



MWSUG XX

Cleveland, Ohio
October 11-13, 2009

Demonstration of Organic Growth Modeling for B to B Marketing

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Visualytic Solutions, Inc.



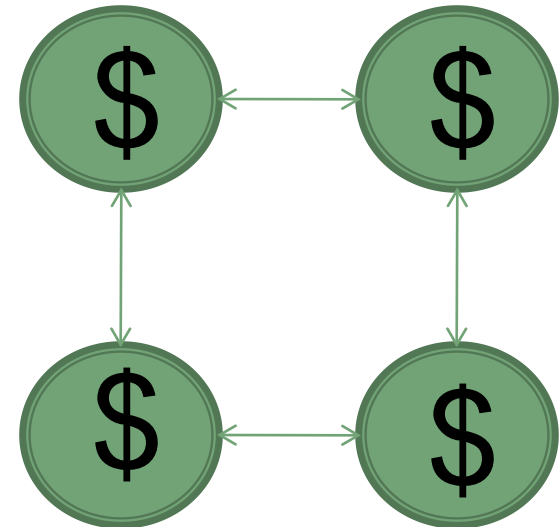


Business Objective:

- ▶ Increase Revenue through Organic Growth



- ▶ Cross Sell products to Existing customers



Data Available

- ▶ Internal Sales history
- ▶ External: Business demographic variables
 - Square Footage
 - Employee count
 - NAICS codes
 - Credit rating



JANUARY

S	M	T	W	T	F	S
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13	14	15	16	17	18	19
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27	28	29	30	31		

FEBRUARY

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MARCH

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APRIL

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MAY

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JUNE

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JULY

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AUGUST

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31						

SEPTEMBER

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27	28	29	30			

OCTOBER

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NOVEMBER

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23	24	25	26	27	28	29
30						

DECEMBER

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20	21	22	23	24	25	26
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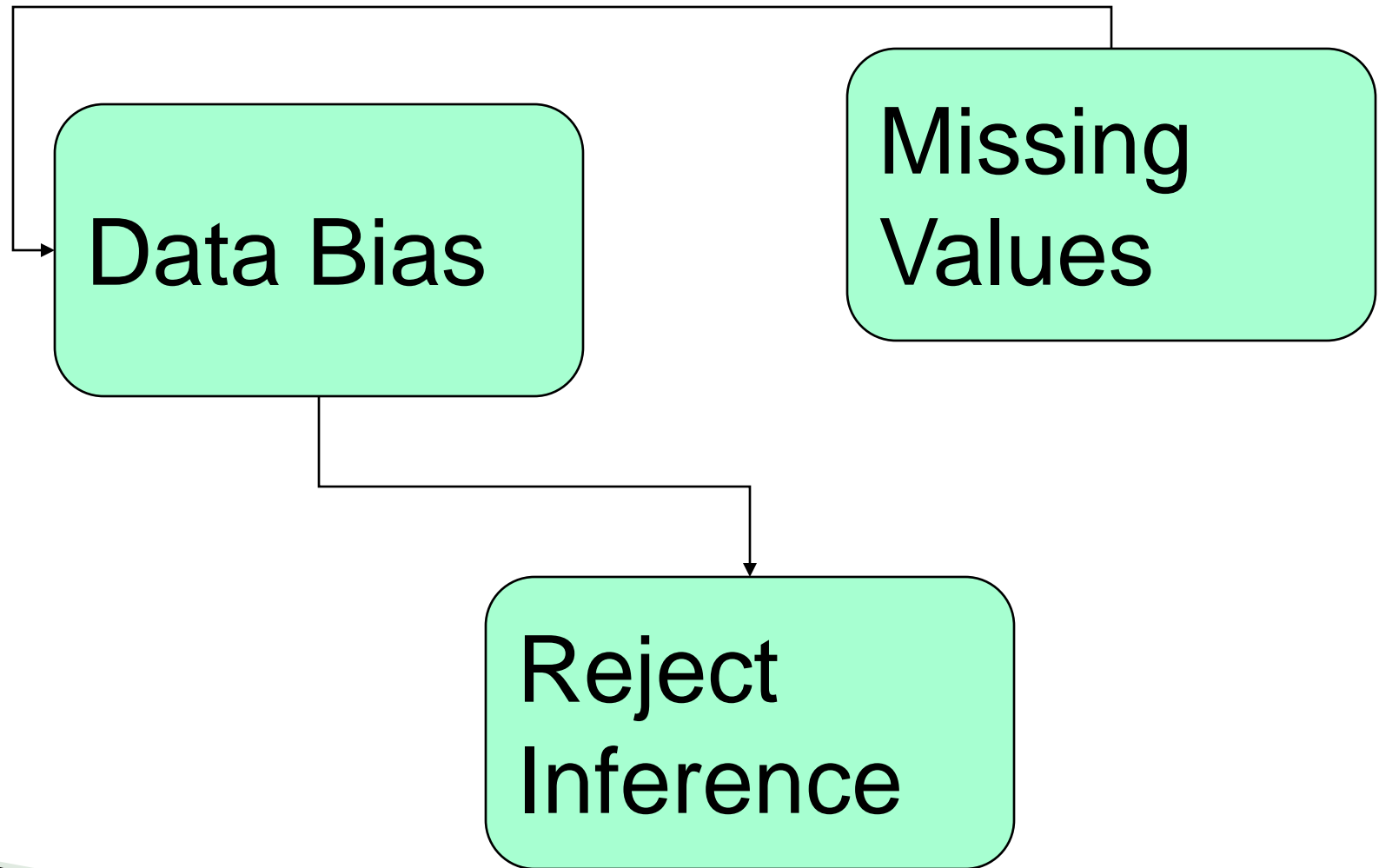
Variable Analysis

Variable
Selection

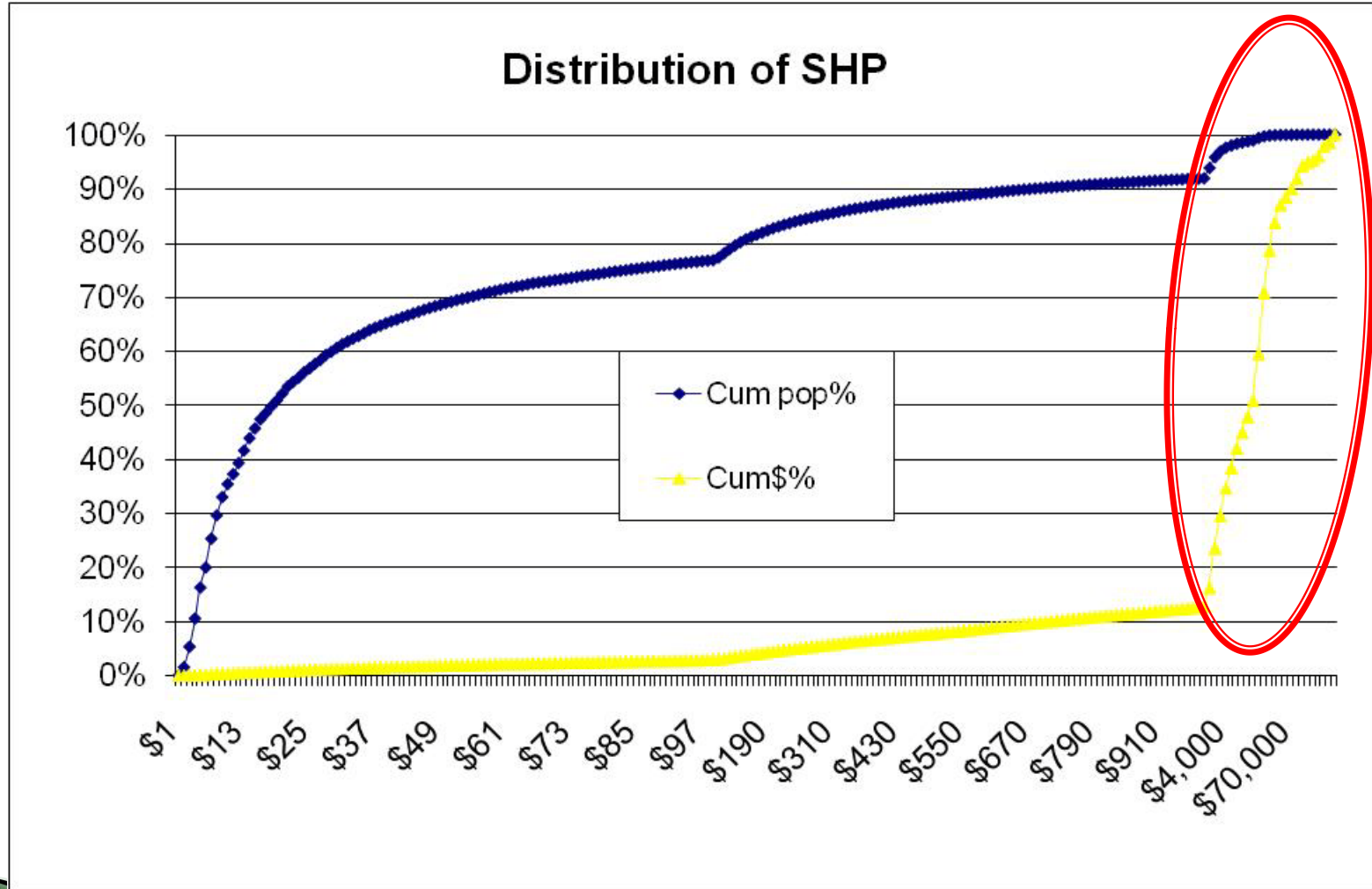
Exploratory
Data Analysis

Pattern
Visualization

Data Decisions



Dependent Variable Distribution



Two Tier Approach

Propensity to buy model

- ▶ Binary dependent variable
- ▶ Based on whole population
 - Buy/no buy for target product
- ▶ SAS STAT: Proc Logistic
- ▶ Independent variables:
 - Purchasers of other products
 - Business demographic variables

▶ Likelihood to Buy More

- ▶ Continuous variable – \$sales volume
- ▶ Based on purchaser population of product
- ▶ Enterprise Miner Decision Tree model
- ▶ Independent variables:
 - Other product sales
 - Business demographic variables

Is it a good model?

- ▶ Verify Model Fit Statistics and Analysis of Maximum Likelihood Estimates
 - Modify variables as needed
- ▶ Build in Error statistics
 - ASE
 - MAE
- ▶ Does it rank goods and bads well?
- ▶ Distribution and K-S

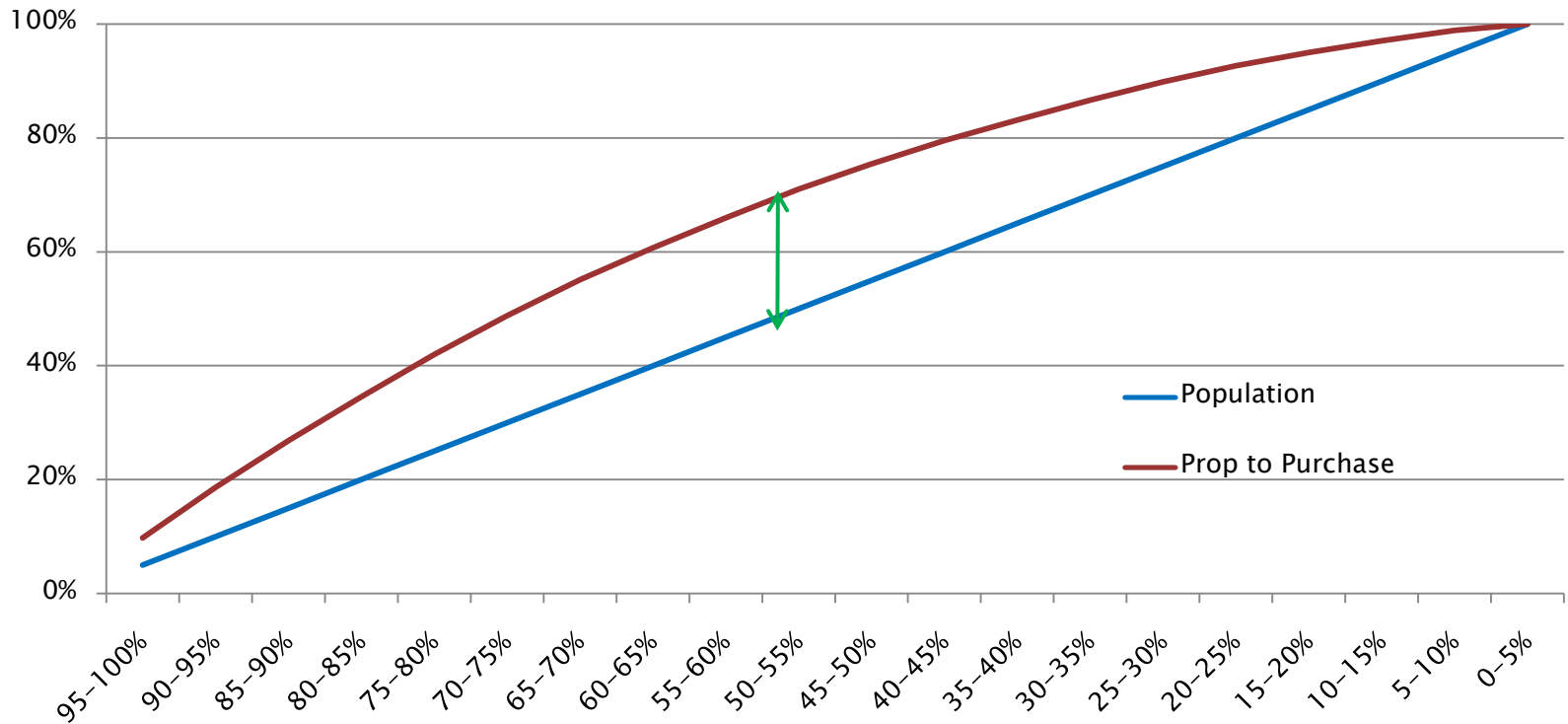
Score Distribution SHP Binary w/external Business data

of goods = 56208 , # of bads = 62424

Score in Percentile of Pop	Population	Cum pop#	%good	CUM % goods	Cum # bads	%bads	Cum % Bads	KS
95-100%	5,931	5,931	9.8	9.75	451	0.7	0.7	9.0
90-95%	5,932	11,863	8.9	18.6	1,407	1.5	2.3	16.4
85-90%	5,931	17,794	8.2	26.84	2,707	2.1	4.3	22.5
80-85%	5,932	23,726	7.7	34.51	4,326	2.6	6.9	27.6
75-80%	5,928	29,654	7.4	41.95	6,070	2.8	9.7	32.2
70-75%	5,934	35,588	6.8	48.77	8,173	3.4	13.1	35.7
65-70%	5,914	41,502	6.3	55.09	10,532	3.8	16.9	38.2
60-65%	5,942	47,444	5.6	60.69	13,325	4.5	21.3	39.4
55-60%	5,939	53,383	5.3	65.95	16,305	4.8	26.1	39.9
50-55%	5,933	59,316	5.0	70.97	19,419	5.0	31.1	39.9
45-50%	5,932	65,248	4.5	75.45	22,831	5.5	36.6	38.9
40-45%	5,931	71,179	4.1	79.51	26,478	5.8	42.4	37.1
35-40%	5,932	77,111	3.7	83.16	30,360	6.2	48.6	34.5
30-35%	5,932	83,043	3.5	86.63	34,344	6.4	55.0	31.6
25-30%	5,929	88,972	3.2	89.82	38,481	6.6	61.6	28.2
20-25%	5,934	94,906	2.9	92.68	42,805	6.9	68.6	24.1
15-20%	5,932	100,838	2.3	94.98	47,443	7.4	76.0	19.0
10-15%	5,924	106,762	2.0	97.02	52,219	7.7	83.6	13.4
5-10%	5,939	112,701	1.8	98.85	57,129	7.9	91.5	7.3
0-5%	5,931	118,632	1.1	99.98	62,424	8.5	100.0	0.0

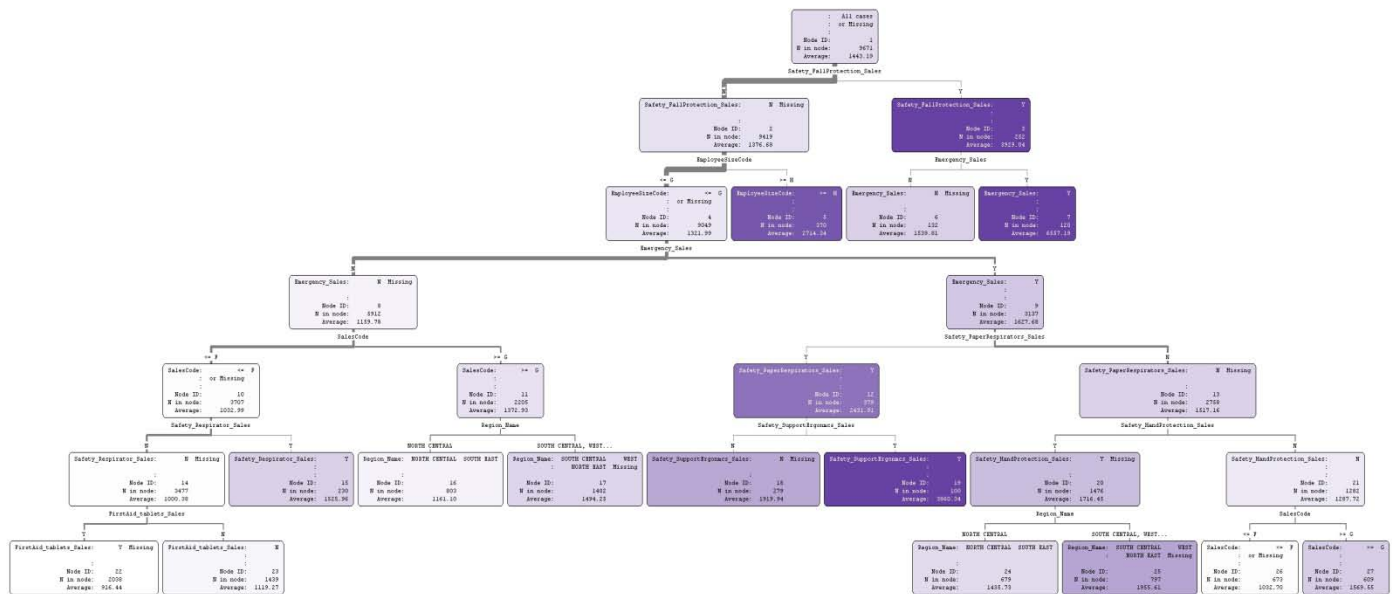
Propensity to Purchase SHP

Lift Chart



Volume-based Decision Tree

- ▶ Validate variable importance
- ▶ Rank End nodes best to worst
- ▶ Compare average prediction to actual sales
- ▶ Simple to implement strategy



SHP Volume Tree Distribution

Node	rank_SHP	Count	Cum Pop%	Avg Prediction
37	A	569	1.0%	10230.59
32	B	102	1.2%	7925.96
19	C	110	1.4%	5503.90
38	D	1017	3.2%	4292.32
20	E	163	3.5%	2251.05
14	F	155	3.8%	1687.01
39	G	1401	6.3%	1540.72
17	H	2068	9.9%	1474.95
33	I	569	10.9%	1267.22
35	J	120	11.2%	742.60
28	K	210	11.5%	726.72
18	L	4948	20.3%	682.81
16	M	1292	22.6%	589.14
13	N	1402	25.1%	559.85
22	O	7912	39.2%	308.98
34	P	12821	62.0%	190.07
25	Q	12038	83.4%	148.39
26	R	9311	100.0%	82.24

Demo

- ▶ Enterprise Miner Decision Tree example
- ▶ Q and A



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