



PREMIER Bankcard

The Development of a
“Good Customer Score”
for use in Customer
Acquisition, Rewards, Retention and Recovery

Rex Pruitt, PREMIER Bankcard, LLC, Sioux Falls, SD



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Introduction

Solving “Customer
Intelligence”
business problems

- Using Predictive Analytics to identify a “Good Customer”
- Development of a “Good Customer Score”



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Introduction cont....

Defining “Good Customers”

- To the CFO, a Good Customer is a one that generates high revenues with low expenses
- To the Operations Executives, a Good Customer is one that has good behavior & loyalty
- Combine both perspectives



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Introduction cont....

Why “Good
Customer Score”?

- Easy to integrate and achieve ROI
- Targeted Predictive Modeling
- Clarifies Retention Programs
- Identifies Cross Sell, Up-Sell Opportunities
- Enables Targeted Customer Acquisition
- Risk Mitigation (e.g., Delinquency)
- Reduce dependency on 3rd party scores



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Development

“Good Customer
Score” Development

- What data attributes describe a “Good Customer”
- Acquire the appropriate data
- Cleanse and adjust data for outliers



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Development cont....

Describe a
Good Customer

- Begin with simple questions focused on identifying the customer data attributes
- The logical programming result is “Good Customer Score (GCS)”



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Development cont....

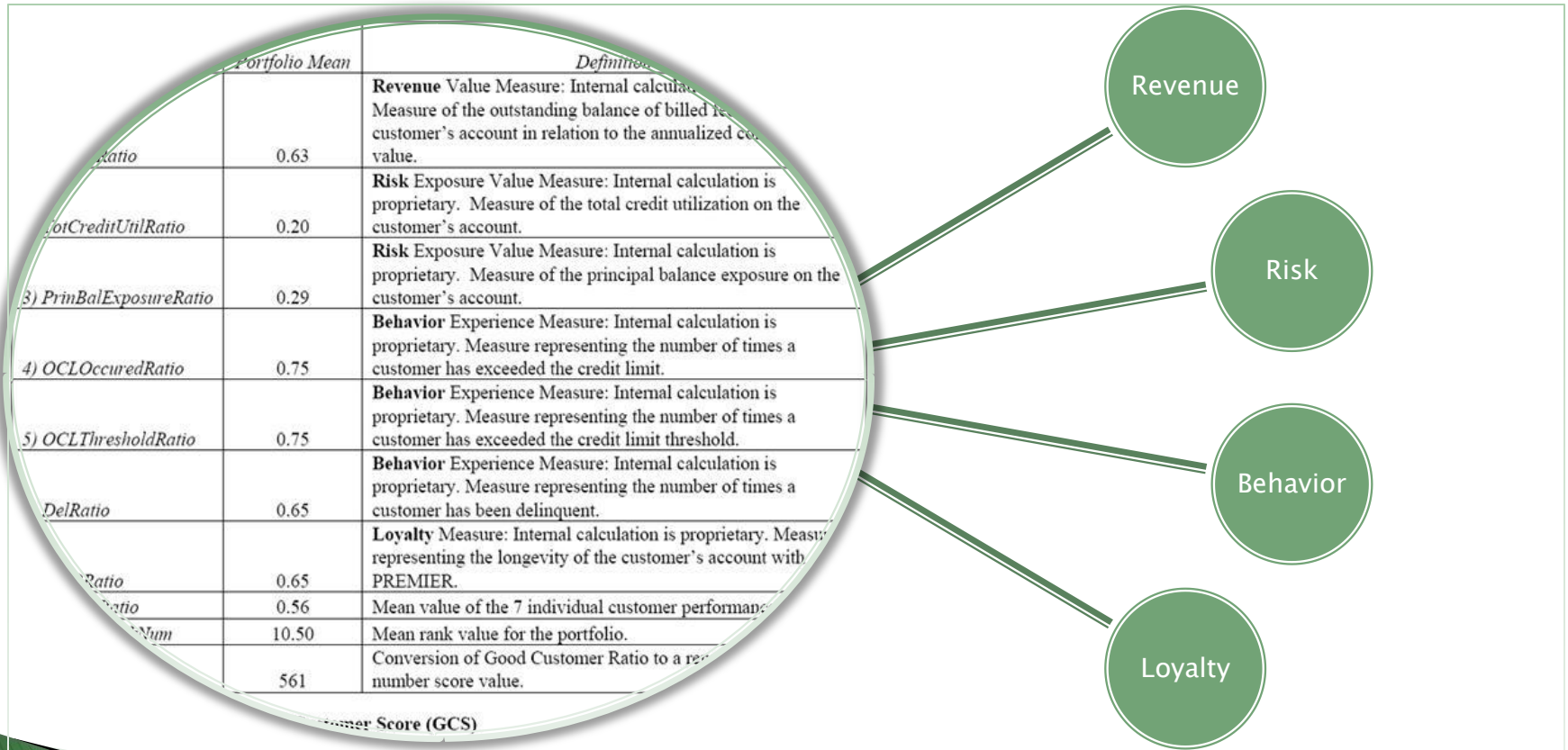
Key customer
performance
measures

- Weighting process to generate a ratio representative of a “Good Customer”
- The attributes used are noted in the “Definition Matrix” (next slide).



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Development cont....





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Development cont....

Portfolio Scoring
Objective

- Identify best to worst customers
- Clarified “target” segments and treatments (I.e., Acquisition, Rewards, Retention, Recovery)



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Development cont....

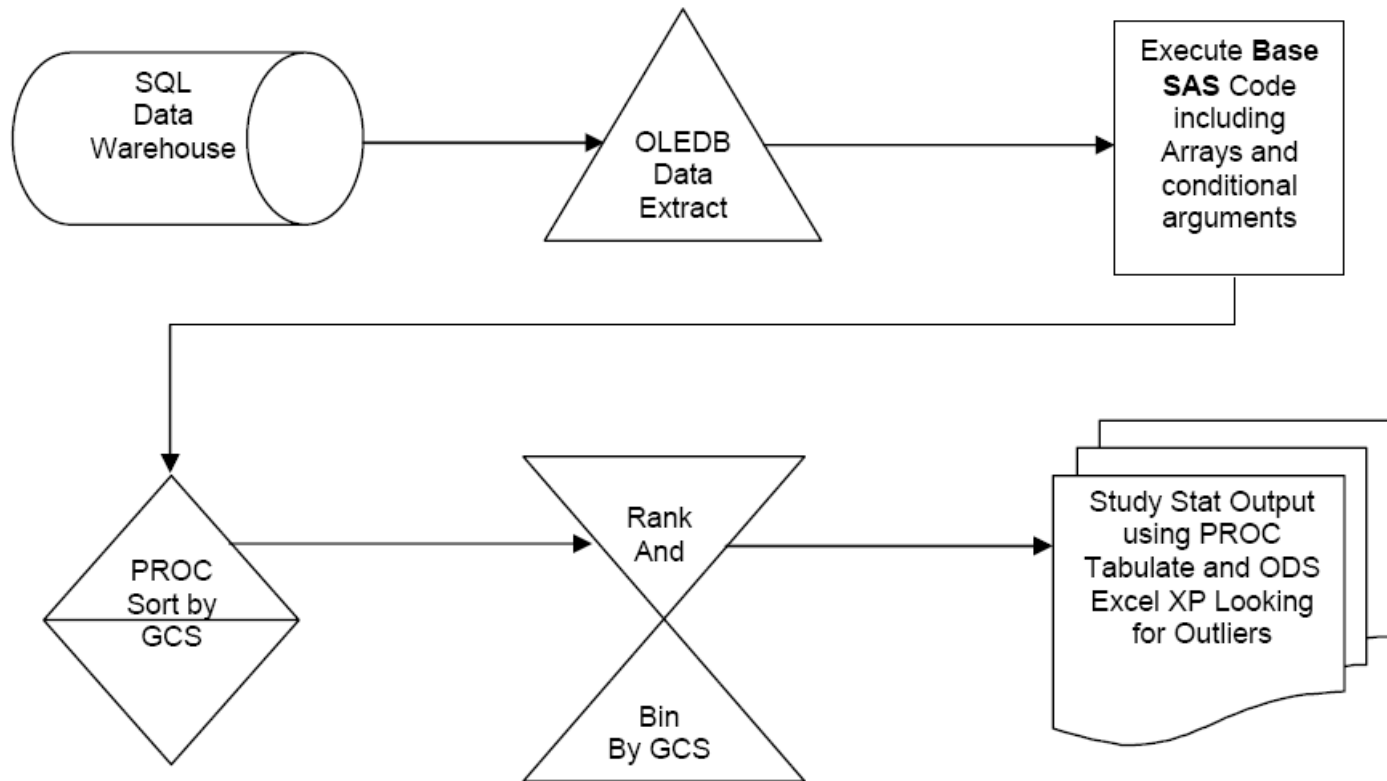


Figure 2. Base SAS Programming Flow Diagram



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Development cont....

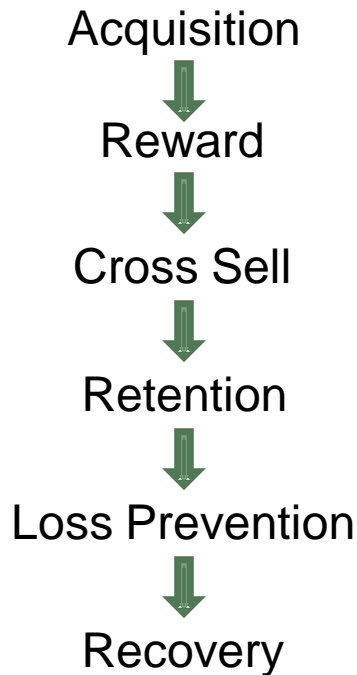
Rank and Bin
by GCS

- GCS Ranking & Binning
- Customer Segmentation
- Targeted treatment



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Predictive Analytics

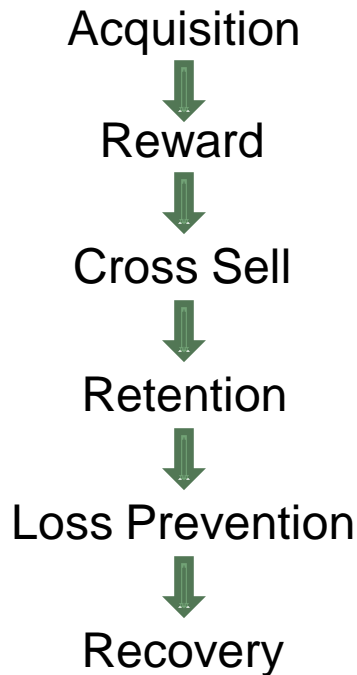


Good Customer Rank For Average Revenue per Account Per Year				Good Customer Score	
	Count	Avg NCFR/Yr	Col % Sum	Minimum Value	Average Value
1	168,666	\$270	6.20%	960	984
2	168,667	\$265	6.09%	880	919
3	168,667	\$271	6.22%	819	847
4	168,667	\$277	6.37%	782	799
5	168,667	\$282	6.47%	757	769
6	168,667	\$285	6.54%	741	749
7	168,666	\$288	6.62%	728	734
8	168,667	\$291	6.68%	717	722
9	168,667	\$295	6.78%	707	712
10	168,667	\$314	7.21%	695	701
11	168,667	\$318	7.30%	680	688
12	168,667	\$301	6.91%	662	671
13	168,667	\$279	6.41%	644	653
14	168,666	\$240	5.51%	619	633
15	168,667	\$153	3.51%	576	601
16	168,667	\$87	2.00%	397	495
17	168,667	\$31	0.70%	369	376
18	168,667	\$14	0.33%	357	358
19	168,667	\$23	0.54%	320	339
20	168,667	\$71	1.63%	0	105
Total	3,373,337	\$218	100.00%	0	643



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Predictive Analytics cont....



2+ Delinquency on Balance By Quartile	Total		
	Count	Balance	Col % Sum
Current	2,762,494	\$612,772,358	72.90%
030 Day Bucket	297,623	\$96,494,529	11.48%
2 +	313,220	\$131,308,113	15.62%
Total	3,373,337	\$840,575,001	100.00%

2+ Delinquency on Balance By Quartile	1-Top Quartile			2-Upper Middle Quartile		
	Count	Balance	Col % Sum	Count	Balance	Col % Sum
Current	809,260	\$112,753,830	95.79%	786,551	\$245,527,758	93.59%
030 Day Bucket	23,352	\$3,230,088	2.74%	38,126	\$11,207,198	4.27%
2 +	10,722	\$1,724,224	1.47%	18,657	\$5,601,943	2.14%
Total	843,334	\$117,708,142	100.00%	843,334	\$262,336,900	100.00%

2+ Delinquency on Balance By Quartile	3-Lower Middle Quartile			4-Bottom Quartile		
	Count	Balance	Col % Sum	Count	Balance	Col % Sum
Current	470,779	\$136,636,223	47.27%	695,904	\$117,854,547	68.73%
030 Day Bucket	152,418	\$55,527,400	19.21%	83,727	\$26,529,843	15.47%
2 +	220,137	\$96,898,197	33.52%	63,704	\$27,083,748	15.80%
Total	843,334	\$289,061,820	100.00%	843,335	\$171,468,139	100.00%



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Predictive Analytics cont....

Study Stat
Output

- The published [SAS® Global Forum paper 278-2009](#) contains additional detail about the Base SAS® tools utilized.
 - ODS ExcelXP Tagset
 - PROC Surveysselect
 - PROC Print
 - PROC Tabulate
 - Enterprise Miner



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Predictive Analytics cont....

“GCS”

Validation

- Chi-Square correlation table of 3rd party scores to GCS top 25%
- Score comparison exercise
- Great KS & Misclassification Rate



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Predictive Analytics cont....



	<u>Chi-Square Statistics</u>			
Input	Chi Square	Df	Prob	
BehavScore	6730.4037	289	<.0001	
QFICO	1952.8028	369	<.0001	
Fraud	1830.2613	98	<.0001	
SAS_JM1	1470.0137	93	<.0001	
SAS_JK2	1452.6677	97	<.0001	
ThinDex	896.1424	331	<.0001	
OriginalFICO	495.5547	325	<.0001	
Experian	442.7340	82	<.0001	
DMS	257.4743	100	<.0001	
AustinITA	237.6065	71	<.0001	
PreScr	203.4391	88	<.0001	
ITA	196.3312	78	<.0001	
AustinINT	148.2257	70	<.0001	
IntNet	143.3236	61	<.0001	



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Predictive Analytics cont....

Test Type	Fit Statistic	DmineReg3	Tree3	Reg3
0-Use Indicator	Model Selected (1=Yes, 0=No)	1.00	0.00	0.00
1-KS	Bin-Based Two-Way Kolmogorov-Smirnov Statisti	0.58	0.49	0.57
1-KS	Kolmogorov-Smirnov Statistic	0.58	0.51	0.57
2-GINI	Gini Coefficient	0.74	0.54	0.64
4-Classification	Frequency of Classified Cases	8000.00	.	.
4-Classification	Misclassification Rate	0.15	0.16	0.16
4-Classification	Number of Wrong Classifications	1209.00	.	.



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GCS Results

Customer
Retention Program

- GCS will reduce the attrition of PREMIER's "Top Good Customers" \geq 2 Years on Book
- GCS will generate an excess of \$15+ Million in annual revenue.



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GCS Retention Program Value...

Top 25% by MOB	1-Top Quartile									
	Count	Annualized NCFR		Retention of Best Customers					Good Customer Score	
		Sum	Col % Sum	% Revenue Loss	Loss Rate	Count Loss	\$ Revenue Loss	Save Value at 10%(est.)	Minimum Value	Average Value
00-06 MOB	42,258	\$9,345,268	3.88%						762	855
07-12 MOB	137,738	\$43,181,777	17.92%						762	869
13-24 MOB	260,416	\$82,776,641	34.36%						762	873
25-36 MOB	155,398	\$43,154,629	17.91%	16.45%		105,018	\$39,622,011	\$3,962,201	762	877
37-48 MOB	91,715	\$23,472,496	9.74%	8.17%		63,683	\$19,682,134	\$1,968,213	762	878
49-60 MOB	56,743	\$13,878,324	5.76%	3.98%		34,972	\$9,594,171	\$959,417	762	878
61+ MOB	132,197	\$25,117,773	10.43%						762	878
Total	876,465	\$240,926,907	100.00%			203,673		\$6,889,832	762	874

Top 26-50% by MOB	2-Upper Middle Quartile									
	Count	Annualized NCFR		Retention of Best Customers					Good Customer Score	
		Sum	Col % Sum	% Revenue Loss	Loss Rate	Count Loss	\$ Revenue Loss	Save Value at 10%(est.)	Minimum Value	Average Value
00-06 MOB	36,098	\$7,960,884	3.06%						685	716
07-12 MOB	178,393	\$55,892,757	21.46%						685	716
13-24 MOB	280,937	\$95,678,907	36.73%						685	722
25-36 MOB	136,760	\$41,142,443	15.79%	20.94%		144,177	\$54,536		685	723
37-48 MOB	79,039	\$21,974,973	8.44%	7.36%		57,721	\$19,167,470	\$1,916,747	685	723
49-60 MOB	47,422	\$12,623,341	4.85%	3.59%		31,617	\$9,351,632	\$935,163	685	724
61+ MOB	117,816	\$25,226,084	9.68%						685	723
Total	876,465	\$260,499,390	100.00%			233,515		\$8,305,557	685	721

Total Opportunity at only a 10% **\$15,195,388**



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GCS Cross-Sell Program Value...

Customer Cross-Sell Program

- Using the new score enabled the identification of a 2% increase in qualified candidates
- \$2.3+ Million annual revenue lift
- \$24 Million annual revenue lift by better targeting



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GCS Cross-Sell Program Value...

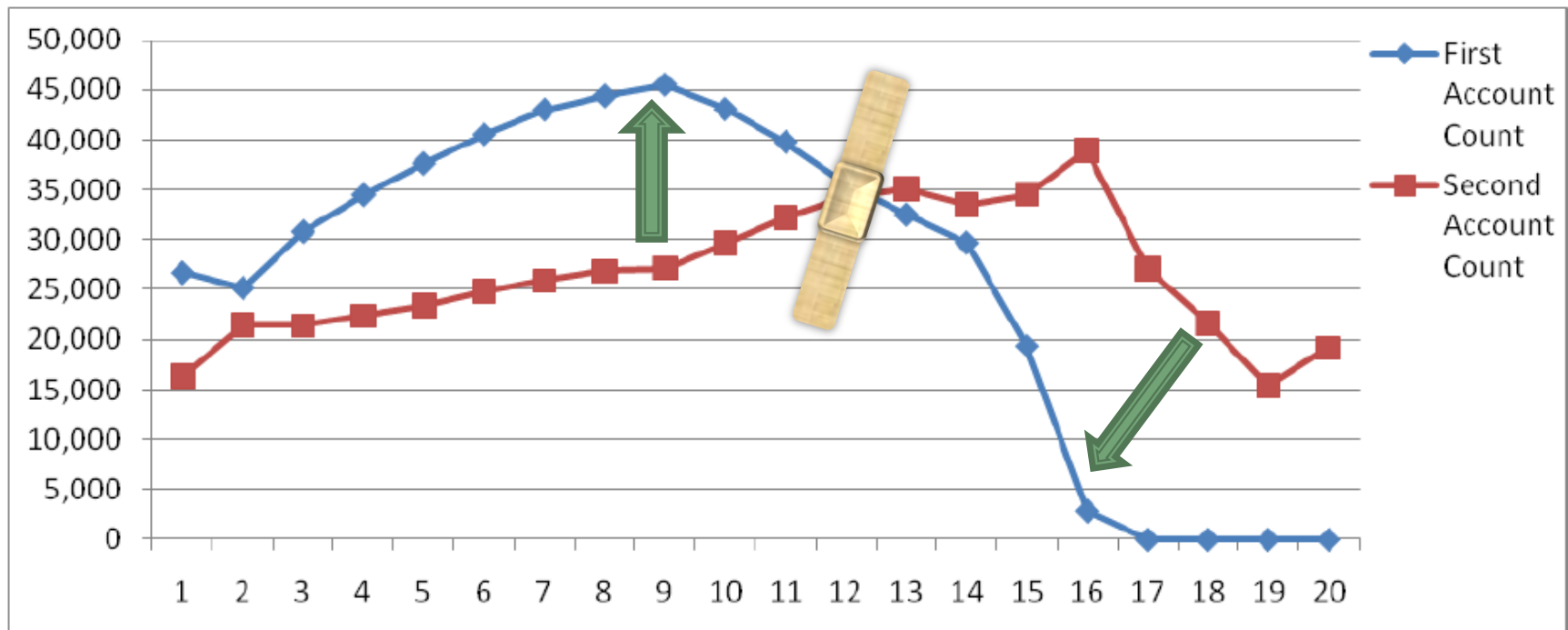
Multiple Account GCS Rank For Average Revenue per Account Per Year	All 1st & 2nd Accounts			Account			
				1		2	
	Count	Avg NCFR/Yr	Good Customer Score Minimum Value	First Account Count	Avg NCFR/Yr	Second Account Count	Avg NCFR/Yr
1	43,111	\$271	937	26,693	\$269	16,418	\$273
2	46,642	\$272	862	25,171	\$277	21,471	\$266
3	52,223	\$278	809	30,807	\$279	21,416	\$278
4	56,866	\$283	776	34,478	\$282	22,388	\$283
5	61,047	\$285	754	37,628	\$283	23,419	\$287
6	65,327	\$287	738	40,527	\$285	24,800	\$291
7	68,896	\$290	726	43,008	\$288	25,888	\$295
8	71,226	\$293	714	44,383	\$291	26,843	\$297
9	72,660	\$299	703	45,509	\$298	27,151	\$301
10	72,646	\$315	689	43,060	\$321	29,586	\$305
11	71,951	\$317	673	39,783	\$332	32,168	\$298
12	69,931	\$310	656	35,634	\$336	34,297	\$284
13	67,577	\$294	638	32,501	\$325	35,076	\$266
14	63,113	\$282	619	29,691	\$314	33,422	\$253
15	53,870	\$250	589	19,376	\$301	34,494	\$222
16	41,789	\$137	0	2,863	\$277	38,926	\$126
17	27,124	\$115	0	6	\$130	27,118	\$115
18	21,688	\$82	0	1	\$120	21,687	\$82
19	15,385	\$46	0	0	\$0	15,385	\$46
20	19,166	\$3	0	0	\$0	19,166	\$3
Total	1,062,238	\$267	0	531,119	\$299	531,119	\$235





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GCS Cross-Sell Program Value...



NOTE:

In order to get the "Second Account" to track closer to the "First Account," offer the "Second Account" to customers with a Good Customer Score ranking higher than 10. This will result in the mitigation of lost revenue on over 120,000 accounts. Thus, generating an annual revenue gain of \$24+ Million as a by-product of more accurately targeting "Good Customers."



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GCS Results Recap

“GCS” In
Production

- Implemented in Data Warehouse
- Retention Strategy Test in progress
- Cross-sell Testing in progress
- Developing Acquisition Tests



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GCS Results Recap cont....

Opportunity
Value:

- Retention Program \$15+ Million annually
- Acquisition Programs \$12+ Million annually
- Up-sell/cross-sell opportunities \$24+ Million annually
- Risk mitigation of delinquency & Charge-Off experience in the overall Portfolio \$10+ Million annually
- Eliminate 3rd party purchased score and dependant software = \$1.5+ Million annually



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Conclusion

Predictive Analytics
for Customer
Intelligence

- Generates huge lifts in revenue for the organization
- Makes it easier to venture into the huge amounts of internal customer data and achieve results



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Questions?



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Contact Information

Rex Pruitt
PREMIER Bankcard
PO Box 5114; Mail Drop #113
3820 N. Louise Ave.
Sioux Falls, SD 57117-5114
(605) 575-9810 – Office
(605) 575-9866 – Fax
rpruitt@premierbankcard.com