



Higher Education Virtual Conference 2008

Unlock Your Data, Improve Your Performance with Data Warehousing

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COGNOS

THE NEXT LEVEL OF PERFORMANCE™



Phytorion and Higher Education

- More than 70 Data Warehouse implementations in Higher Education
- From Subject-area Data Marts to Enterprise Data Warehouses
- Solutions custom fit to your precise needs
- Packaged Data Marts for PeopleSoft
- Operational & Strategic
- Integration of any source systems in place



Long Beach City College

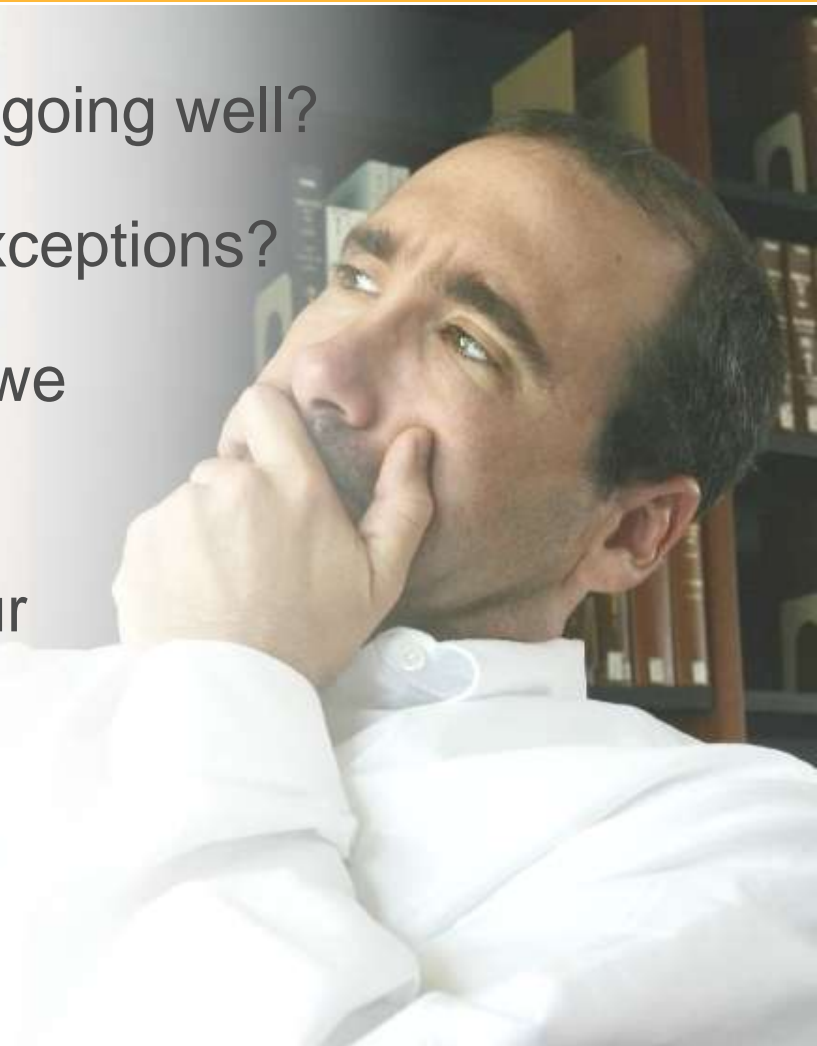
- Two year California Community College
- Located in the Los Angeles metropolitan region
- Over 3,000 classes each term
- 1,000+ courses
- 27,000 students
- 2 major campuses





Questions We Had

- How do we know when things are going well?
- How do we identify problems or exceptions?
- What key forms of information do we monitor?
- What prevents us from meeting our objectives?
- What can we do about it?





Our Story – What We Needed

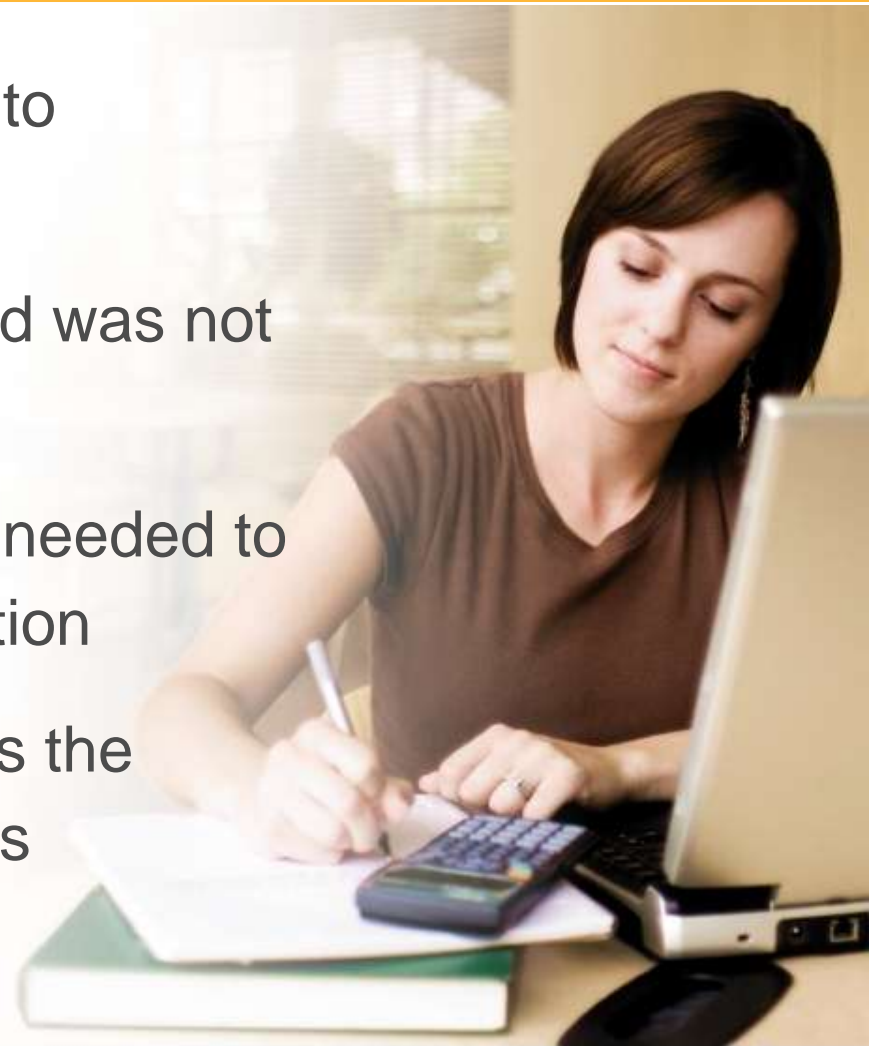
- Information is critical for decision making
- Data was locked away in disparate systems
- The ERP system limited our reporting flexibility
- Running reports from ERP impacted production
- Independence for report creation by business analysts
- Customized fields





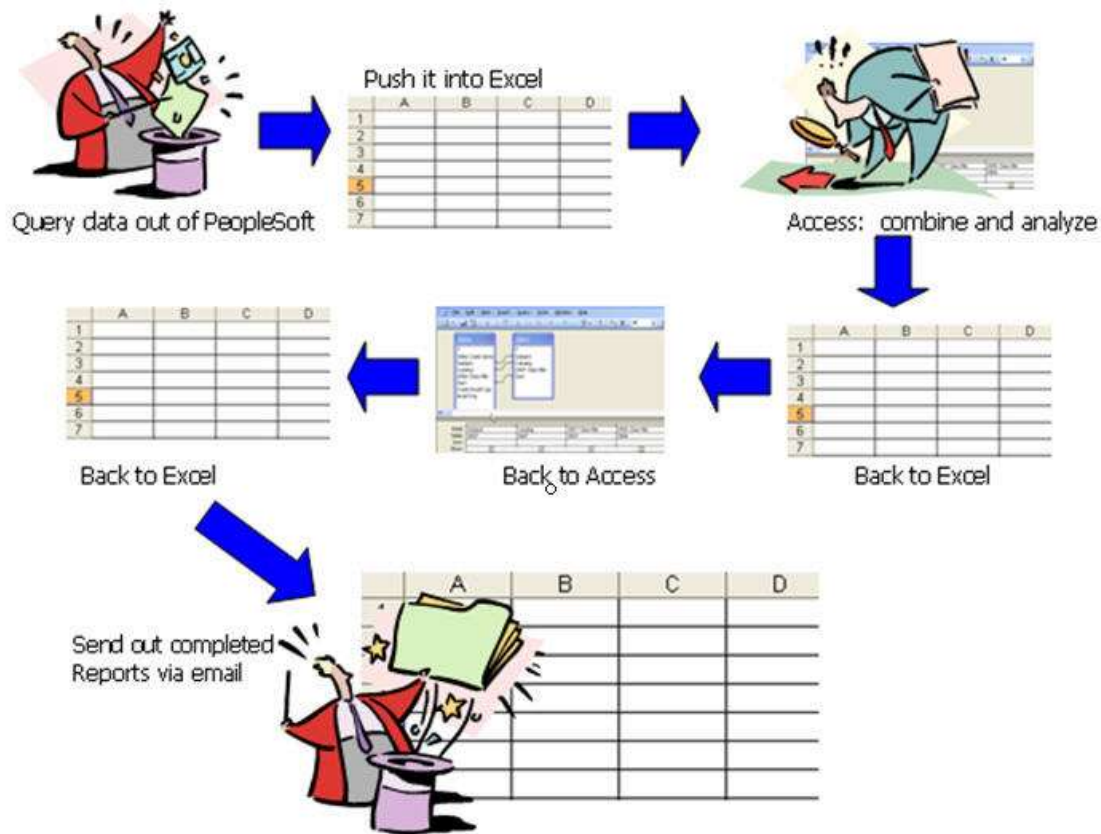
What We Knew

- We needed flexibility and speed to empower users
- ERP had thousands of tables and was not optimized for reporting
- To make business decisions we needed to aggregate and organize information
- Other systems were not giving us the information in the desired formats



Information Silos – ERP and Spreadsheets

How did we create complex reports **before** the Data Warehouse and Cognos?





What Were Our Challenges

- We needed an executive level sponsor and support
- Managing the budget and schedule without it is a risky & tedious project
- Accountability for processes at lower levels but no tools to do the job
- More creative thinking about problem solving options but we couldn't predict the effect



The Data Warehouse and Cognos at LBCC

Our Data Warehouse Users

- Institutional Research
- IT Group
- Academic Areas
- Human Resources
- Financial Aid
- Counseling & Assessment
- Admissions & Records
- Financials





Reporting Trends and Statistics

Long Beach City College

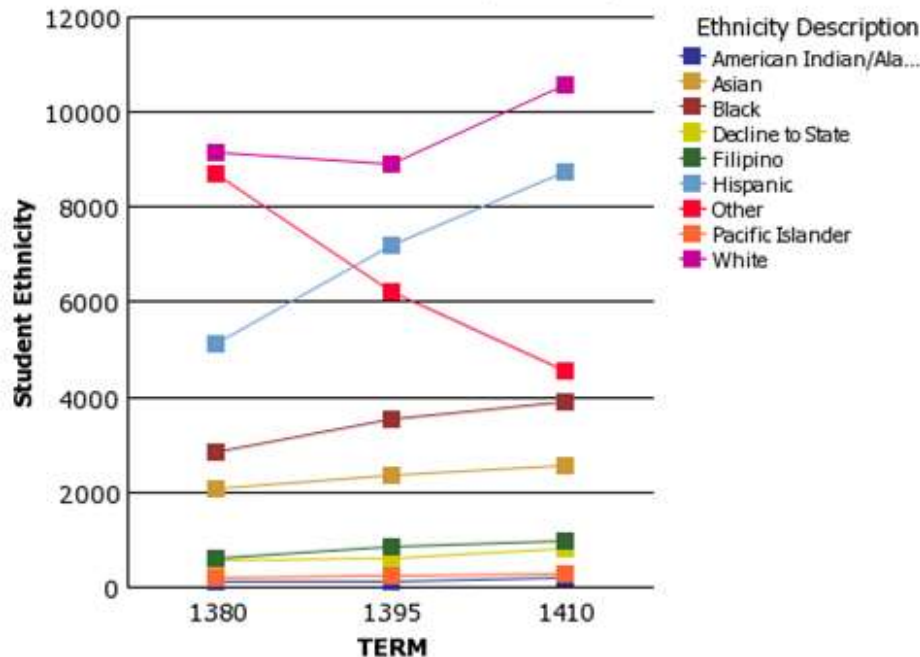
Demographic Analysis

Jan 7, 2008

4901 E. Carson Street
Long Beach, CA 90808

Eloy Oakley, Superintendent-President

Student Count by Ethnicity : Fall 2005-2007



	2006 Fall	2007 Fall	2005 Fall
American Indian/Alaskan Native	133	186	128
Asian	2379	2565	2076
Black	3555	3900	2846
Decline to State	624	815	564
Filipino	849	961	608
Hispanic	7194	8750	5110
Other	6223	4570	8703
Pacific Islander	264	275	197
White	8916	10574	9172
Summary	30137	32596	29404



Student Contact Lists for Instructors

2007 Spring

Class Nbr: 30045

HIST10 Hist Early America (Colonial)

Alston,Zeus	761-7843 Arcu. St. Glendora CA 32427	351-646-5657 nisi.Mauris@sedsem.ca
Zeus	845-8762 Nunc, Street Cambridge CA 43488	597-476-8888 ut.erat.Sed@erosturpis.com
Byers,Burton	223-5610 Elementum Rd. Kingston CA 23798	244-803-3716 Curabitur.sed.tortor@natoquepenatibuset.com
Clemons,Zeus	768-6936 Fringilla, Av. Newburgh CA 23798	844-849-3180 vel.arcu.Curabitur@magnaLorem.com
Combs,Neil	Ap #111-7519 Mauris St. Beaumont CA 07103	881-979-2097 malesuada.augue@miac.org
Daniels,Zeus	966-8376 Tempor Street Rye CA 61579	476-959-9079 Praesent@eu.edu
George,Cedric	674-1211 Fusce Rd. Vineland CA 16598	612-747-9582 molestie.orci@tristiquepellentesque.edu



What Classroom is Open Tuesday at Noon?

**Details that
make finding
open
classrooms
easy**

FACILITY_ID	ROOM ^	Course	Class Nbr	Days	Start Time ^	End Time
LAC-D115	LAC-D115	ENGL1	70527	MW	6:00 PM	8:24 PM
LAC-D116	LAC-D116	MATH110	73253	MTuWThF	6:30 AM	7:30 AM
	LAC-D116	MATH130	73435	MTuWThF	7:30 AM	8:50 AM
	LAC-D116	MATH130	71689	MWF	9:30 AM	11:12 AM
	LAC-D116	MATH120	71678	MW	12:00 PM	1:30 PM
	LAC-D116	MATH110	71657	MWF	1:30 PM	3:30 PM
	LAC-D116	MATH29	71613	MW	5:00 PM	6:30 PM
	LAC-D116	MATH29	71614	MW	6:30 PM	7:00 PM
	LAC-D116	MATH815	71744	MW	7:00 PM	9:24 PM
LAC-D117	LAC-D117	MATH110	71654	MW	11:00 AM	12:00 PM
LAC-D118	LAC-D118	MATH110	74056	M	10:00 AM	12:45 PM
	LAC-D118	MATH110A	71674	MW	3:00 PM	4:30 PM
	LAC-D118	MATH110A	72779	MW	4:30 PM	5:00 PM
	LAC-D118	MATH110B	72680	MW	5:00 PM	6:30 PM
	LAC-D118	MATH110B	72842	MW	6:30 PM	7:00 PM



Identify Performance Levels

Long Beach City College

Class Enrollment Details

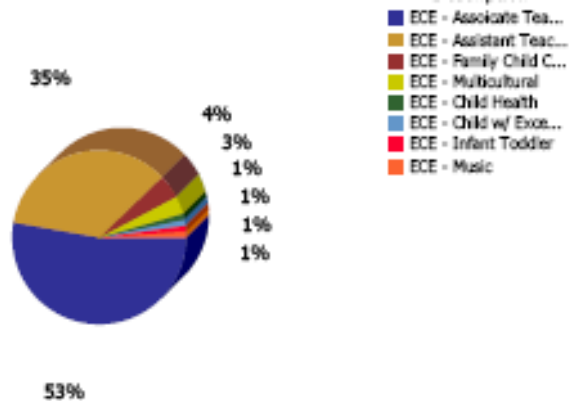
Jan 7, 2008

Subject ^	Course ^	Class Nbr ^	Days	Start Time	End Time	Begin Date	End Date	Total	Pct of Cap
CIT	CIT601	71612	Th	6:24 PM	10:00 PM	9/10/07	12/21/07	44	110
	CIT601							44	110
CIT								44	110
HIST	HIST10	70033	MW	11:00 AM	12:30 PM	8/20/07	12/21/07	46	114
		70034	MW	9:30 AM	11:00 AM	8/20/07	12/21/07	50	125
		70035	MW	8:00 AM	9:30 AM	8/20/07	12/21/07	50	125
		70036	MW	11:00 AM	12:30 PM	8/20/07	12/21/07	51	127
		70037	TuTh	9:00 AM	10:30 AM	8/20/07	12/21/07	41	102
		70038	F	9:00 AM	12:00 PM	8/20/07	12/21/07	42	105
		70041	MW	8:00 AM	9:30 AM	8/20/07	12/21/07	38	95
		70042	TuTh	1:00 PM	2:30 PM	8/20/07	12/21/07	47	118
		70043	MW	8:00 AM	9:30 AM	8/20/07	12/21/07	39	98
		70044	TuTh	7:30 AM	9:00 AM	8/20/07	12/21/07	45	113
		70045	W	12:30 PM	2:00 PM	8/20/07	12/21/07	41	102
		70045	M	12:30 PM	2:00 PM	8/20/07	12/21/07	41	102
		70046	Tu	7:00 PM	10:00 PM	8/20/07	12/21/07	26	65
		70047	TuTh	5:30 PM	7:00 PM	8/20/07	12/21/07	37	93
		70048	TBA			9/10/07	12/21/07	70	58



Five Minutes for Three Versions!

1: What is the big picture?



2. How many awards were awarded on each date?

CONFER_DATE	Description ~	Nbr of Awards
Aug 1, 2006	ECE - Assistant Teacher	5
	ECE - Associate Teacher	7
Aug 1, 2006		12
Dec 1, 2006	ECE - Assistant Teacher	13
	ECE - Associate Teacher	19
	ECE - Child Health	1
	ECE - Family Child Care	1
	ECE - Music	1
	Dec 1, 2006	
May 1, 2007	ECE - Assistant Teacher	13
	ECE - Associate Teacher	21
	ECE - Child w/ Exceptional Need	1
	ECE - Family Child Care	3
	ECE - Infant Toddler	1
	ECE - Multicultural	3
May 1, 2007		42
Summary		89

3. By certificate type, when were awards given?

Description ~	Nbr of Awards	CONFER_DATE
ECE - Assistant Teacher	5	Aug 1, 2006
	13	Dec 1, 2006
	13	May 1, 2007
ECE - Assistant Teacher	31	
ECE - Associate Teacher	7	Aug 1, 2006
	19	Dec 1, 2006
	21	May 1, 2007
ECE - Associate Teacher	47	
ECE - Child Health	1	Dec 1, 2006
ECE - Child Health	1	
ECE - Child w/ Exceptional Need	1	May 1, 2007
ECE - Child w/ Exceptional Need	1	
ECE - Family Child Care	1	Dec 1, 2006
	3	May 1, 2007
ECE - Family Child Care	4	
ECE - Infant Toddler	1	May 1, 2007
ECE - Infant Toddler	1	
ECE - Multicultural	3	May 1, 2007
ECE - Multicultural	3	
ECE - Music	1	Dec 1, 2006
ECE - Music	1	
Summary	89	



We Unlocked the Data!

Where can I find an empty classroom in the next 10 minutes for 40 students?

How many of my instructors are not teaching classes?

Who are the students and what is the trend?

What is the enroll today in History 10?

Grades – who is grading on the curve and who is giving all A's?

How successful is the program?

How many staff members are assigned to my department and do they work in other departments?





Phytorion Data Warehouse

- Customized approach, not turnkey
- Guided process to see what data was most useful
- Designed with us
 - Tables we wanted
 - Created derived fields
 - Our priorities
- True collaborative approach
- No black box!
- Best practice expertise



Phytorion Process

- Gather Analytical Requirements
- Design:
 - All Detail & School-specific Summaries
 - Full History & School-requested Snapshots
 - Bridges, Derivations, Security, Hierarchy
- Fully-functioning Prototypes
- Code & Test (over 220 tests)
- Knowledge Transfer from very beginning
- Any errors, we'll fix for free even a year or more later





Phytorion Process

10th Day Snapshot

Attribute	Source Table	Source Column	Sourcing Instructions	Description
MAJOR1	PS_ACAD_PLAN	ACAD_PLAN	WHERE PS_ACAD_PLAN.EMPLID = EMPLID, PS_ACAD_PLAN.ACAD_CAREER = ACAD_CAREER, STDNT_CAR_NBR = PRIMARY_STDNT_CAR_NBR, EFFDT = PROG_EFFDT, EFFSEQ = PROG_EFFSEQ, PLAN_SEQUENCE = 10	Major-1 – primary plan for the student's primary program for this academic career
CONCENTRATION1	PS_ACAD_SUBPLAN	ACAD_SUBPLAN	WHERE PS_ACAD_SUBPLAN.EMPLID = EMPLID, PS_ACAD_SUBPLAN.ACAD_CAREER = ACAD_CAREER, STDNT_CAR_NBR = PRIMARY_STDNT_CAR_NBR, EFFDT = PROG_EFFDT, EFFSEQ = PROG_EFFSEQ, PS_ACAD_SUBPLAN.ACAD_PLAN = MAJOR1 (above)	Concentration-1 – concentration for the student's primary program for this academic career
ACTIVE_STUDENT_FLAG			'Y' IF EXISTS (SELECT EMPLID FROM PS_STDNT_ENRL with CRSE_COUNT > 0, STDNT_ENRL_STATUS = 'E', and ENRL_STATUS_REASON = 'ENRL' WHERE PS_STDNT_ENRL.STRM = ACADEMIC_TERM AND PS_STDNT_ENRL.ACAD_CAREER = ACAD_CAREER) AND LEAVE_OF_ABSENCE_FLAG (below) = 'N'	Y/N flag indicating that this student is active for this term for this career



Phytorion Process

10th Day Snapshot

Attribute	Sourcing Instructions	Description
GRAD_SUSTAINER	<pre> IF ACAD_CAREER <> 'GRAD' THEN 'N' ELSE IF EXISTS (SELECT FROM PS_STDNT_ENRL for this EMPLID, STRM, ACAD_CAREER WHERE INSTITUTION = 'UOD01' AND PS_STDNT_ENRL_STATUS = 'E' AND PS_STDNT_ENRL.CLASS_NBR = PS_CLASS_TBL.CLASS_NBR AND PS_CLASS_TBL.SUBJECT = 'UNIV' AND PS_CLASS_TBL.CATALOG_NBR = '999' AND PS_CLASS_TBL.CLASS_SECTION = '011' (IGNORE PS_CLASS_TBL KEYS: CRSE_ID,CRSE_OFFER_NBR, STRM,SESSION_CODE,CLASS_SECTION)) THEN 'DS' ELSE IF EXISTS (SELECT FROM PS_STDNT_ENRL for this EMPLID, STRM, ACAD_CAREER WHERE INSTITUTION = 'UOD01' AND PS_STDNT_ENRL_STATUS = 'E' AND PS_STDNT_ENRL.CLASS_NBR = PS_CLASS_TBL.CLASS_NBR AND PS_CLASS_TBL.SUBJECT = 'UNIV' AND PS_CLASS_TBL.CATALOG_NBR = '899' AND PS_CLASS_TBL.CLASS_SECTION = '011' (IGNORE PS_CLASS_TBL KEYS: CRSE_ID,CRSE_OFFER_NBR, STRM,SESSION_CODE)) THEN 'MT' ELSE IF EXISTS (SELECT FROM PS_STDNT_ENRL for this EMPLID, STRM, ACAD_CAREER WHERE INSTITUTION = 'UOD01' AND PS_STDNT_ENRL_STATUS = 'E' AND PS_STDNT_ENRL.CLASS_NBR = PS_CLASS_TBL.CLASS_NBR AND PS_CLASS_TBL.SUBJECT = 'UNIV' AND PS_CLASS_TBL.CATALOG_NBR = '895' AND PS_CLASS_TBL.CLASS_SECTION = '011' (IGNORE PS_CLASS_TBL KEYS: CRSE_ID,CRSE_OFFER_NBR, STRM,SESSION_CODE)) THEN 'MN' ELSE 'N' </pre>	Graduate Sustainer indicator: values = DS (Doctoral Sustainer), MT (Masters with thesis), MN (Masters, no thesis), N (Not a graduate Sustainer)



The Impact on Our Organization

- It has helped us deal with the real
- Appropriate level of information vs. buried in details
- One version of the facts
- Information directly in the hands of decision makers
- Reporting led us from losing income to meeting enrollment targets
- Timelines for decision making are shorter





We Started out with One Analyst

- Installed and deployed Cognos BI Reporting
- Installed Cognos Enterprise Planning and implemented a strategic enrollment management model
- Built Framework Manager models
- Created college-wide security
- Trained Business Analysts





What We Have Accomplished

- Web based reporting from anywhere on campus
- Flexibility to empower the user community
- Access to the data needed to manage by exception
- Less reliance on IT to provide ad hoc and complex reports
- The ability to aggregate and organize information quickly for decision making





Plans for Early 2008

- Build out Human Resources
- Expand Financials
- Create role based dashboards
- Create more self service reporting
- Move most of the reporting to the Data Warehouse



Our Next Steps

- Scorecards that track progress against objectives
- Scheduled reports delivered to desktops
- Event notification
- Create drill down reports for users who want the details or just the big picture
- Set up dashboards with personalized centers to monitor performance





Closing Thoughts

- Prioritize goals and plan
- Determine the right solution and think about a phased approach
- Tools for middle management
- ROI: Improved reporting and analysis capabilities
- Complex reports are now effortless reports





Thank You



PHYTORION

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