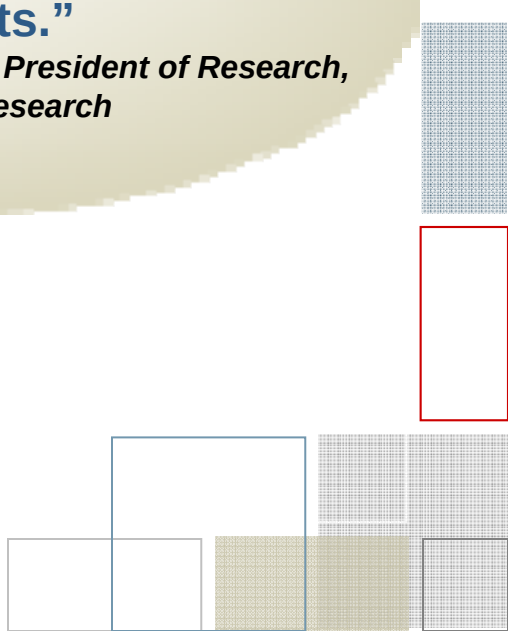
Why SPSS Inc.? Return on Investment

Nucleus Research:
The Real ROI from SPSS

- 94% of customers achieved a positive ROI, with an average payback period of 10.7 months
- Key benefits achieved include reduced costs, increased productivity, improved customer & employee satisfaction, and greater visibility into operations
- 81% of projects deployed on time, 75% on or under budget

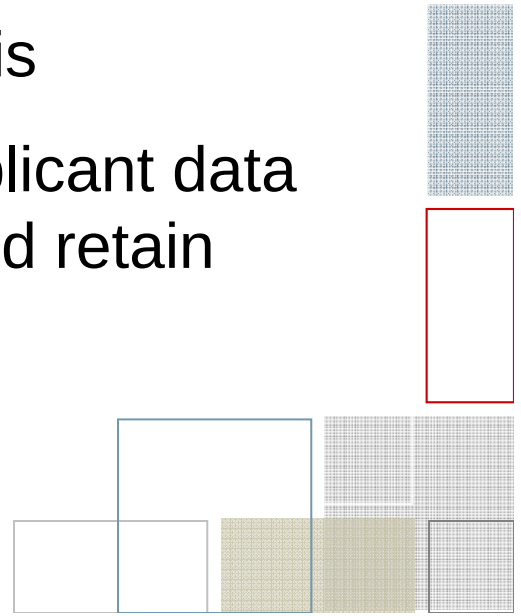
"This is one of the highest ROI scores Nucleus has ever seen in its Real ROI series of research reports."

Rebecca Wettemann, Vice President of Research, Nucleus Research



In summary…

- Predictive Analytics is spreading but is still not being used to its full extent in recruiting and retention
- 3 Key Ideas for Leveraging Predictive Analytics in Enrollment Management:
  - Ongoing, multi-channel surveys
  - Leverage text in a meaningful way
  - Develop predictive models to drive decision making
- A number of institutions are already doing this
- Capture, predict, and act on student and applicant data to cut costs and improve ability to acquire and retain students



To learn more…

Data Mining to Drive Institutional and Student Success

On Demand

Presenter: Jimmy Jung
Director of Enrollment Planning and Research,
Baruch College, CUNY

Predictive Analytics in Enrollment Management

April 23, 2009, 1:00 p.m. CT

Presenter: Elena Bubnova
Director of Institutional Research,
Truckee Meadows Community College

Learn more and register at: www.spss.com/events

Questions?

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