



Turning Data into Sales Using IBM Cognos Express and SPSS Predictive Analytics Session 2955

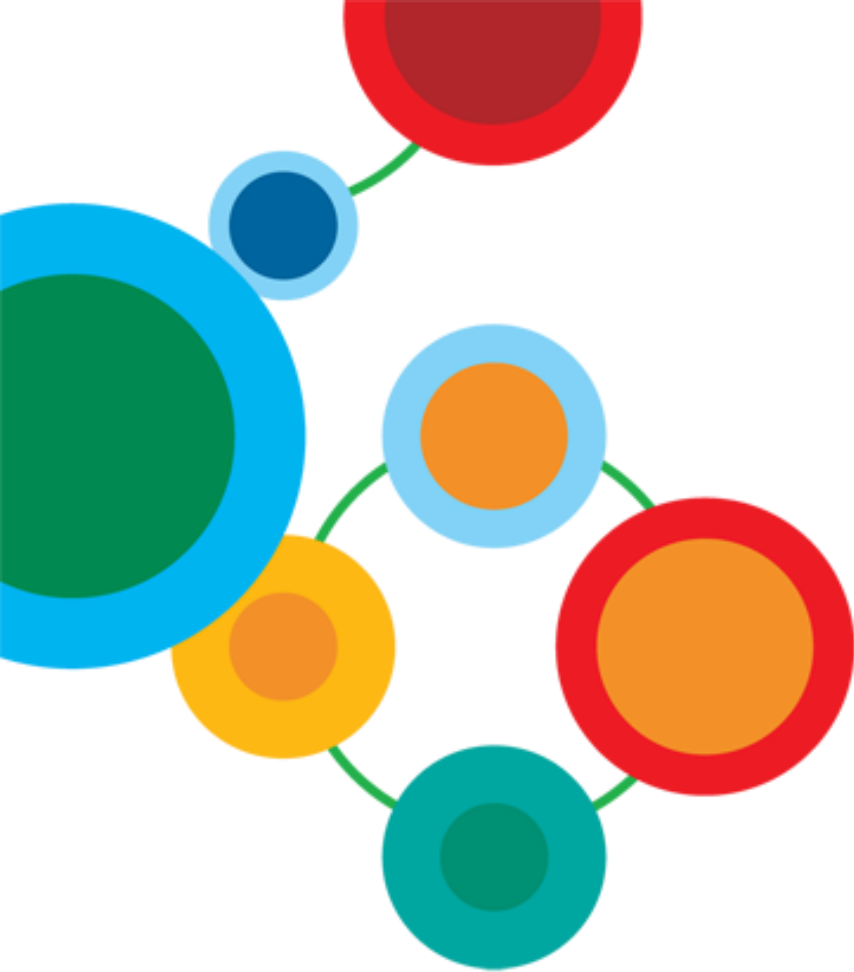
Gavin Rasco, Mentoring Minds
Chad Erman, LPA Systems

Critical Thinking for Life!
Mentoring Minds

LPA SYSTEMS

IBM Software

Information On Demand **2011**



Agenda

- Speaker Background
- Company Background
- Business Challenges & Pains
- Solution Success Criteria
- Timeline
- SPSS and Predictive Analytics
 - Challenge & Solution
 - Solution Overview
- Business Intelligence
 - Strategy
 - Success Criteria
 - Challenges
 - Solution Deep Dive
- Benefits & ROI
- Lessons Learned
- What's Next?
- Advice & Tips
- Q & A



Speaker Background

- Gavin Rasco, Director of Marketing, Mentoring Minds
 - 5 years as Director of Marketing for Mentoring Minds
 - Responsible for “anything a customer sees”
 - Website
 - Promotional Material
 - Press Releases
 - Direct Mail
 - And much more...
- Chad Erman, Regional Manager, LPA Systems
 - Former Cognos Customer - Involved In or Led the Cognos/Data Warehouse Enterprise-Wide Implementations for 3 Industry-Leading Companies
 - 2008 IBM Operational Excellence Award Winner (Southwestern Energy)
 - 3-time IBM Information Champion
 - 11 Years of Cognos BI Experience
 - 13 years of Data Warehousing Experience
 - Industry Knowledge: Energy, Hospitality, Manufacturing, Health Care, Supply Chain





Company Background

Mentoring Minds is an educational publisher focused on creating a successful learning environment for children.

- Founded in 2002 by Michael Lujan, an assistant principal at the time, Mentoring Minds was the brainchild of an idea to make teachers' jobs easier while creating more conducive learning environments for children.
- Our products are developed to not only be a resource for educators, but to provide clear, concise direction for children as they go throughout their schooling
- Products come in the form of educator flip charts, educational wheels, workbooks and flashcards
- Topics covered range from the core subjects of Mathematics and Reading to dealing with relevant issues such as bullying, response to intervention and higher-order thinking.
- Based in Texas, we operate throughout the United States and do business with schools in the public, private and parochial spaces with grades ranging from Kindergarten to 12th grade.



Business Challenges and Pains

It's interesting that it's always challenges and not just a challenge...

- Our root problem can be defined in the following places:
 - Data integrity
 - Generation of manual reports
 - Access to timely information for decision making
 - Always looking behind to make decisions about the future
 - “Shooting from the hip” while making “gut” decisions





Solution Success Criteria

We needed a system that was...

- Easy to implement
- Easy to use
- Customizable
- Scalable
- Delivered actionable results
- Allowed access to results across geographic borders
- Able to easily repeat routine tasks/reports
- Able to combine multiple data sources into one outlet



Timeline

Fall 2007 - SPSS/PASW Modeler

- Quick implementation
- Dedicated time for training and education
- Get in and get dirty

Spring 2010 – Cognos Express Implementation

- Two-week implementation window
- Minimal follow-up to get data structured
- Using the reports from LPA Sales Analytic for Express (SAFE), we instantly had dashboards and results





SPSS and Predictive Analytics

SPSS and Predictive Analytics

Challenges

- Customers were targeted based on “hunches”
- No distinguishing between levels of customers
 - Acquisition vs. Retention
 - High value vs. Low value
- No perception of customer profiles
- Limited capabilities with existing software
- Always looked in the rearview mirror
- Data integrity
- All customers were treated the same

Solutions

- Discover a solution that provided timely, actionable results
- Reduce the amount of manual labor and input diversification
- Find a solution that provided customer segmentation and action backed by data
- Data manipulation tool



SPSS and Predictive Analytics in Action

- Market Basket Analysis

Consequent	Antecedent	Support %	Confidence %
Behavior Guide = T	partname_Accommodations Wheels = T and partname_Intervention Strategies Guide = T and partname_Master Instructional Strategies Flip Chart = T	6.59	88.56
Intervention Strategies Guide = T	partname_Accommodations Wheels = T and partname_Behavior Guide = T and partname_Master Instructional Strategies Flip Chart = T	6.66	87.68
Behavior Guide = T	partname_Accommodations Wheels = T and partname_Intervention Strategies Guide = T	10.27	82.75
Intervention Strategies Guide = T	partname_Accommodations Wheels = T and partname_Behavior Guide = T	10.73	79.20
Behavior Guide = T	partname_Accommodations Wheels = T and partname_Master Instructional Strategies Flip Chart = T	8.73	76.32
Behavior Guide = T	partname_Bully Guide = T	6.92	76.30
Intervention Strategies Guide = T	partname_Accommodations Wheels = T and partname_Master Instructional Strategies Flip Chart = T	8.73	75.56



SPSS and Predictive Analytics in Action

- Used historical data to “predict” the next likely purchase

The screenshot shows a Microsoft Excel spreadsheet titled "Upsell Targets - Microsoft Excel". The spreadsheet contains a table with the following columns: Full Institution Name, Location State, itemname, Sample Item, and SAC-243 fields-1. The data rows list various schools and their associated items. Two red arrows point to the 'itemname' and 'Sample Item' columns.

	E	H	N		P
	Full Institution Name	Location State	itemname	Sample Item	SAC-243 fields-1
1	Yulee Primary School	FL	Pre Referral Wheel	itemname_Critical Thinking Wheels	0.66
2	Seminole Springs Elementary School	FL	Critical Thinking Wheels	itemname_Accommodations Wheels	0.69
3	Crews Lake Middle School	FL	Master Instructional Strategies Flip Chart	itemname_Intervention Strategies Guide	0.79
4	Pace Center For Girls	FL	Behavior Guide	itemname_Accommodations Wheels	0.69
5	Pelham Elementary School	GA	Pre Referral Wheel	itemname_Critical Thinking Wheels	0.70
6	Franklin Co School District	FL	Behavior Guide	itemname_Accommodations Wheels	0.69
7	South Paulding High School	GA	Accommodations Wheels	itemname_Intervention Strategies Guide	0.70
8	Hilltop Elementary School	FL	Modifications Wheel	itemname_Critical Thinking Wheels	0.70
9	Alternative Centers	FL	Intervention Strategies Guide	itemname_Behavior Guide	0.67
10	Trinity Elem School	FL	Intervention Strategies Guide	itemname_Behavior Guide	0.61
11	Banks County Elementary School	GA	Accommodations Wheels	itemname_Intervention Strategies Guide	0.75
12	Coastal Academy	GA	Behavior Guide	itemname_Master Instructional Strategies Flip Chart	0.7
13	Ellijay Elementary School	GA	ADD / ADHD Wheels	itemname_Intervention Strategies Guide	0.70
14	Pathways Educational Program	GA	Intervention Strategies Guide	itemname_Behavior Guide	0.61
15	South Effingham Elementary School	GA	Behavior Guide	itemname_Intervention Strategies Guide	0.72
16	South Effingham High School	GA	Behavior Guide	itemname_Intervention Strategies Guide	0.72
17	South Effingham Middle School	GA	Behavior Guide	itemname_Intervention Strategies Guide	0.72
18	Crisp Co School District	GA	Behavior Guide	itemname_Intervention Strategies Guide	0.79
19	Clayton Co Public Schools	GA	Bully Guide	itemname_Behavior Guide	0.74
20	Clayton County Alternative School	GA	Bully Guide	itemname_Behavior Guide	0.74
21	Clayton County Success Academy	GA	Bully Guide	itemname_Behavior Guide	0.74
22	Hope Academy	GA	Behavior Guide	itemname_Accommodations Wheels	0.72
23	Mcclarin Alternative High School	GA	Critical Thinking Wheels	itemname_Behavior Guide	0.74
24	Richmond Hill Elem School	GA	Modifications Wheel	itemname_Accommodations Wheels	0.79
25	Richmond Hill High School	GA	Modifications Wheel	itemname_Accommodations Wheels	0.79
26	Richmond Hill Middle School	GA	Modifications Wheel	itemname_Accommodations Wheels	0.79



SPSS and Predictive Analytics in Action

- RFM Analysis

used to have frequent purchases, what caused them to stop?

Important Factors to remember - what is more important? R? F? M?

Frequency score * Monetary score * Recency score Crosstabulation

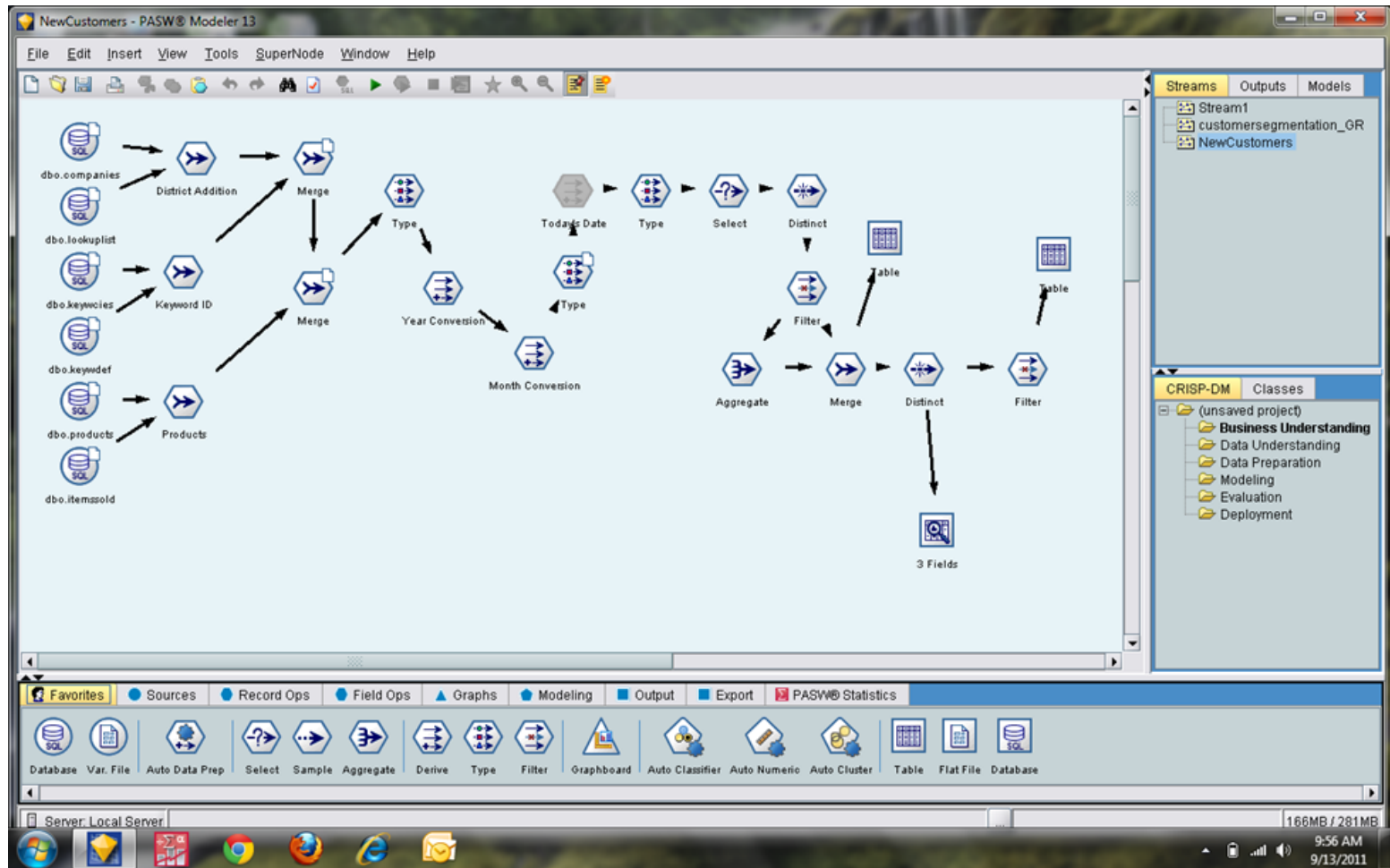
Count

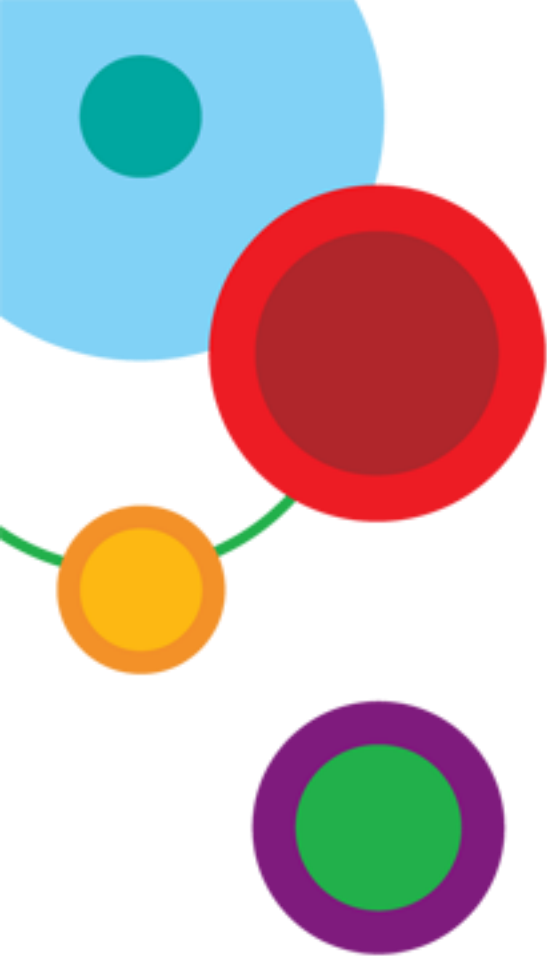
Recency score		Monetary score					Total
		1	2	3	4	5	
1	Frequency score	172	178	172	178	171	871
	3	100	112	108	105	106	531
	4	83	93	89	88	88	441
	5	108	109	109	109	108	543
	Total	463	492	478	480	473	2386
2	Frequency score	180	160	181	166	173	860
	3	125	131	128	128	128	640
	4	90	88	89	89	89	445
	5	84	85	85	85	85	424
	Total	479	464	483	468	475	2369
3	Frequency score	28	14	54	19	25	140
	2	197	155	163	181	176	872
	3	103	105	103	104	103	518
	4	78	79	78	79	78	392
	5	89	90	90	90	89	448
Total	495	443	488	473	471	2370	
4	Frequency score	181	160	177	172	174	864
	3	106	104	105	105	105	525
	4	103	104	104	104	104	519
	5	97	98	98	98	98	489
	Total	487	466	484	479	481	2397
5	Frequency score	98	141	119	121	117	596
	2	57	67	52	58	58	292
	3	102	102	103	102	102	511
	4	101	102	101	102	101	507
	5	94	94	95	94	94	471
Total	452	506	470	477	472	2377	



SPSS and Predictive Analytics in Action

- Data Manipulation





Business Intelligence



Cognos BI - Strategy

- Heavily involve Executive and Business teams (“Owners” of the current system)
- Think outside the box
- Engage a top-notch IBM partner to lead the charge
 - LPA Systems was selected





Who is LPA Systems?

- Founded in 2001
 - Offices in Rochester, NY and Houston, TX
 - 110+ active clients
 - 30+ new clients in 2010
 - 25+ new clients in 2011
 - 80%+ follow-on business
- An IBM Premier Business Partner (highest accreditation)
 - Partner since 2002
 - IBM Cognos-focused BI consultancy
- Extensive data warehouse experience
- Extensive consulting experience
 - Our Consultants have an average experience of 10+ years
 - Expertise in both Business Intelligence and Financial Performance Management products (planning)
- Industry Knowledge
 - Hospitality, Healthcare, Higher Education, Supply Chain, Distribution, Government, Energy
- Committed to the success of our customers



Business Intelligence – Success Criteria

- Easy to use and maintain
- Business team can “own” the solution without heavy reliance on IT
- Data from various sources integrates easily
- Must be flexible
- Must be scalable to support company growth



Cognos BI – Challenges & Solutions

Challenges

- Data integrity – multiple sources
- Consolidation of data
- Generation of reports were manual and not easily repeatable
- Access to timely information

Solutions

- Implemented LPA Sales Analytic for Express (SAFE)
 - Ready-built data warehouse and reporting datamart
 - Cognos
 - Pre-built framework, dashboards, reports, and ad-hoc models





Cognos in Action

- Customization and scalability for each department

The screenshot displays the IBM Cognos Express Reporter interface within a Windows Internet Explorer browser. The main content area is divided into three sections, each containing a data table:

YTD Sales Organization Performance (Actual Vs Plan)

Def Lvl 20 BK	Sale Amount	Plan Amount	Cost	Sale Quantity	Plan Quantity	Margin
<Def Lvl 20 BK>	<Sale Amount>	<Plan Amount>	<Cost>	<Sale Quantity>	<Plan Quantity>	<Margin>
<Def Lvl 20 BK>	<Sale Amount>	<Plan Amount>	<Cost>	<Sale Quantity>	<Plan Quantity>	<Margin>
<Def Lvl 20 BK>	<Sale Amount>	<Plan Amount>	<Cost>	<Sale Quantity>	<Plan Quantity>	<Margin>
Summary	<Total (Sale Amount)>	<Total (Plan Amount)>	<Total (Cost)>	<Total (Sale Quantity)>	<Total (Plan Quantity)>	<Calculated (Margin)>

MTD Sales Organization Performance (Actual Vs Plan)

Def Lvl 20 BK	Sale Amount	Plan Amount	Cost	Sale Quantity	Plan Quantity	Margin
<Def Lvl 20 BK>	<Sale Amount>	<Plan Amount>	<Cost>	<Sale Quantity>	<Plan Quantity>	<Margin>
<Def Lvl 20 BK>	<Sale Amount>	<Plan Amount>	<Cost>	<Sale Quantity>	<Plan Quantity>	<Margin>
<Def Lvl 20 BK>	<Sale Amount>	<Plan Amount>	<Cost>	<Sale Quantity>	<Plan Quantity>	<Margin>
Summary	<Total (Sale Amount)>	<Total (Plan Amount)>	<Total (Cost)>	<Total (Sale Quantity)>	<Total (Plan Quantity)>	<Calculated (Margin)>

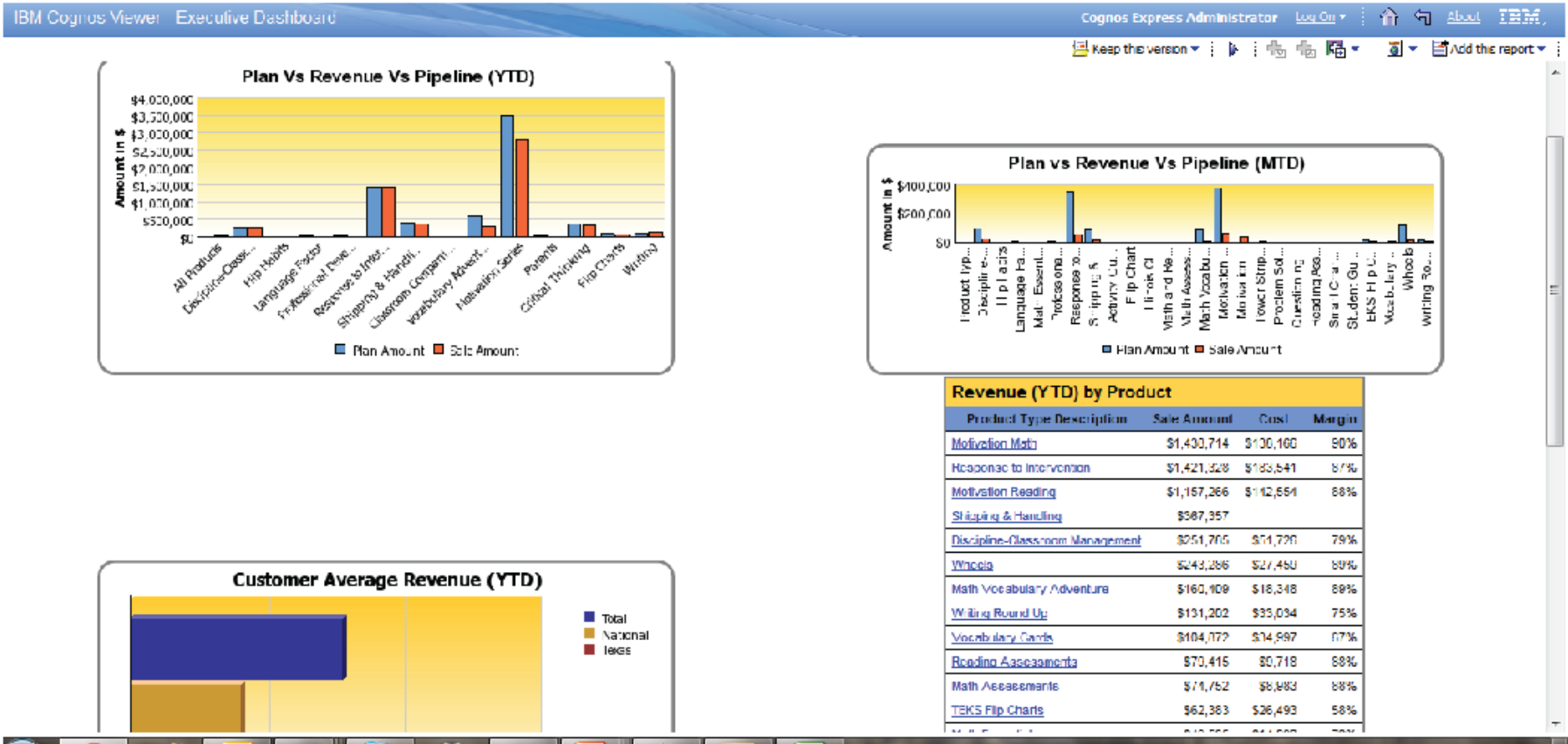
YTD Product Performance (Actual Vs Plan)

Def Lvl 20 Descr	Sale Amount	Plan Amount	Difference	Sold Qty	Planned Qty
<Def Lvl 20 Descr>	<Sale Amount>	<Plan Amount>	<Difference>	<Sold Qty>	<Planned Qty>
<Def Lvl 20 Descr>	<Sale Amount>	<Plan Amount>	<Difference>	<Sold Qty>	<Planned Qty>
<Def Lvl 20 Descr>	<Sale Amount>	<Plan Amount>	<Difference>	<Sold Qty>	<Planned Qty>
Summary	<Total (Sale Amount)>	<Total (Plan Amount)>	<Total (Difference)>	<Total (Sold Qty)>	<Total (Planned Qty)>

Below the MTD table, the text "Rolling 4-Month Pipeline by Sales Stage" is visible.

Cognos in Action

- Cognos dashboards allowed for a variety of information to be readily available





Benefits and ROI

- Dashboards and Sales View allowed us to have quick access to information for next steps in the company
- Since inception of SPSS Modeler and Cognos, we have:
 - Become the 2011 Texas Small Business of the Year
 - Market Campaigns with results like:
 - Over a 15% response rate
 - Using the market basket analysis and historical data, an upsell campaign was developed that had an avg response rate of 11%
 - Over 1000% ROI
 - The same campaign above had an avg ROI of 1,320%
 - Do more with less having a greater impact to our customers and increasing sales
 - Increase automation – able to grow substantially as a company without growing resources
 - Data manipulation is very easy and flexible
 - Actionable insight



Lessons Learned

- No matter how bad you think you're off...chances are there are several others out there with similar problems, if not worse
- Data...Data...Data...
 - Maintain data integrity and the possibilities are limitless
- Don't be afraid to think outside the box
- Quick wins or immediate results aren't months away



What's Next?

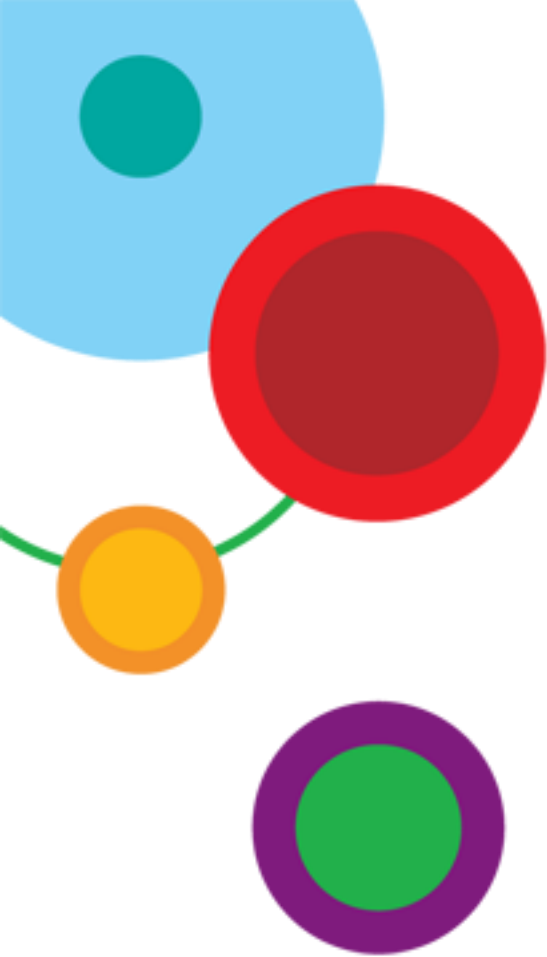
- Continued utilization as well as more in-depth application of the SPSS solutions
- Integration between SPSS and Cognos
- Increased usage and integration of Cognos throughout the organization
 - Expanded use among departments
 - Utilizing data from other software packages
- Success breeds success - Great things lead to more questions and more requests



Advice and Tips

- Ask questions
- There's no time like the present
- Find good partners to work with that can take your company from here to HERE!





Questions and Answers





Thank You!

Your Feedback is Important to Us

- Access your personal session survey list and complete via SmartSite
 - Your smart phone or web browser at: iodsmartsite.com
 - Any SmartSite kiosk onsite
 - Each completed session survey increases your chance to win an Apple iPod Touch with daily drawing sponsored by Alliance Tech