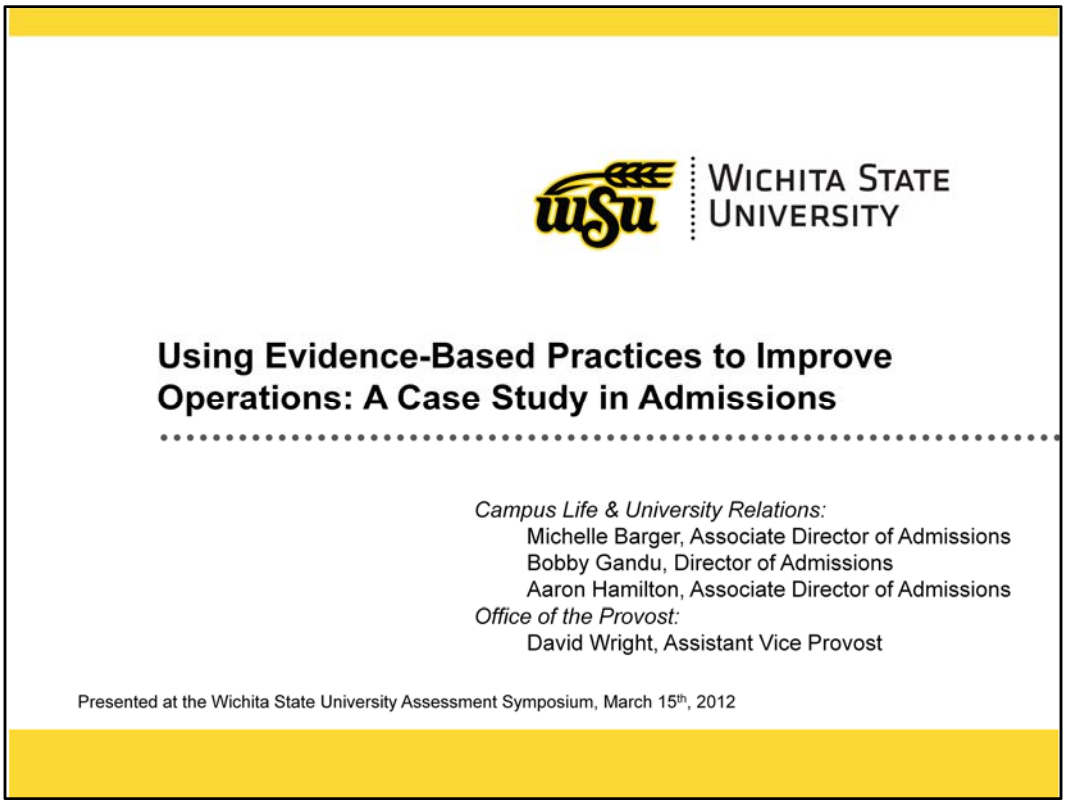
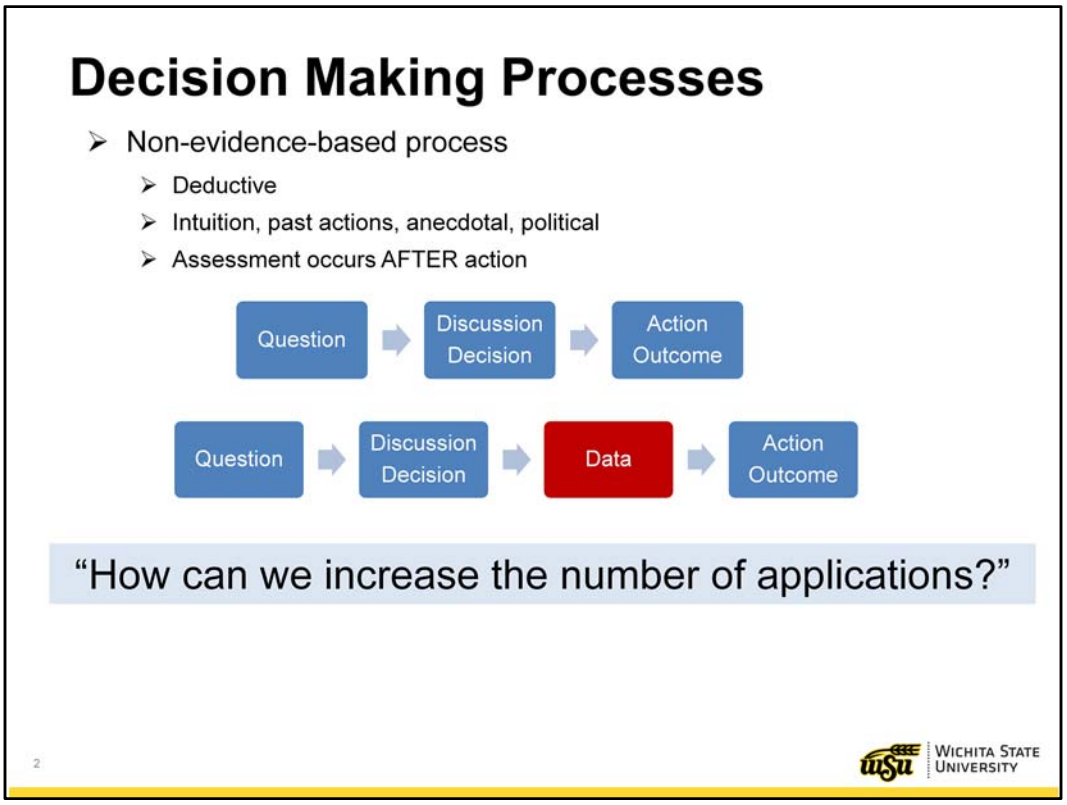


Welcome, and thank you for taking time out of your busy schedules to come hear our presentation today. We have a lot of information to cover and ask that you hold questions until the end.

The goal of our presentation today is to showcase how Undergraduate Admissions (one of 3 admission offices on campus) uses data to inform decision making.

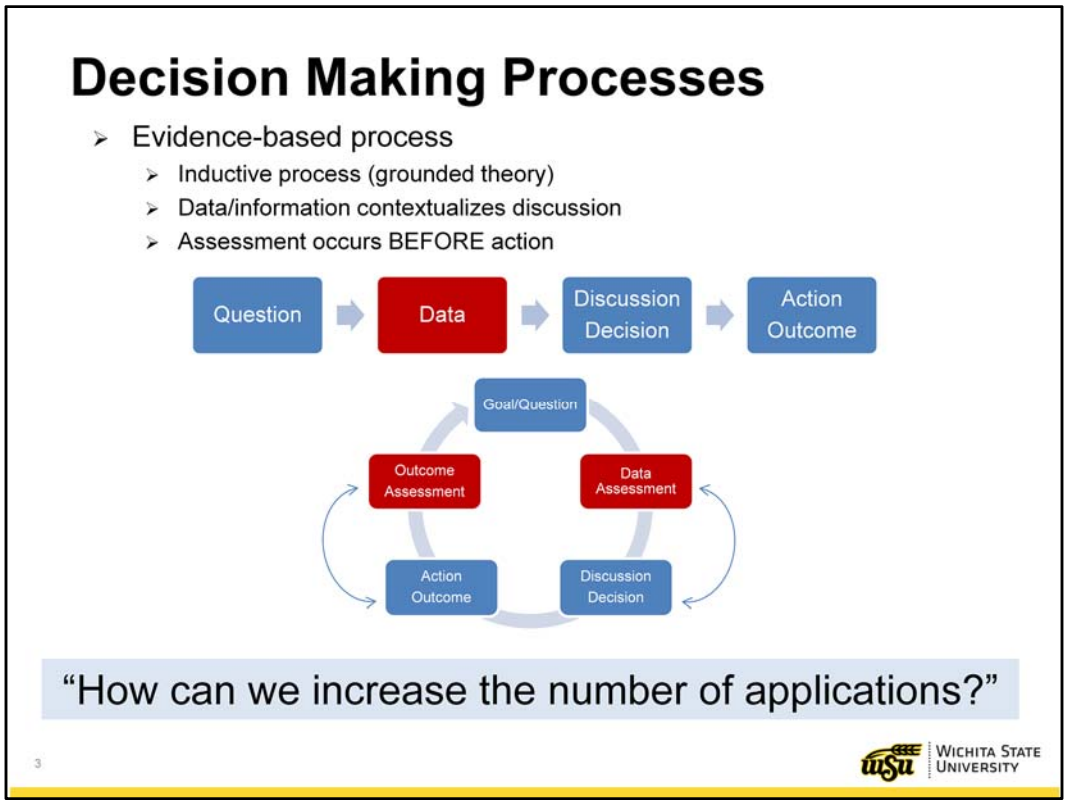


Of course, that begs the question of how decisions are made.

The vast majority of our decisions are made from our experiences, things we know or feel to be true. When data are brought into the picture, it is normally used to justify a discussion/decision that has already been made, data becomes reflective of a discussion rather than defining the discussion.

So let's say we have a question: "How can we increase the number of applications from our prospects?"

The discussion is defined by intuition rather than data– "we'll merely increase the number of mailings we do which will increase the number of applications", which intuitively makes sense, a larger net captures more fish.

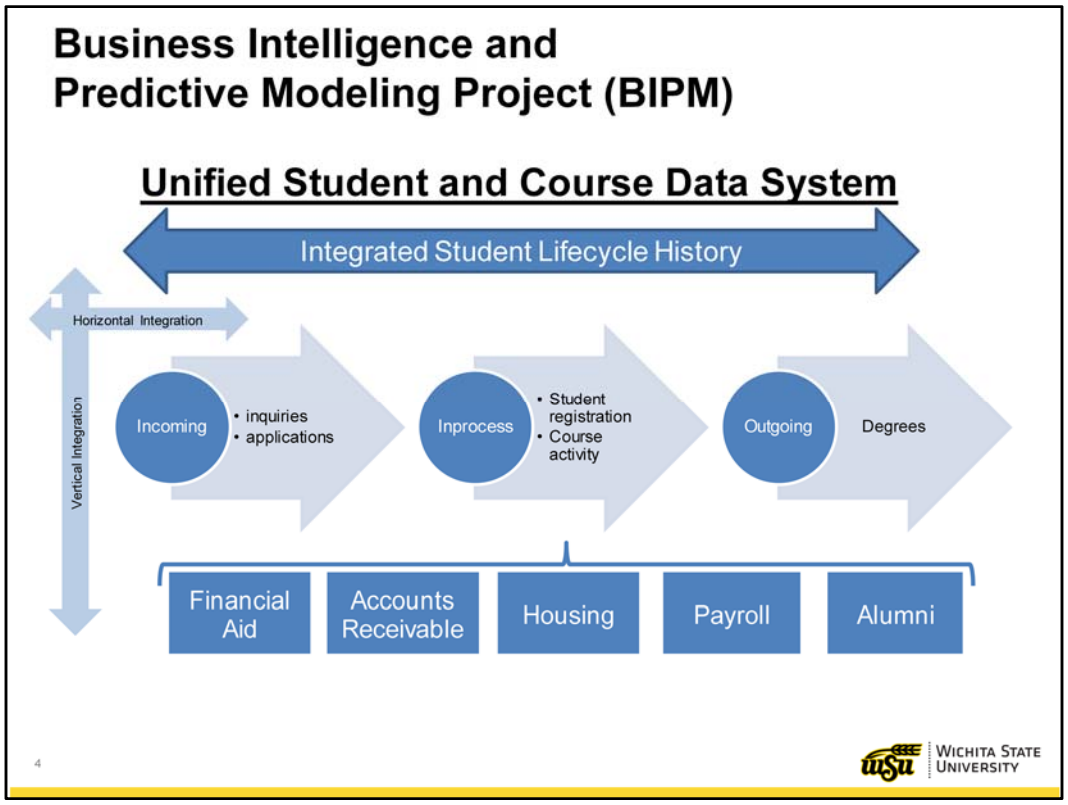


In contrast, a data-driven approach introduces data prior to discussion and decision making. In this approach data frames the discussion, grounding it within the available data or information to inform the decision. In a balanced data-driven system, data are used both to frame the discussion and to assess the outcome to create a feedback loop to evaluate the original decision and to adjust when necessary.

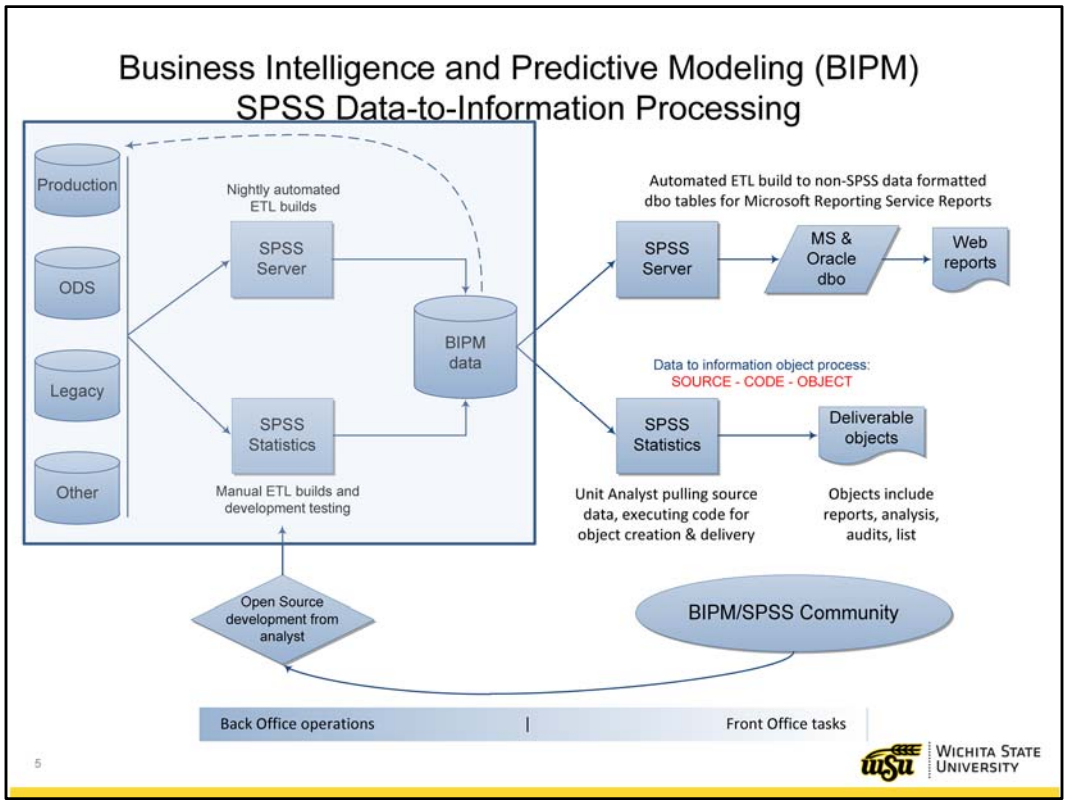
So, returning to our question "How can we increase the number of applications from our prospects?"

Before discussion begins, we examine the data and we find that it is possible to identify the probability of prospects becoming applicants and that we can identity the return on investment (ROI) of institutions and geographic areas in terms of prospects to applicants. This information now frames our discussion.

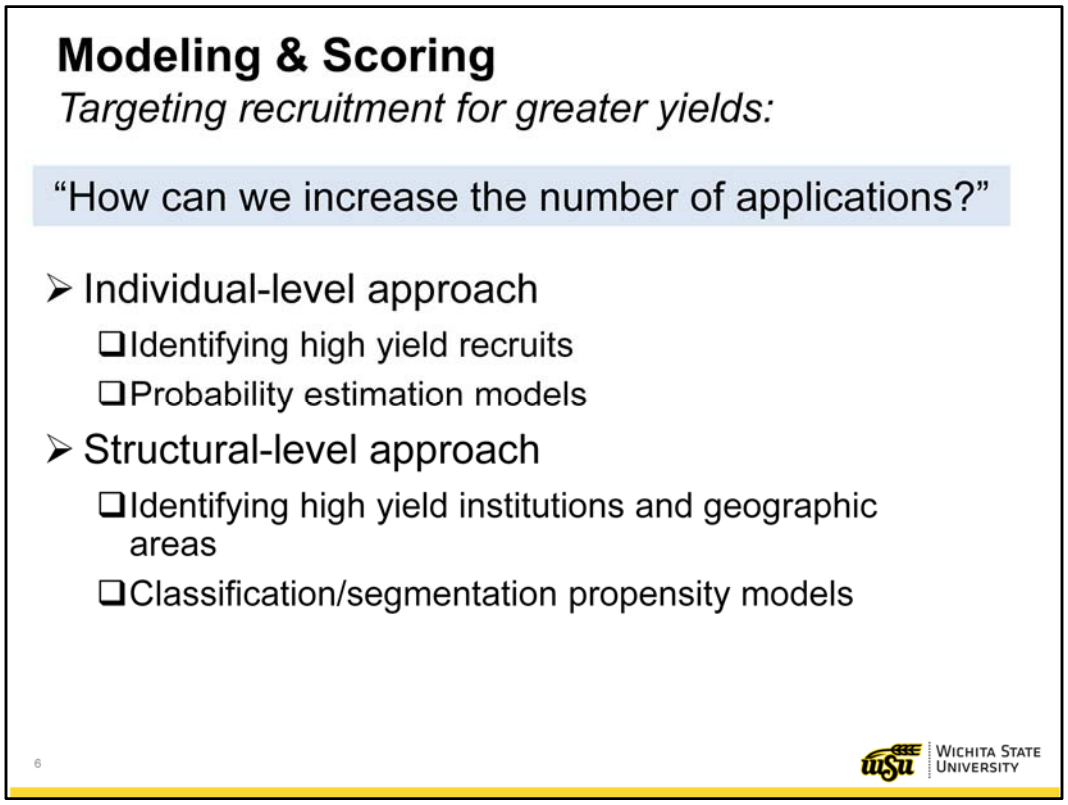
"If we target prospects which are more likely to become applicants and target those institutions and geographic areas with higher applicant yield, we should be able to ***increase*** the number of applicants while ***reducing*** the number of mailings , and do so with ***lower cost"***.



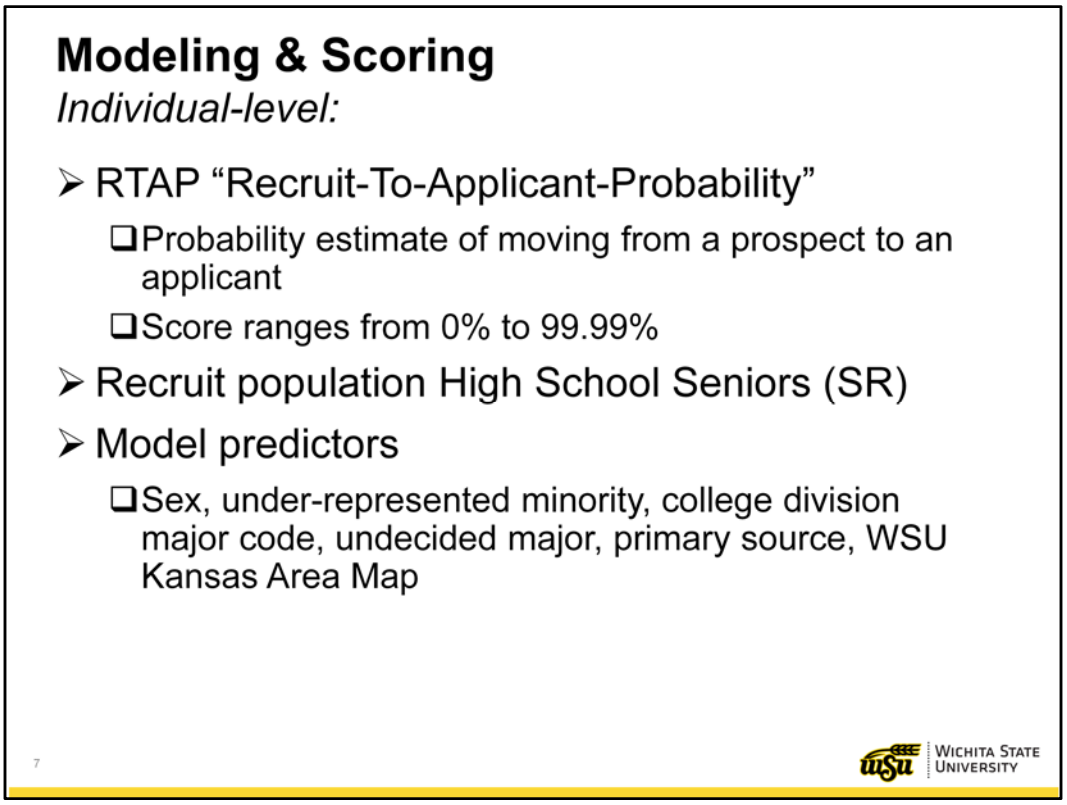
For that to happen we are going to need data and that is where the Business Intelligence and Predictive Modeling (BIPM) project comes in, a joint venture of Academic Affairs and University Computing. The BIPM system is a unified student/course data system that provides analysts a small set of data tables from which they can access data on the complete life cycle of students, from the point at which they become prospects to degree completion, including the ability to integrate horizontal and vertical data dimensions across a time span of 1980 to the present. Refreshed daily, this data system provides analysts real-time information-on-demand and comprehensive data from which to create information to inform decision-making.



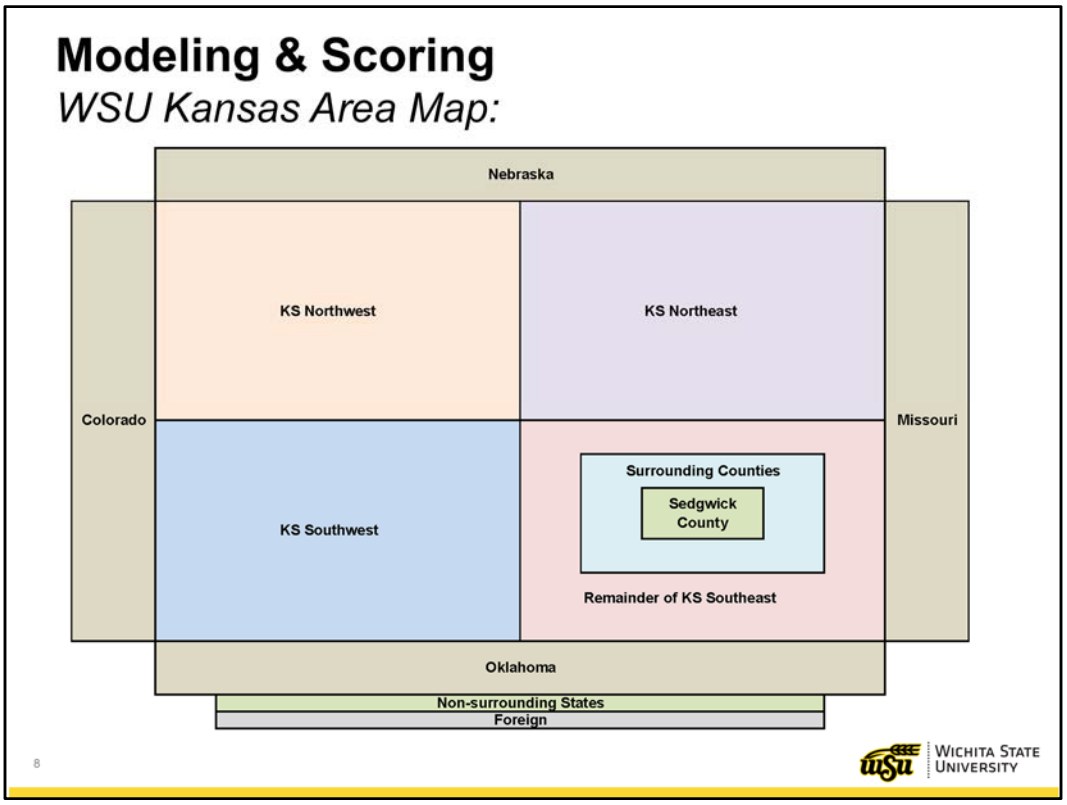
Architecturally, our IBM SPSS Server pulls data nightly from our production system to refresh our BIPM data system from which analysts can access data to inform decision making. SPSS is used as our primary ETL (extract-transform-load) engine to build and refresh the BIPM data tables. Along with data refreshes, the IBM SPSS Server also employs numerous models to develop scoring metrics that are fed back into our Banner production system nightly to be available for both SPSS & non-SPSS users and programs.



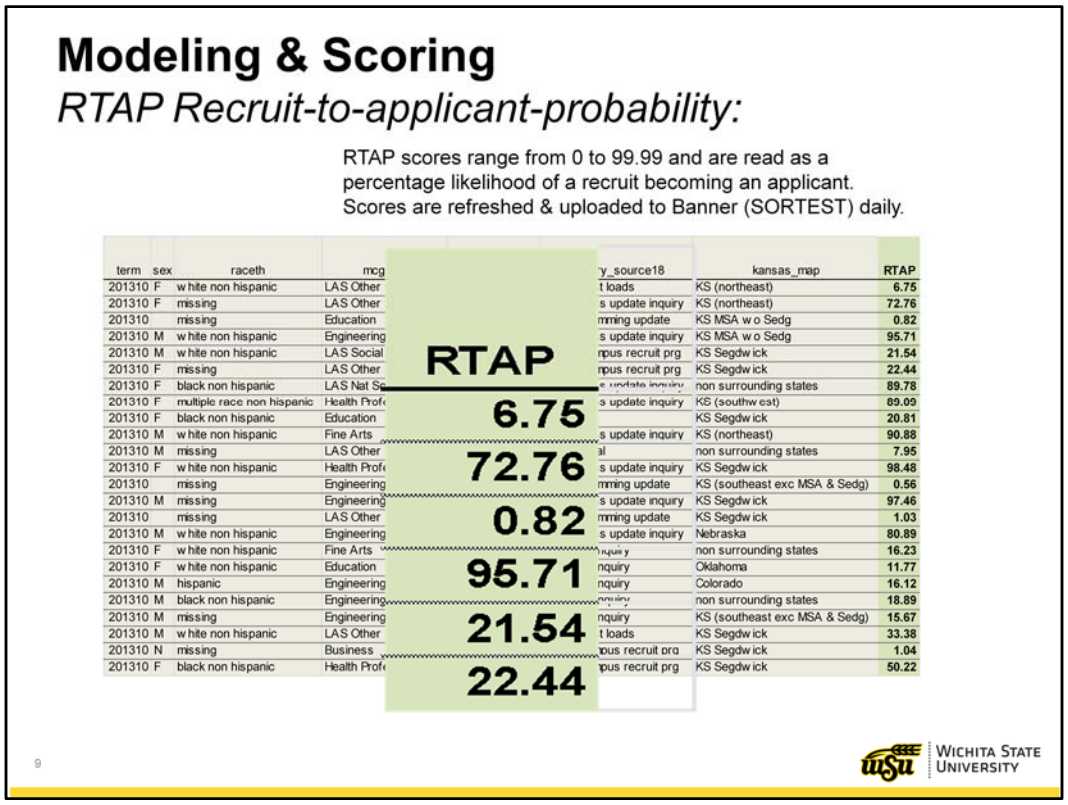
We mentioned earlier that our data-driven approach indicated the need to identify individuals and entities (e.g., institutions, geographic areas) in terms of application yields. That means we'll need to have both individual and structural-level approaches. While the modeling process involves different underlying algorithms and techniques, both will ultimately produce scores which we can use to perform targeted recruitment to increase yield and lower cost increasing our ROI.



At the individual-level, one of our most popular scoring metrics is what we call the RTAP score, a prospect's or recruit's probability of becoming an applicant. The population target for this score are high school seniors; while they make up approximately half of all undergraduate applicants, undergraduate admissions spends a considerable amount of time and money recruiting this group. Prospect data are somewhat limited in what can be used for predictive modeling but we have successfully laid out several predictors that allow us to identify with high accuracy which high school senior prospects are likely to make application. The model includes sex of the student, whether they are an under-represented minority (includes black non-hispanic, hispanic, american indian, alaskan native & hawaiian), their college major, whether they are an undecided major, their primary source of first contact (i.e., high school visit, campus fair, etc.) and their location of origin in our WSU Kansas area map.



The WSU Kansas area map is one we constructed to geographically lay out where our applicant pools reside. Nearly 80% of our undergraduate population comes from within the local area of Wichita and its surrounding counties.



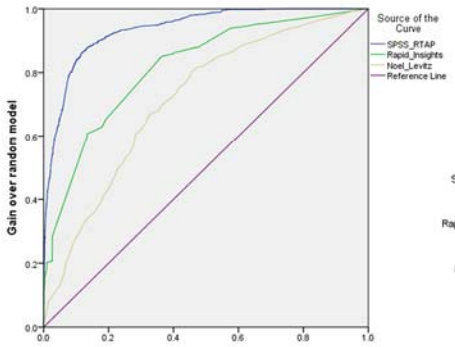
As mentioned earlier, the SPSS server, during its nightly ETL builds of the BIPM data system, refreshes RTAP scores daily creating scores for new prospects and refreshing scores for current & past prospects. These scores are available to users in both the SPSS data files and the Banner production system as the SPSS server uploads the refreshed scores nightly into Banner for both SPSS and non-SPSS users.

This slide displays scores for a random set of prospects from the database, as we expand the view, we can see that the first prospect has a 6.75% probability of becoming an applicant whereas the second student has a 72.76% probability. With these scores, Admissions can more effectively (and efficiently) target prospects that have a high probability of coming to WSU. They can elect to create break points within the RTAP score range to allocate resources for better yield. They may elect to target only students who have a 30% or higher probability of coming to WSU and since we also must target state-mandated sub-populations, they can stratify their samples while giving each group the same or different break points. Or they may decide that those who are 70% or higher will likely come without aggressive recruiting and send them only a letter whereas those under 70% and as low as 30% will receive a letter and phone call, those under 30% will receive only an email. The RTAP score, refreshed daily, allows them to conduct recruitment campaigns that will cost less and generate more yield than our previous methods.

Modeling & Scoring

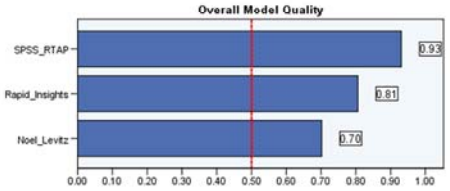
Comparison of Modeling Performance:

Predicting Student Recruit-to-Applicant Probability (RTAP scores)



Area Under the Curve

Model scores:	Gain	Area	Std.Er	Sig.	95% Confidence Interval Lower Bound	Upper Bound
IBM SPSS RTAP	43%	.936	.002	.000	.931	.942
Rapid Insights	31%	.817	.005	.000	.806	.827
Noel Levitz	20%	.714	.006	.000	.702	.726



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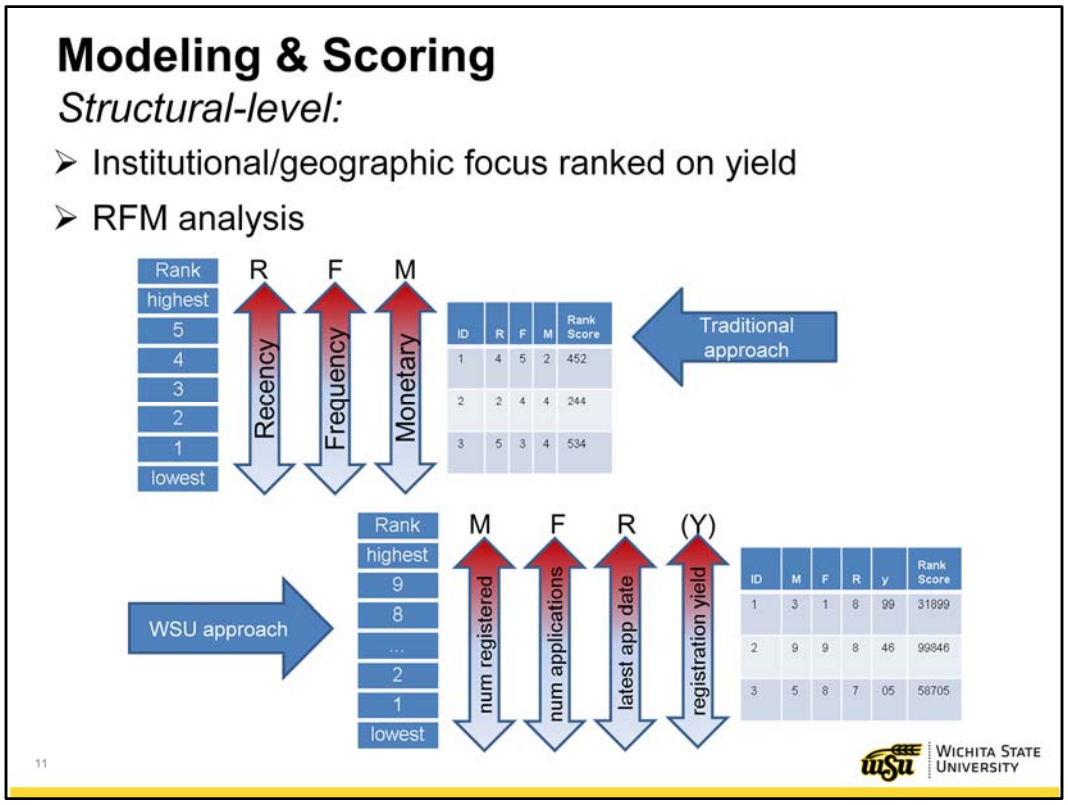
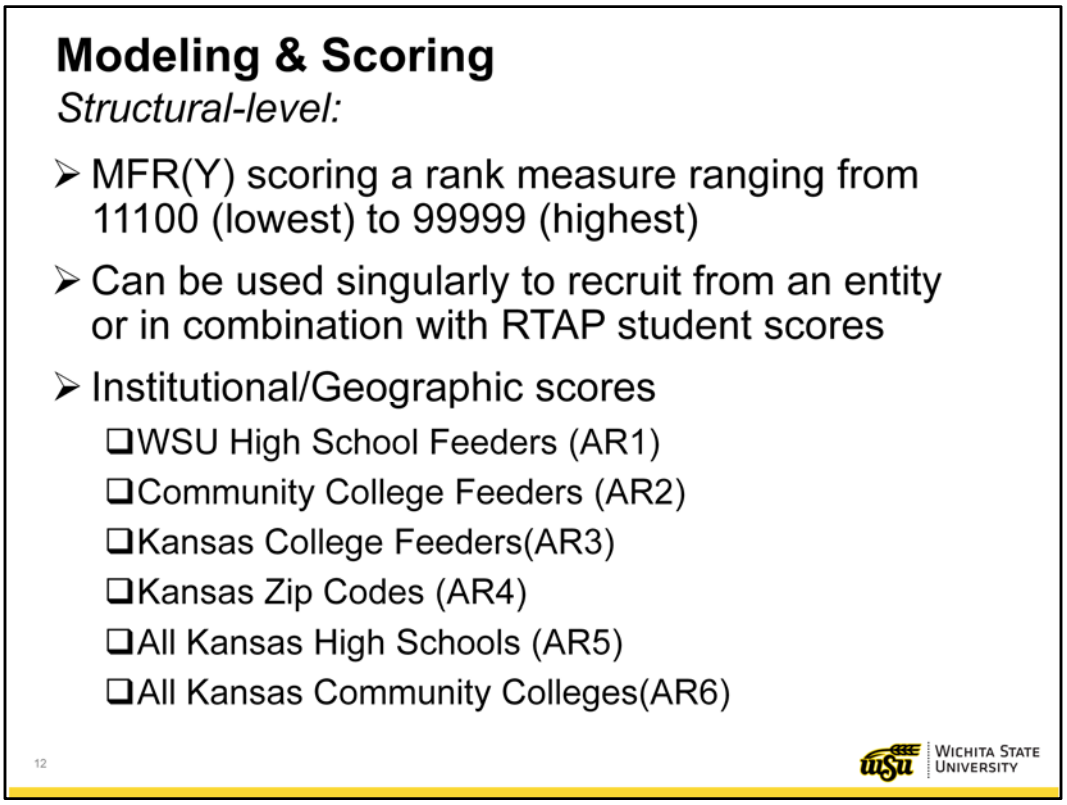
Wichita State University

It is important that our scoring models are continuously evaluated for performance, especially since our population is always changing, the available data on students are continuously being updated and new data dimensions become available. We evaluate all our models for performance weekly. This slide provides metrics on our current RTAP score and compares it to two previous models that were used before the BIPM/SPSS system.

In the past we paid and employed outside vendors to perform our scoring. A manual process where we either sent a data file to an outside vendor for analysis or manually executed their software based on their estimated model. While these vendors produced industry standard yields, they lacked an understanding of our institution-specific business practices and were always out of date and not inclusive of all current prospects. With SPSS and the BIPM system, we have real-time scoring that is based on current business practices under the direction of those who know the Admissions data the best. It's not surprising that our current RTAP model exceeds our previous vendors currently more than twice the gain (20% to 43%) from our past vendors.



We also need to score for structural entities like institutions (e.g., high schools, community colleges and universities) and geographic areas (e.g., zip codes, counties, states, nations) so that we can identify, rank and target high yield institutions and locations. Treating these as customers, this ranking is often done via a RFM analysis in which we rank customers on 3 dimensions of how recent they've been to our store (R), how often (F) and how much money they spent (M). For WSU we modify this approach creating a nine tile rank giving us more granularity and we place more weight on matriculation (a prospect becoming an admitted & enrolled student) by moving it first in the dimension set, and we also append the actual registration yield to the score to give greater detail and to break ties.



The MFR scoring is refreshed daily via the SPSS Server nightly ETL builds and is uploaded to Banner for both SPSS & non-SPSS users. The scores can be used by themselves as in targeting only high schools with a rank of 30% or higher matriculation yields or can be used in combination with RTAP scores in which Admissions may target only students who have a 40% or higher probability of becoming an applicant within zip code areas that have a 30% or higher matriculation yield.

We update daily several different MFR scores for our common feeder schools (high schools, community colleges, & universities), zip codes within the state of Kansas and all high schools and community colleges within Kansas.

Modeling & Scoring

Structural-level:

MFRy scores range from 11100 to 99999 in which higher scores denote entities with greater ROI.

term	sex	raceth	m	RTAP	MFRy	MFRy rank (10=high)	kansas_map	RTAP	MFRy	MFRy rank (10=high)
201310	F	white non hispanic	LAS Oth	6.75	58805	6	east)	6.75	58805	6
201310	F	missing	LAS Oth	72.76	88539	9	east)	72.76	88539	9
201310		missing	Educatio	0.82	99945	10	w o Sedg	0.82	99945	10
201310	M	white non hispanic	Engineer	95.71	99860	10	w o Sedg	95.71	99860	10
201310	F	white non hispanic	Fine Arts	16.23	34133	4	unding states	16.23	34133	4
201310	F	white non hispanic	Educatio	11.77	15300	2		11.77	15300	2
201310	M	white non hispanic	LAS Soc	21.54	99955	10	v ick	21.54	99955	10
201310	F	missing	LAS Oth	22.44	99955	10	v ick	22.44	99955	10
201310	F	black non hispanic	LAS Nat	89.78	78531	8	unding states	89.78	78531	8
201310	F	multiple race non hispanic	Health P	89.09	99846	10	w est)	89.09	99846	10
201310	F	black non hispanic	Educatio	20.81	99945	10	v ick	20.81	99945	10
201310	M	white non hispanic	Fine Arts	90.88	77536	8	east)	90.88	77536	8
201310	M	missing	LAS Oth	7.95	88847	9	unding states	7.95	88847	9
201310	F	white non hispanic	Health P	98.48	99937	10	v ick	98.48	99937	10
201310		missing	Engineer	0.56	35625	4	east exc MSA & Sedg)	0.56	35625	4
201310	M	missing	Engineer	97.46	99860	10	v ick	97.46	99860	10
201310		missing	LAS Oth	1.03	31899	3	v ick	1.03	31899	3
201310	M	white non hispanic	Engineer	80.89	34533	4		80.89	34533	4
201310	M	hispanic	Engineer	16.12	78531	8		16.12	78531	8
201310	M	black non hispanic	Engineer	18.89	31199	3	unding states	18.89	31199	3
201310	M	missing	Engineer	15.67	34533	4	east exc MSA & Sedg)	15.67	34533	4
201310	M	white non hispanic	LAS Oth	33.38	78531	8	v ick	33.38	78531	8
201310	N	missing	Busines	1.04	88847	9	v ick	1.04	88847	9
201310	F	black non hispanic	Health P	50.22	99922	10	v ick	50.22	99922	10

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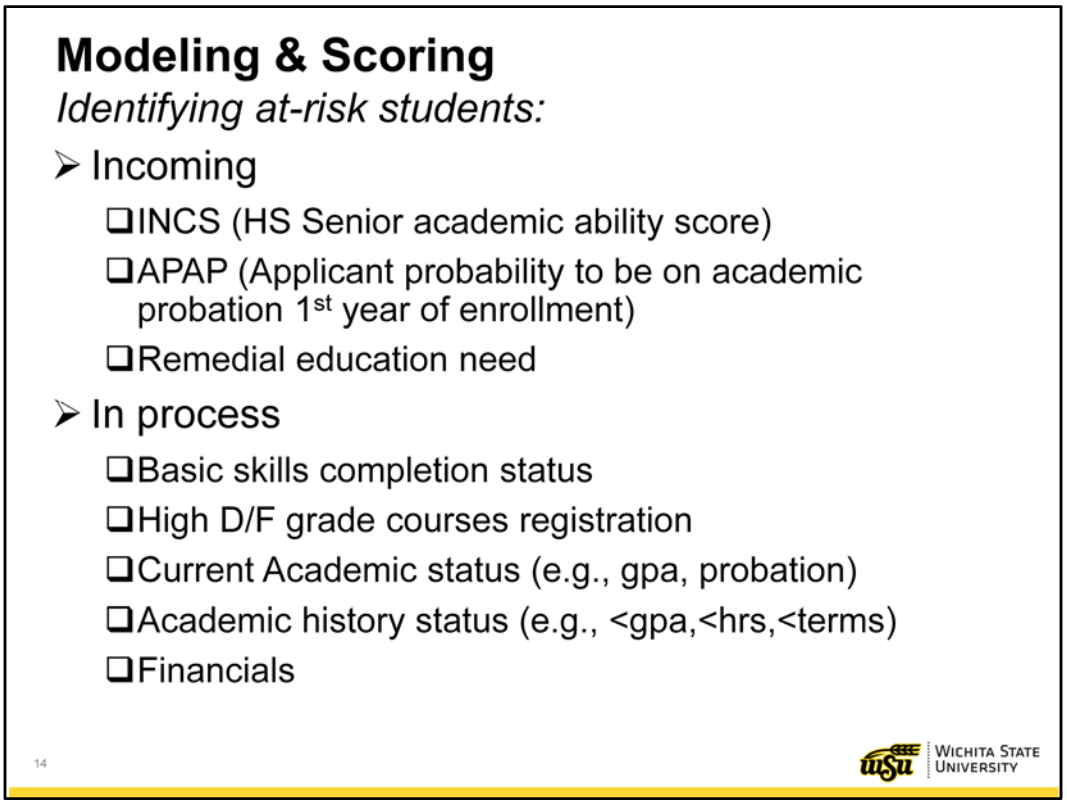
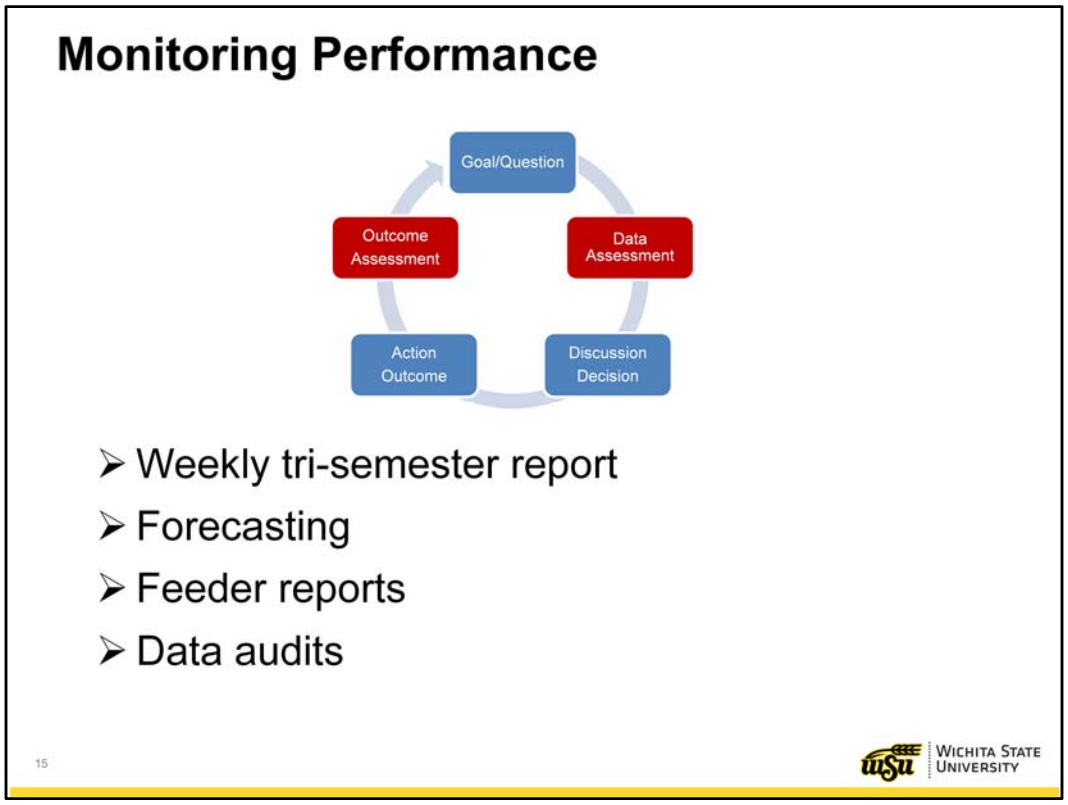
WICHITA STATE UNIVERSITY

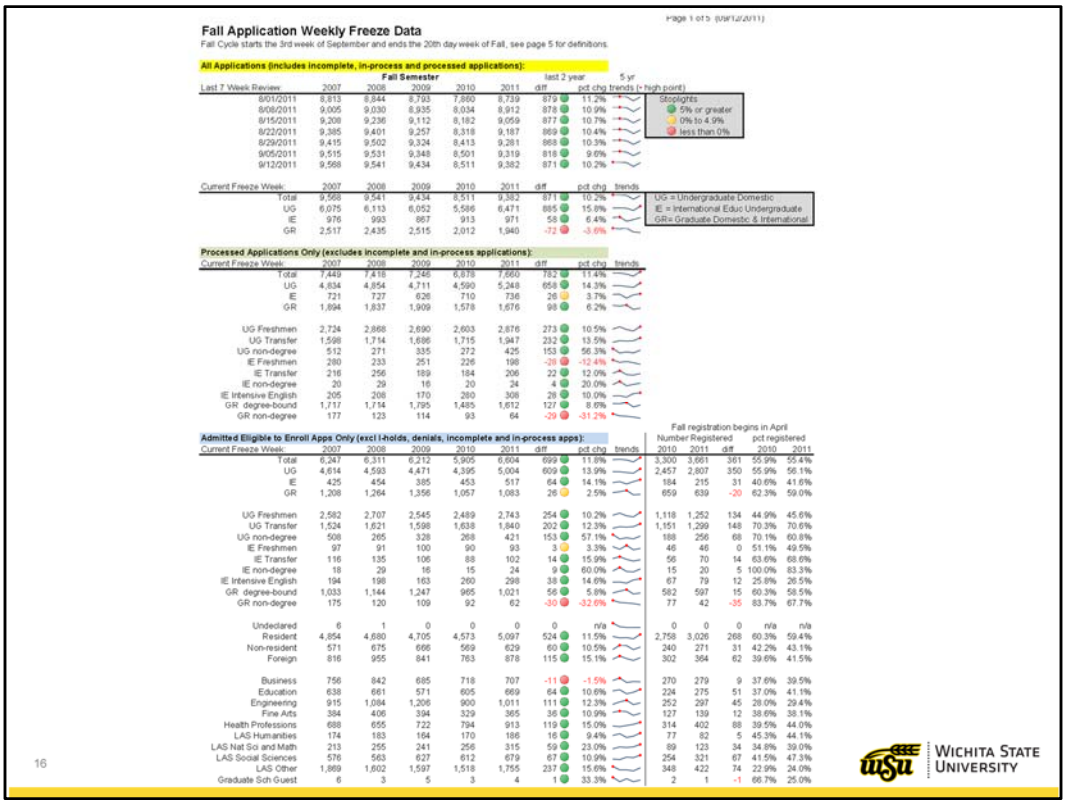
As with the RTAP scoring, the MFR scores are attached to each student record and can be used by Admissions to target their recruitment efforts at lower cost while generating greater yield. The MFR scores can also be used separately from the student records by aggregating them to their entity level (e.g., high school, community college, zip codes) so that recruitment within institutions and geographic areas can be done more effectively.



We would be remiss to give the impression that our only focus is on getting as many students into WSU as we can; one of our top priorities is student success, so once a student enrolls we have several scoring metrics performed by our SPSS Server that identify students who are at academic risk, from which advisors can take action to address at-risk students. We have scores and dynamic reports that identify at-risk students based on their admission data such as their academic ability, their probability to be on academic probation their first year and whether they have remedial course needs. Once enrolled, we have scoring that identifies at-risk students for failure to complete basic skills courses, if they are pre-registered for a course with a high D/F grade distribution, if their current academic standing places them in jeopardy, if changes have occurred while at WSU (e.g., decreases in GPA, reduced enrollment hours, intermittent terms) and if significant changes have occurred in their out of pocket education expenses. Again, like the RTAP and MFR scores, these are created & refreshed daily and uploaded to Banner making them available to both SPSS & non-SPSS users.



Modeling and scoring is but one component of a data-driven approach, equally important is ongoing assessment of productivity and goals. For that we have several reports that pull data from the BIPM and Banner data systems to inform faculty, staff and administrators of our performance.



Fall Application Weekly Freeze Data

Fall Cycle starts the 3rd week of September and ends the 20th day week of Fall, see page 5 for definitions.

All Applications (includes incomplete, in-process and processed applications):

Last 7 Week Review:	Fall Semester 2007	2008	2009	2010	2011	last 2 year diff	last 2 year pct chg	5 yr trends (+ high point)
8/01/2011	8,813	8,844	8,793	7,860	8,739	879	11.2%	
8/08/2011	9,005	9,030	8,935	8,034	8,912	878	10.9%	
8/15/2011	9,208	9,236	9,112	8,182	9,059	877	10.7%	
8/22/2011	9,385	9,401	9,257	8,318	9,187	869	10.4%	
8/29/2011	9,415	9,502	9,324	8,413	9,281	868	10.3%	
9/05/2011	9,515	9,531	9,348	8,501	9,319	818	9.6%	
9/12/2011	9,568	9,541	9,434	8,511	9,382	871	10.2%	

Stoplights: 5% or greater; 0% to 4.9%; less than 0%

Current Freeze Week:	2007	2008	2009	2010	2011	diff	pct chg	trends
Total	9,568	9,541	9,434	8,511	9,382	871	10.2%	
UG	6,075	6,113	6,052	5,586	6,471	885	15.8%	
IE	976	993	867	913	971	58	6.4%	
GR	2,517	2,435	2,515	2,012	1,940	-72	-3.6%	

UG = Undergraduate Domestic
IE = International Educ Undergraduate
GR= Graduate Domestic & International

Processed Applications Only (excludes incomplete and in-process applications):

Current Freeze Week:	2007	2008	2009	2010	2011	diff	pct chg	trends
Total	7,449	7,418	7,248	6,878	7,660	782	11.4%	
UG	4,834	4,854	4,711	4,590	5,248	658	14.3%	
IE	721	727	626	710	736	26	3.7%	
GR	1,894	1,837	1,909	1,578	1,676	98	6.2%	
UG Freshmen	2,724	2,868	2,690	2,603	2,876	273	10.5%	
UG Transfer	1,598	1,714	1,686	1,715	1,947	232	13.5%	
UG non-degree	512	271	335	272	425	153	56.3%	
IE Freshmen	280	233	251	226	198	-28	-12.4%	
IE Transfer	216	256	189	184	206	22	12.0%	
IE non-degree	20	29	16	20	24	4	20.0%	
IE Intensive English	205	208	170	280	308	28	10.0%	
GR degree-bound	1,717	1,714	1,795	1,485	1,612	127	8.6%	
GR non-degree	177	123	114	93	64	-29	-31.2%	

Admitted Eligible to Enroll Apps Only (excl I-holds, denials, incomplete and in-process apps):

Fall registration begins in April

Current Freeze Week:	2007	2008	2009	2010	2011	diff	pct chg	trends	Number Registered 2010	2011	diff	pct registered 2010	2011
Total	6,247	6,311	6,212	5,905	6,604	699	11.8%		3,300	3,661	361	55.9%	55.4%
UG	4,614	4,593	4,471	4,395	5,004	609	13.9%		2,457	2,807	350	55.9%	56.1%
IE	425	454	385	453	517	64	14.1%		184	215	31	40.6%	41.6%
GR	1,208	1,264	1,356	1,057	1,083	26	2.5%		659	639	-20	62.3%	59.0%
UG Freshmen	2,582	2,707	2,545	2,489	2,743	254	10.2%		1,118	1,252	134	44.9%	45.6%
UG Transfer	1,524	1,621	1,598	1,638	1,840	202	12.3%		1,151	1,299	148	70.3%	70.6%
UG non-degree	508	265	328	268	421	153	57.1%		188	256	68	70.1%	60.8%
IE Freshmen	97	91	100	90	93	3	3.3%		46	46	0	51.1%	49.5%
IE Transfer	116	135	106	88	102	14	15.9%		56	70	14	63.6%	68.6%
IE non-degree	18	29	16	15	24	9	60.0%		15	20	5	100.0%	83.3%
IE Intensive English	194	198	163	260	298	38	14.6%		67	79	12	25.8%	26.5%
GR degree-bound	1,033	1,144	1,247	965	1,021	56	5.8%		582	597	15	60.3%	58.5%
GR non-degree	175	120	109	92	62	-30	-32.6%		77	42	-35	83.7%	67.7%
Undeclared	6	1	0	0	0	0	n/a		0	0	0	n/a	n/a
Resident	4,854	4,680	4,705	4,573	5,097	524	11.5%		2,758	3,026	268	60.3%	59.4%
Non-resident	571	675	666	569	629	60	10.5%		240	271	31	42.2%	43.1%
Foreign	816	955	841	763	878	115	15.1%		302	364	62	39.6%	41.5%
Business	756	842	685	718	707	-11	-1.5%		270	279	9	37.6%	39.5%
Education	638	661	571	605	669	64	10.6%		224	275	51	37.0%	41.1%
Engineering	915	1,084	1,206	900	1,011	111	12.3%		252	297	45	28.0%	29.4%
Fine Arts	394	406	394	329	365	36	10.9%		127	139	12	38.6%	38.1%
Health Professions	688	655	722	794	913	119	15.0%		314	402	88	39.5%	44.0%
LAS Humanities	174	183	164	170	186	16	9.4%		77	82	5	45.3%	44.1%
LAS Nat Sci and Math	213	255	241	256	315	59	23.0%		89	123	34	34.8%	39.0%
LAS Social Sciences	576	563	627	612	679	67	10.9%		254	321	67	41.5%	47.3%
LAS Other	1,869	1,802	1,597	1,518	1,755	237	15.6%		348	422	74	22.9%	24.0%
Graduate Sch Guest	6	3	5	3	4	1	33.3%		2	1	-1	66.7%	25.0%

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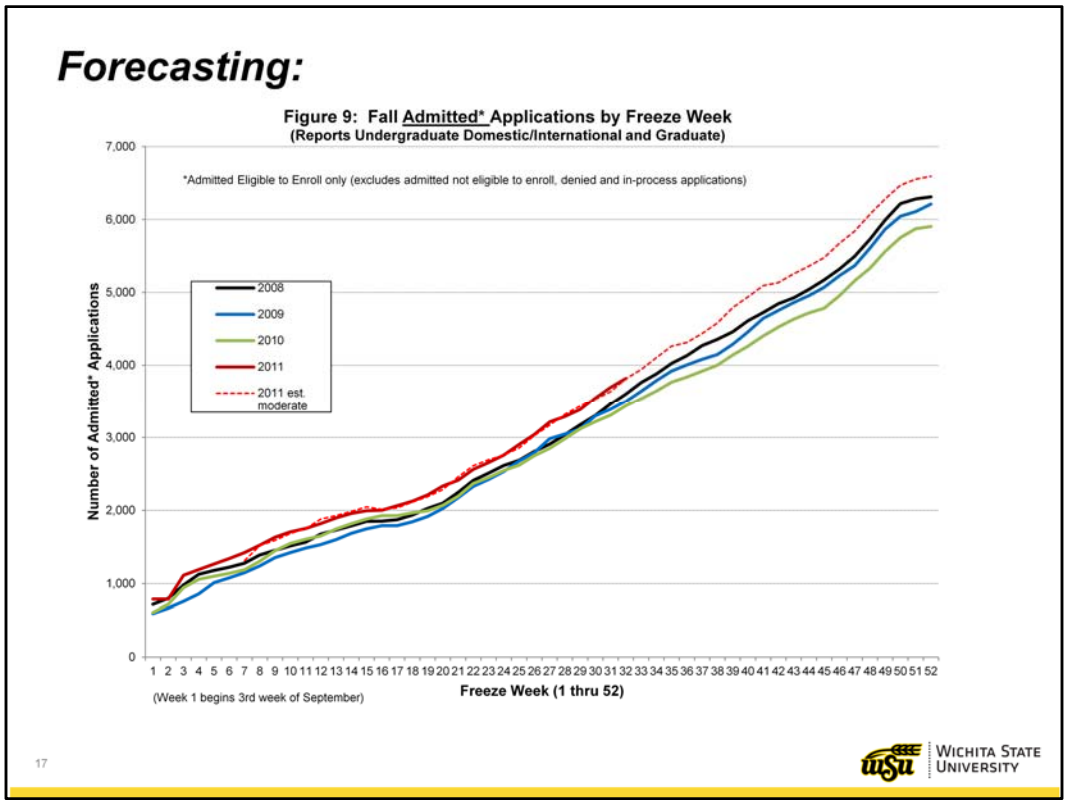
WICHITA STATE UNIVERSITY

Here we see a weekly report on admissions (all 3 admission offices) in terms of yearly week-to-week comparisons on the number of applications, the number of processed applications and the number of admitted students by several different dimensions, from student populations to academic units, allowing the admission offices to see if they are hitting their targets and informing academic units of upcoming demand for classes.



Using SPSS we can also forecast future outcomes to plan for contingent outcomes as they may be related to resources and budget; here we see a graph forecasting the number of admitted applications and comparing it to past terms. Forecasting also makes it possible to intervene and take action to change future outcomes, for example if our forecast showed a negative trend we may change the allocation of freshmen scholarships thus generating more yield, affecting change and avoiding an undesirable outcome.

Feeder Reports:

Table 1: Application Counts for Fall Admission of **HS Feeders**

Undergraduate Admissions SR Application Population Freshmen (International Undergraduate and Graduate Admissions excluded)

Week 20 (01/29/2012)

	All applications						Admitted							Denied						In Process					
HS Feeder	2009	2010	2011	2012	diff	pct chg	2009	2010	2011	2012	pct reg	diff	pct chg	2009	2010	2011	2012	diff	pct chg	2009	2010	2011	2012	diff	pct chg
total	1,581	1,508	1,605	1,906	301	18.8%	1,134	1,183	1,297	1,527		230	17.7%	18	20	14	13	-1	-7.1%	429	305	294	366	72	24.5%
Andale H S	22	28	32	28	-4	-12.5%	18	24	23	22	0%	-1	-4.3%	0	0	0	0	0	n/a	4	4	9	6	-3	-33.3%
Andover Central High School	35	38	49	46	-3	-6.1%	27	31	42	40	0%	-2	-4.8%	1	0	0	0	0	n/a	7	7	7	6	-1	-14.3%
Andover H S	38	34	44	55	11	25.0%	33	26	41	47	0%	6	14.6%	0	0	0	1	1	n/a	5	8	3	7	4	133.3%
Augusta H S	13	6	17	10	-7	-41.2%	11	6	16	8	0%	-8	-50.0%	0	0	0	0	0	n/a	2	0	1	2	1	100.0%
Bishop Carroll H S	87	102	81	98	17	21.0%	68	87	76	84	0%	8	10.5%	1	4	0	1	1	n/a	18	11	5	13	8	160.0%
Campus H S	86	75	92	90	-2	-2.2%	70	66	76	74	0%	-2	-2.6%	0	1	1	0	-1	-100.0%	16	8	15	16	1	6.7%
Cheney H S	11	8	17	17	0	0.0%	6	7	13	12	0%	-1	-7.7%	0	0	0	0	0	n/a	5	1	4	5	1	25.0%
Circle H S	9	13	7	12	5	71.4%	6	10	7	11	0%	4	57.1%	0	1	0	0	0	n/a	3	2	0	1	1	n/a
Clearwater H S	9	16	11	22	11	100.0%	7	12	9	14	0%	5	55.6%	0	0	0	0	0	n/a	2	4	2	8	6	300.0%
Derby H S	101	91	79	113	34	43.0%	72	71	63	76	0%	13	20.6%	1	1	0	1	1	n/a	28	19	16	36	20	125.0%
Garden Plain H S	41	32	10	18	8	80.0%	23	21	6	11	0%	5	83.3%	0	1	0	1	1	n/a	18	10	4	6	2	50.0%
Goddard H S	162	147	156	146	-10	-6.4%	126	121	141	128	0%	-13	-9.2%	4	2	0	3	3	n/a	32	24	15	15	0	0.0%
Goddard Eisenhower H S	0	0	0	43	43	n/a	0	0	0	37	0%	37	n/a	0	0	0	0	0	n/a	0	0	0	6	6	n/a
Hesston H S	4	3	7	2	-5	-71.4%	4	3	6	2	0%	-4	-66.7%	0	0	0	0	0	n/a	0	0	1	0	-1	-100.0%
Independent H S	24	18	11	9	-2	-18.2%	21	14	7	7	0%	0	0.0%	0	0	0	0	0	n/a	3	4	4	2	-2	-50.0%
Kapaun Mt Carmel H S	51	59	73	96	23	31.5%	33	52	59	69	0%	10	16.9%	0	1	1	0	-1	-100.0%	18	6	13	27	14	107.7%
Maize HS	152	144	112	140	28	25.0%	107	116	99	110	0%	11	11.1%	0	2	0	0	0	n/a	45	26	13	30	17	130.8%
Maize South	0	0	26	39	13	50.0%	0	0	22	34	0%	12	54.5%	0	0	1	0	-1	-100.0%	0	0	3	5	2	66.7%
Mulvane H S	24	17	28	22	-6	-21.4%	18	12	21	17	0%	-4	-19.0%	0	1	1	1	0	0.0%	6	4	6	4	-2	-33.3%
Newton H S	32	28	19	31	12	63.2%	25	24	12	29	0%	17	141.7%	1	0	0	0	0	n/a	6	4	7	2	-5	-71.4%
Rose Hill H S	13	17	18	19	1	5.6%	10	15	13	16	0%	3	23.1%	1	0	0	0	0	n/a	2	2	5	3	-2	-40.0%
Sedgwick H S	4	5	5	8	3	60.0%	4	3	3	8	0%	5	166.7%	0	0	0	0	0	n/a	0	2	2	0	-2	-100.0%
Sunrise Christian Academy	9	11	12	6	-6	-50.0%	8	10	8	6	0%	-2	-25.0%	0	0	1	0	-1	-100.0%	1	1	3	0	-3	-100.0%
Trinity Academy	62	48	64	78	14	21.9%	49	31	54	69	0%	15	27.8%	1	1	1	0	-1	-100.0%	12	16	9	9	0	0.0%
Valley Center H S	55	60	55	69	14	25.5%	37	51	48	51	0%	3	6.3%	0	0	0	1	1	n/a	18	9	7	17	10	142.9%
Wichita Collegiate H S	18	23	24	30	6	25.0%	6	9	5	16	0%	11	220.0%	0	0	0	0	0	n/a	12	14	19	14	-5	-26.3%
Wichita Heights H S	92	68	92	96	4	4.3%	54	50	65	62	0%	-3	-4.6%	0	1	5	0	-5	-100.0%	38	17	22	34	12	54.5%
Wichita East H S	84	89	86	125	39	45.3%	53	66	68	103	0%	35	51.5%	3	0	1	0	-1	-100.0%	28	23	17	22	5	29.4%
Wichita North H S	59	68	64	85	21	32.8%	40	46	48	69	0%	21	43.8%	2	1	1	1	0	0.0%	17	21	15	15	0	0.0%
Wichita Northwest H S	85	99	112	107	-5	-4.5%	69	74	101	100	0%	-1	-1.0%	0	2	1	0	-1	-100.0%	16	23	10	7	-3	-30.0%
Wichita South H S	51	57	66	74	8	12.1%	32	42	45	56	0%	11	24.4%	1	0	0	0	0	n/a	18	15	21	18	-3	-14.3%
Wichita Southeast H S	81	49	66	69	3	4.5%	52	38	43	53	0%	10	23.3%	2	0	0	1	1	n/a	27	11	23	15	-8	-34.8%
Wichita West H S	20	11	19	17	-2	-10.5%	14	10	13	12	0%	-1	-7.7%	0	0	0	1	1	n/a	6	1	6	4	-2	-33.3%
Wichita Northeast Magnet H S	47	44	51	86	35	68.6%	31	35	44	74	0%	30	68.2%	0	1	0	1	1	n/a	16	8	7	11	4	57.1%

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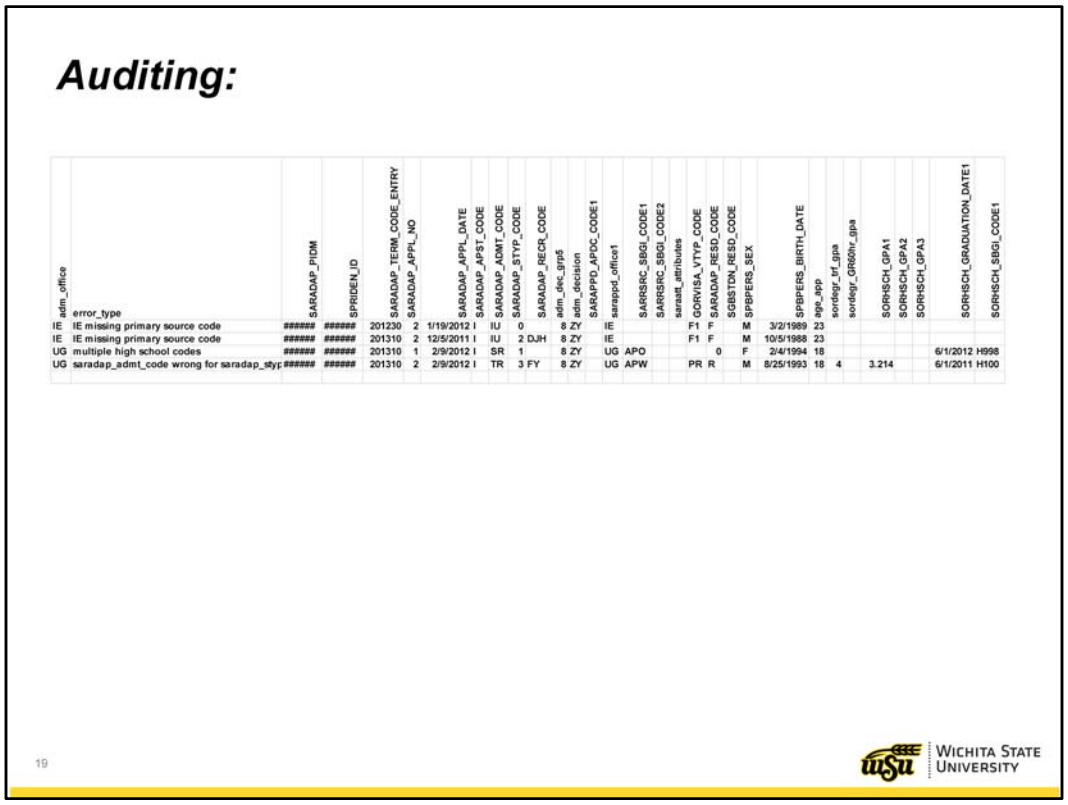
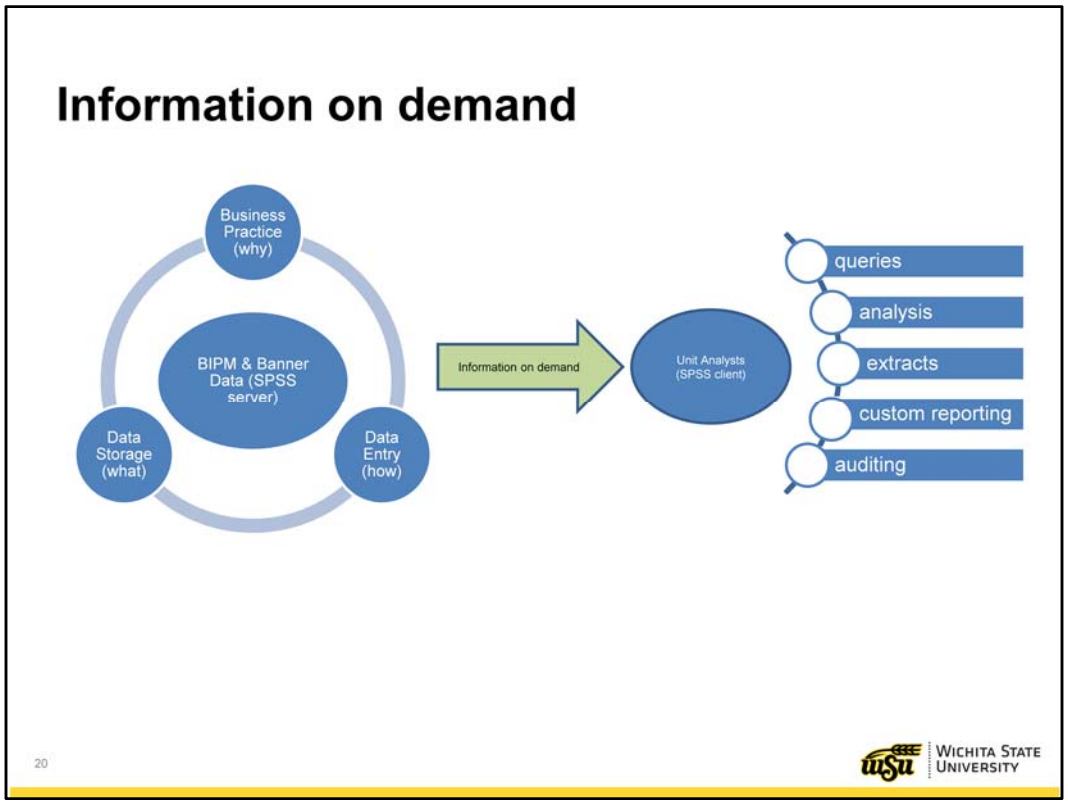
WICHITA STATE UNIVERSITY

For recruiters, we report weekly on application and admission yields for our feeder schools. In this slide we see performance data for our common high school feeders. Admission offices can use the report to adjust where they deploy off-site recruiters.

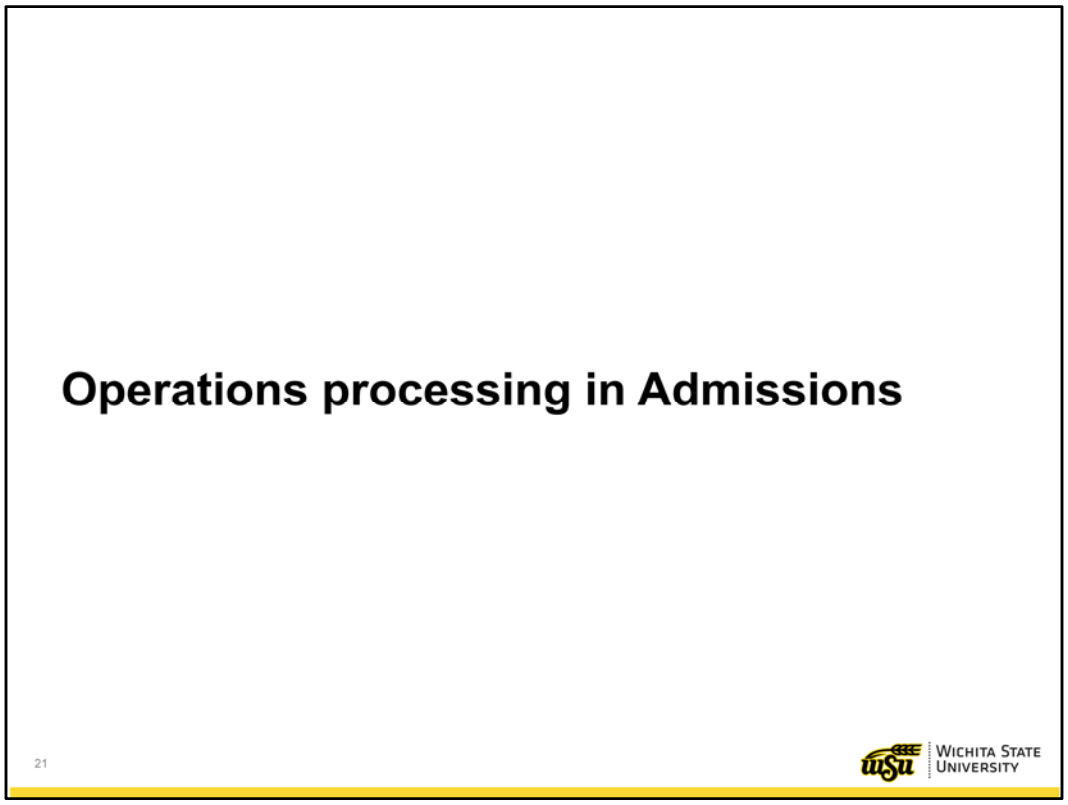


adm_office	error_type	SARADAP_PIDM	SPRIDEN_ID	SARADAP_TERM_CODE_ENTRY	SARADAP_APPL_NO	SARADAP_APPL_DATE	SARADAP_APST_CODE	SARADAP_ADMT_CODE	SARADAP_STYP_CODE	SARADAP_RECR_CODE	adm_dec_grp5	adm_decision	SARAPPD_APDC_CODE1	sarappd_office1	SARRSRC_SBGI_CODE1	SARRSRC_SBGI_CODE2	saraatt_attributes	GORVISA_VTYP_CODE	SARADAP_RESD_CODE	SGBSTDN_RESD_CODE	SPBPERS_SEX	SPBPERS_BIRTH_DATE	age_app	sordegr_trf_gpa	sordegr_GR60hr_gpa	SORHSCH_GPA1	SORHSCH_GPA2	SORHSCH_GPA3	SORHSCH_GRADUATION_DATE1	SORHSCH_SBGI_CODE1
IE	IE missing primary source code	######	######	201230	2	1/19/2012	I	IU	0		8	ZY	IE					F1	F		M	3/2/1989	23							
IE	IE missing primary source code	######	######	201310	2	12/5/2011	I	IU	2	DJH	8	ZY	IE					F1	F		M	10/5/1988	23							
UG	multiple high school codes	######	######	201310	1	2/9/2012	I	SR	1		8	ZY	UG	APO					0	F		2/4/1994	18						6/1/2012	H998
UG	saradap_admt_code wrong for saradap_styp	######	######	201310	2	2/9/2012	I	TR	3	FY	8	ZY	UG	APW				PR	R		M	8/25/1993	18	4	3.214				6/1/2011	H100

All of our data processing, from modeling to scoring to monitoring, is of little value if we do not have data integrity. Accordingly, we have several reports that run daily to identify data entry errors so that they can be addressed within 24 hours, a crucial threshold if we are going to use data to make data-driven decisions.



For data driven decision making, data and information must be available instantaneously by business analysts across campus. The beauty of the BIPM/SPSS system is that the data are defined and developed by those who know the data best– the business analysts within each unit. They know the "why" related to their data--the business practices that often change weekly, they know "how" the data gets into the system and "what" data is of value; IT (information technology) and IR (institutional research) units are ill equipped to have this knowledge. From this data system, business analysts can readily pull data to obtain information for data queries, analysis, extracts, custom reporting and auditing, and using SPSS they can do all of this within one product. Information on demand is crucial, anything less makes a true data-driven approach impossible. Data and information must be available when the need arises, waiting until the next day for data/information is too late.


Operations processing in Admissions
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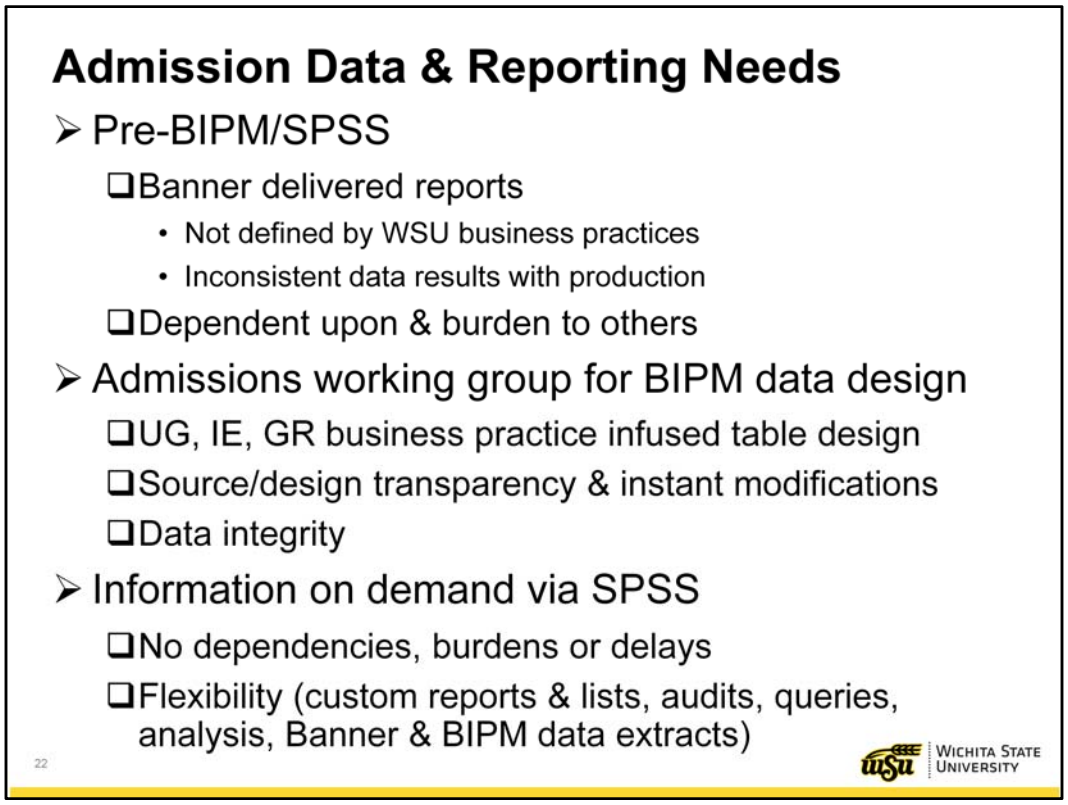
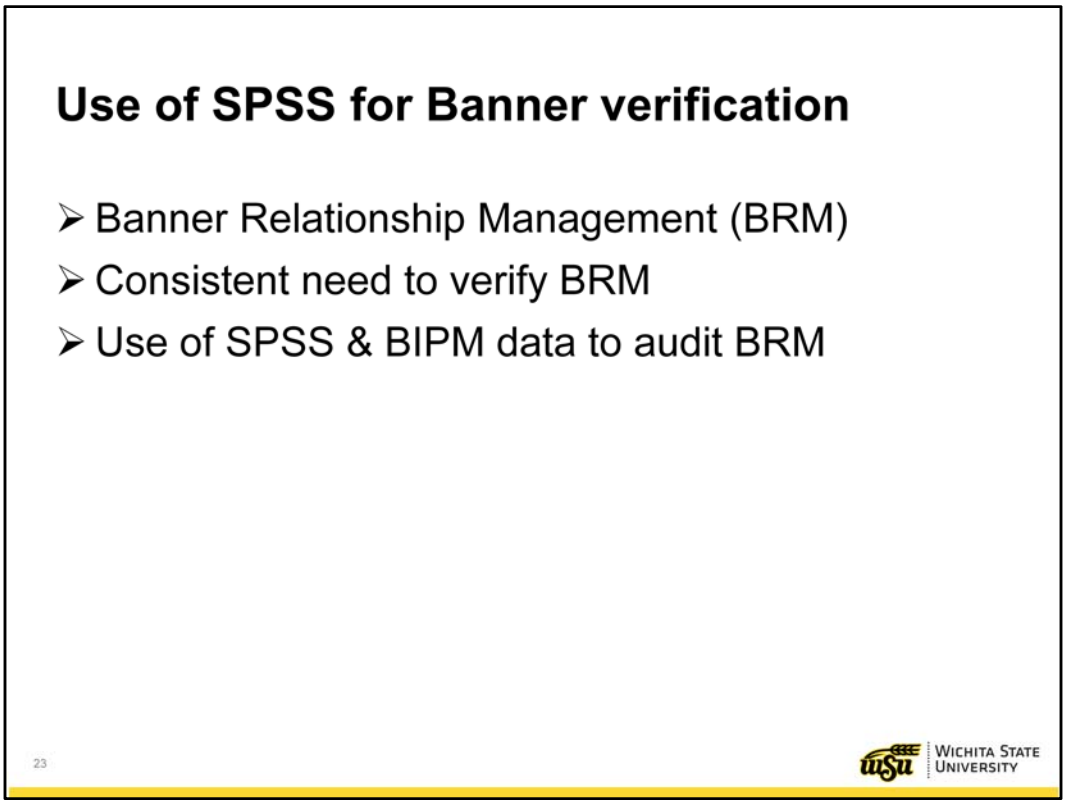
WICHITA STATE UNIVERSITY



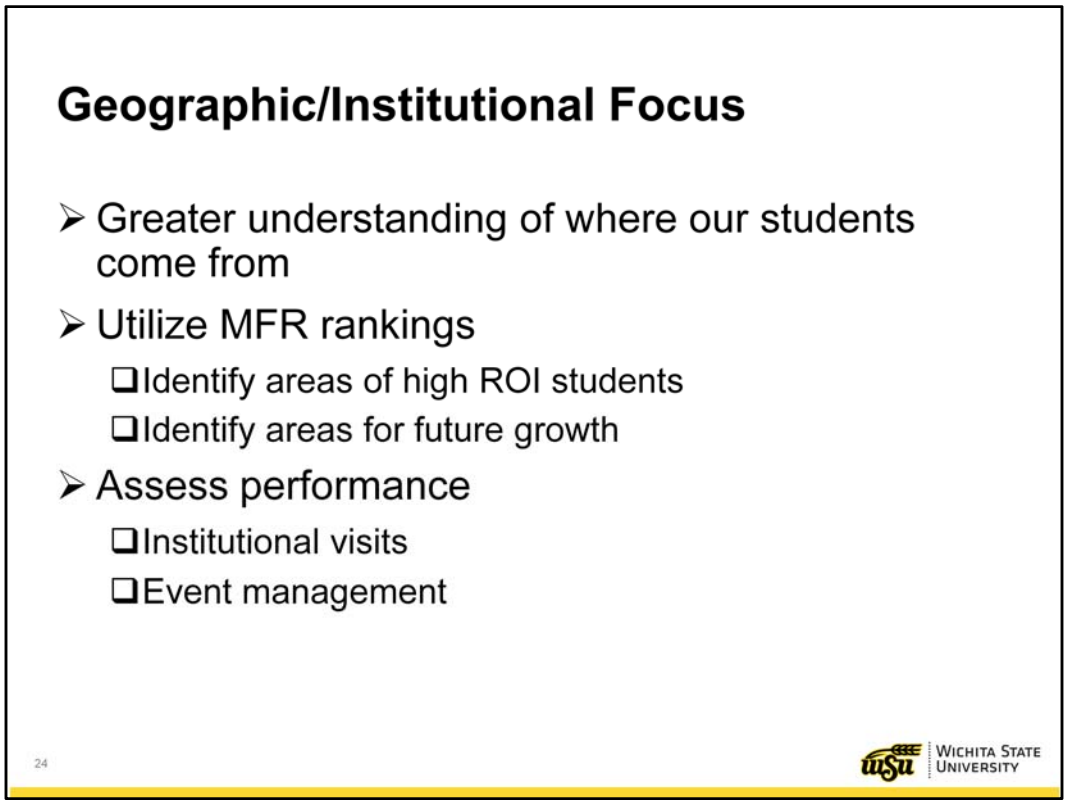
Prior to the development of the BIPM/SPSS data system, Admissions was largely dependent upon the Banner delivered reports for data/information. The IT staff also took advantage of these delivered reports (including the Banner managed tables and views that support these reports) to build custom reports and tables to address additional needs the Banner deliverables did not contain. But soon two problems quickly emerged. One was that the Banner deliverables assumed a single generic admissions office. At WSU we have 3 different admission offices (undergraduate domestic, undergraduate international, graduate domestic & international), all 3 admissions offices use the same Banner tables but have very different business practices. It quickly became apparent that the Banner deliverables were reporting different data counts than what were in the production system. For example, the Banner deliverables assumed one recruit or application record per student per term, whereas at WSU we can have multiple recruits or applications for a student per term; for example we may have a student with a graduate and an intensive english undergraduate record for the same term. The Banner deliverables were selecting the last record within any term removing the other records the student may have in the system for that term. The second problem that became apparent early on was the dependency on IT to customize data tables to work around the Banner deliverables. This dependence resulted in lengthy delays in accessing data to inform decision making. Both problems led to inconsistent data results and lengthy delays that prevented admissions from having information-on-demand to accurately make decisions.

Admissions then joined the BIPM project and began to design a data system that would reflect the unique business practices of all 3 admissions offices. As part of the BIPM project, all 3 offices had to come together to share their business practices and needs so that a single admissions data system could be designed by the very folks who know their data the best, how it gets into the system and what data are of value. Once the ETL builds for the new system were operational, all 3 admission offices could extract & report data that matched production. They also had complete confidence in where the data were coming from with complete transparency in data source and management. Equally important, they could propose modifications to the data system that would be available within 24 hours, eliminating the lengthy delays and dependence they had on others for managed data.

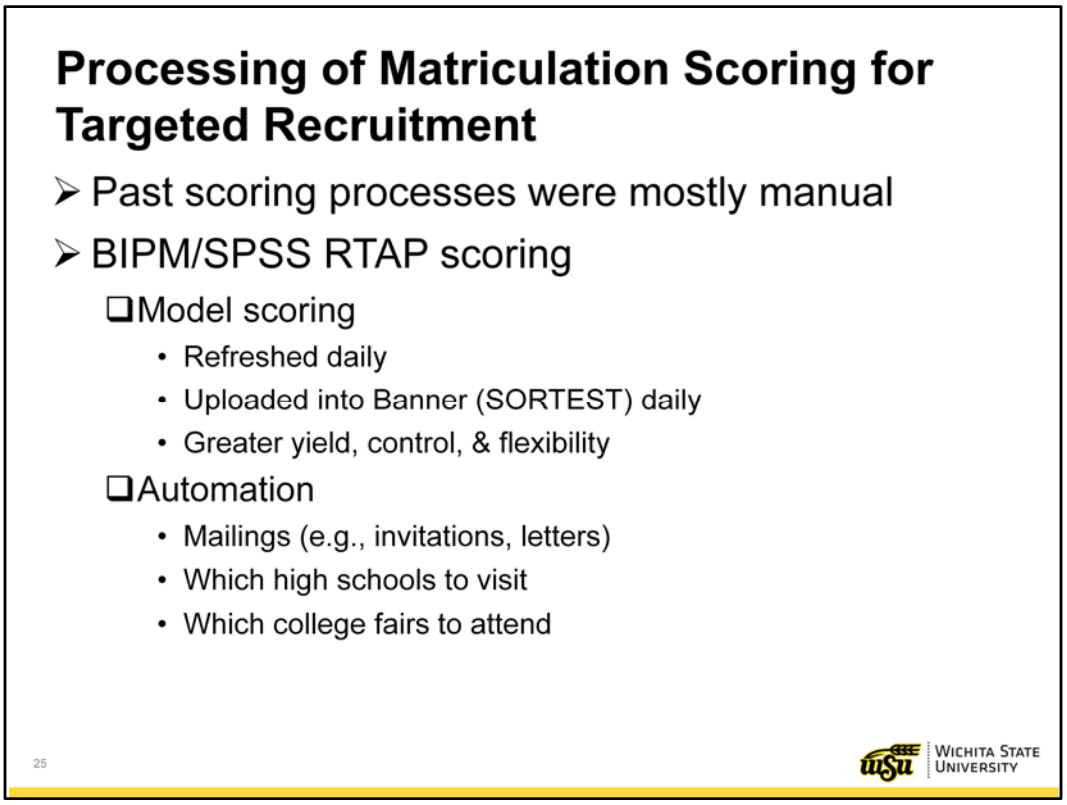
With development of the BIPM admissions data and the introduction of SPSS, they could now engage in information-on-demand, using their own expertise in admission business practices as to what data to pull and how to deliver it.



WSU recently purchased a new customer relations management software product from Banner referred to as BRM that helps admissions to manage recruit/applicant contacts and to perform automated recruitment campaigns (targeted mass emails & letters). But as with any new release, and especially one that is part of an acquisition product within the Banner suite, confirmation of data integrity was an issue. It was not uncommon for there to be data inconsistencies between BRM and the production system. Since the BIPM data system reflects production data and the admission offices were now well versed in using SPSS for data extraction and analysis, they could easily identify where data inconsistencies existed and modify the BRM system to make the corrections. Without SPSS and the BIPM data to audit the BRM system before automating a campaign, admissions would have been reluctant to trust BRM.



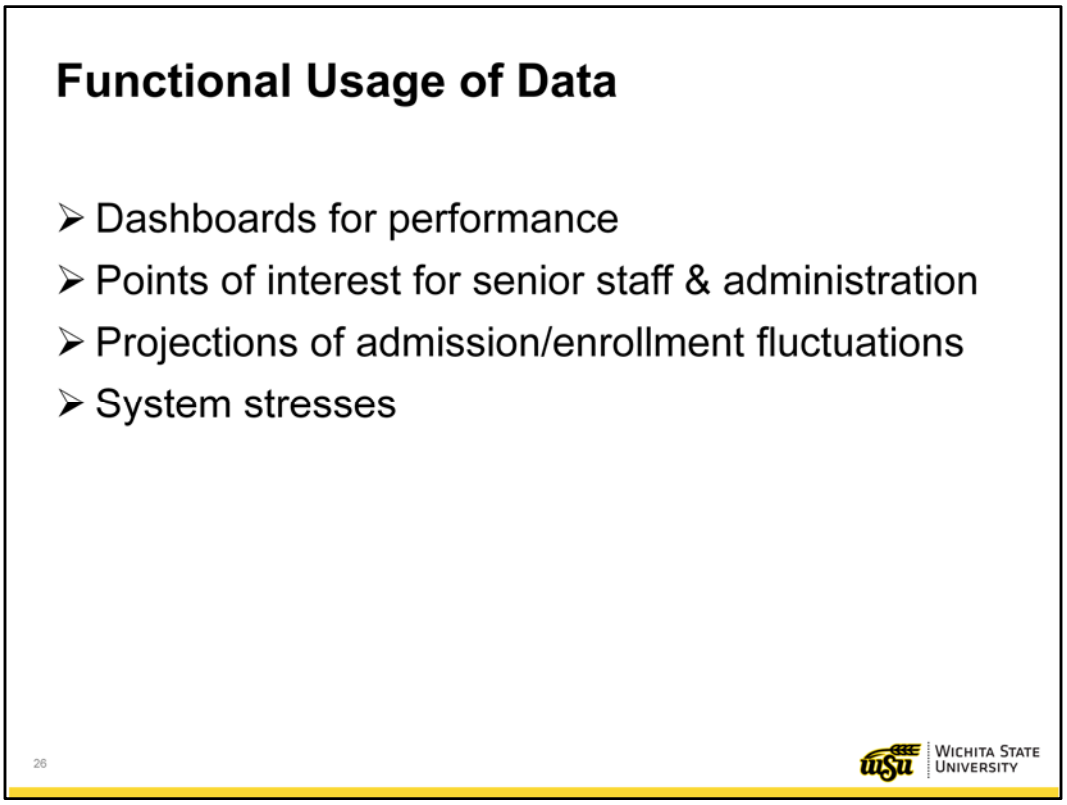
Through SPSS and the BIPM data, admissions could now dynamically monitor where students were coming from, both geographically and institutionally. Using SPSS to create a series of customized reports that displayed the counts and yields of students by different dimensions allowed admissions to refocus where they spent resources. From the MFR scoring done by the SPSS Server, they could segment high schools in terms of ROI and appropriately allocate recruiters toward higher yield schools while investing less time and resources on lower yield schools. The same could be done in terms of the numerous recruitment events that occurred throughout the year allowing them data to show which events could be eliminated and which should be expanded. Using these data, admissions eliminated nearly all out-of-state travel since over 90% of our students come from Kansas and 80% from within the surrounding counties of the university. They changed which high schools to engage in live events refocusing them on schools that showed signs of high yield or increasing yield. It also allowed them to manage future growth areas. Southwest Kansas has a very low population level but a high percentage and growing Hispanic community. Being able to numerically identify which high schools within southwest Kansas have promising yields, they were able to increase the number of Hispanic applicants by over 120%, an accomplishment that not only brings in more students, but also aligns with one of our goals to recruit under-represented minorities.



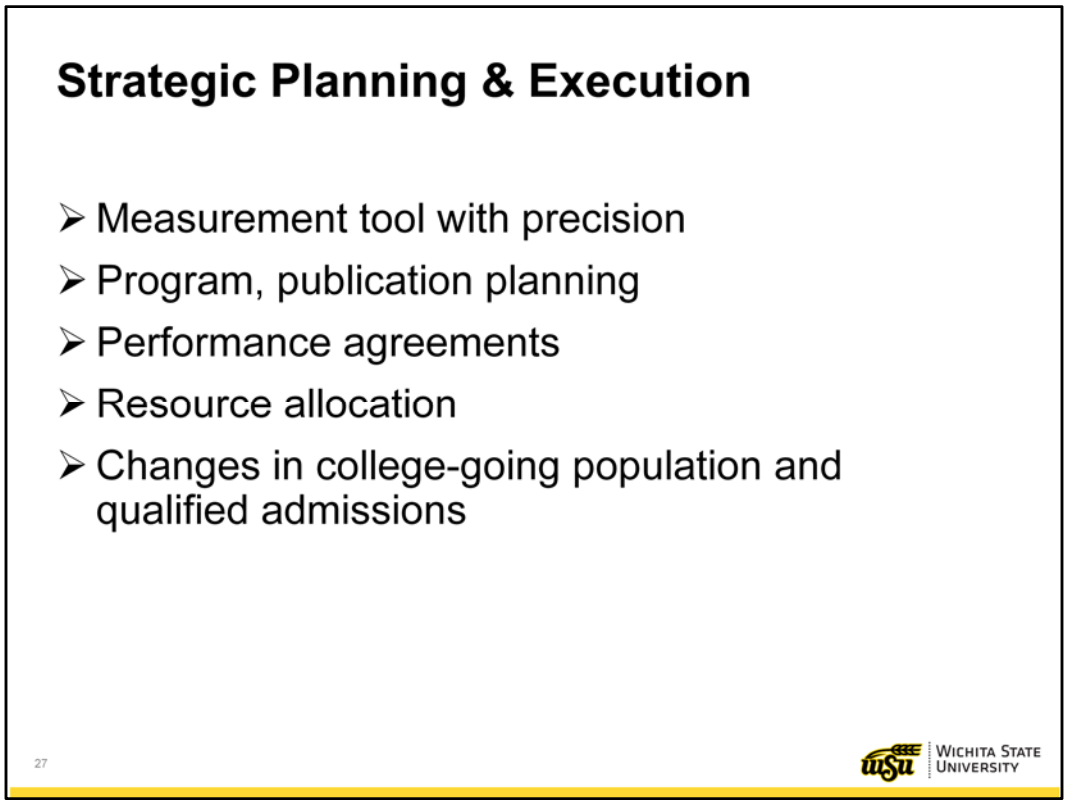
As mentioned earlier, we previously employed outside vendors to do our scoring of prospects, but the process was manually driven and not informed by business practices. For our first vendor, we would send them data files from which they would construct models & send back the individual student scores, which had to be manually uploaded to the SIS (student-information-system). It took about a month to receive the scores, meaning they were not inclusive of all our prospects (they come in continuously) and could not take advantage of updated students records since the initial data dump. More importantly, the modeling was designed offsite by a vendor who did not know our unique business practices, and as expected produced a modest industry level performance of 71% accuracy. Our second vendor was a software system which allowed us to designate a model & score students; it was still a manual process of downloading data, running the program & uploading the scores. This reduced the time of obtaining the scores, but they were still obsolete by the time we completed the process and only increased our performance to 82%.

With SPSS we were able to have dynamic models, models running daily for all students allowing us to pull “on-demand” scores for decision making, analysis and campaigns. The models are informed by the business practices within the BIPM data system and are uploaded automatically into our Banner system for use by both SPSS & non-SPSS users, including Banner systems that rely on the scoring uploaded from the SPSS Server. We now have no direct cost connected to the scoring, a software product (SPSS) that can do more than just produce scores, and our performance yield is currently at 94%. SPSS has allowed us to save over $65,000 that would have went to outside vendors who produced lower returns.

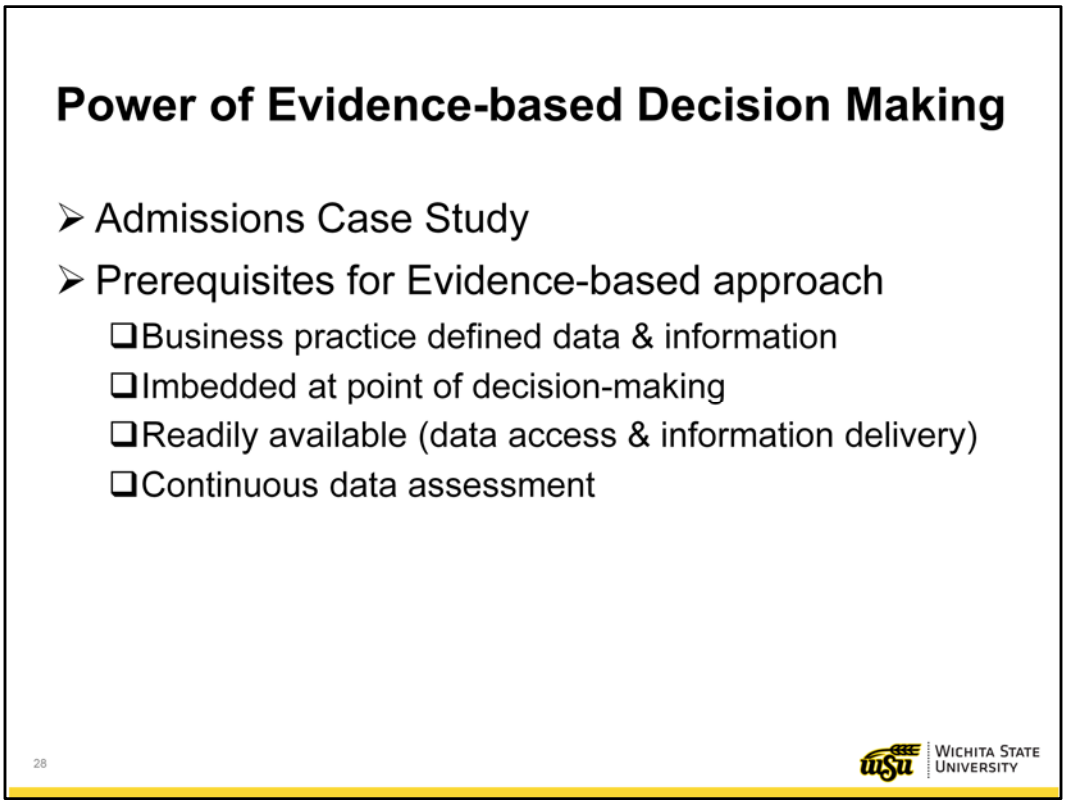
We now know at anytime of the day where our most productive students are and which institutions and geographic areas produce the highest ROI, allowing us to do more with less, and produce greater yield.



With the BIPM/SPSS system, Admissions was able to develop a series of dashboards that measure daily & weekly performance, including the ability to set targets so that a continual process of assessment was available for administrators and staff. The data provided a means for everyone to “be on the same page” when talking about performance and strategy. The BIPM/SPSS system also provided the means to forecast registration yields and enrollment to better plan for future contingencies and reallocation of resources that also allowed them to endure system stresses. They began to understand the larger picture of what would be happening months ahead so that when periodic changes or events altered current data metrics, the forecasting would let them know that these were temporary fluctuations and did not warrant system changes.



In addition to having information on demand, one of the biggest benefits of the BIPM/SPSS system was confidence in data integrity. Now when they extracted data or viewed a report, they had confidence that the data reflected the true production environment and felt confident in using the data to make decisions. From this confidence it became easier to make decisions about system processes. For example, as with all Admission offices, a large part of their expense is tied to publications for marketing and events. With the BIPM/SPSS system and the confidence in using it to predict outcomes, they could reduce the number of publications and actually achieve higher yield. These savings also translated into other areas since they could shift savings from reduced publications to other areas to supplement or expand. And finally, but by no means last, they could now plan for future changes. Using the BIPM/SPSS system, they could anticipate the impacts that changes in admission requirements from the state would have on their ability to recruit, what population changes, such as the rise in Hispanics, would mean to future resource allocations and other future scenarios that could now be predicted with higher confidence, enough confidence to actually plan systemic shifts in resources to be better prepared for when that future arrived.



In closing, the intent of our presentation today was to describe how Wichita State University has created an information on demand system for business analysts, what we refer to as the BIPM data system, the use of SPSS enterprise products for the BIPM builds and data retrieval, and how the undergraduate Admissions office has used the BIPM/SPSS system to gain greater efficiency at lower cost. Of course, Admissions is merely one case study, other units on campus can take similar steps toward having greater use of evidence-based decision making. For that to occur, it is important that data be structured based on the business practices of the unit in question. No vendor purchased system (e.g., Banner) or outsourced vendor can ever know the unique business practices that units work under and certainly cannot respond to the rapidly changing nature of business rules and regulations. That is why business analysts within units must be the people who design the data from which they will acquire information. It is also imperative that at the points of decision-making, especially at higher levels of the organization, that data be imbedded into the discussion to inform decision making, not as an after thought or to confirm a decision already made, but used to frame the discussion before decisions are made. That means that data must be readily available, information delayed is information that is not used. And finally, there must be a continual process of data assessment and evaluation, not only to address system and changing population issues, but also to address new regulations and business practices.