



We'll get you there.

CPAs | CONSULTANTS | WEALTH ADVISORS

Data Driven Banking: Unlocking the Power of Analytics for Growth and Success

David Heneke & Josh Juergensen



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Welcome



David Heneke
Principal
Financial Services



Josh Juergensen
Principal
Financial Services





Data at Your Bank

Data≠Digital (kind of...)

While data is often discussed with digital it is not digital, on its own. The means by which data is generated, stored, and processed is generally digital.

Data is CRITICAL to the success of your digital journey and is best harnessed and interpreted through digital means.



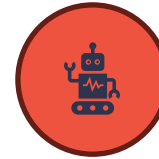
Current Digital Categories & Value Each Brings



Data



Chatbots



Automation/AI/Machine Learning



Faster Payment Infrastructure



Fintech (general)



Cybersecurity





Your Data Journey

Business Benefits of Investing in Data Analytics



Increase customer engagement and satisfaction (65%)



Productivity and efficiency (62%)



Employee engagement and satisfaction (49%)



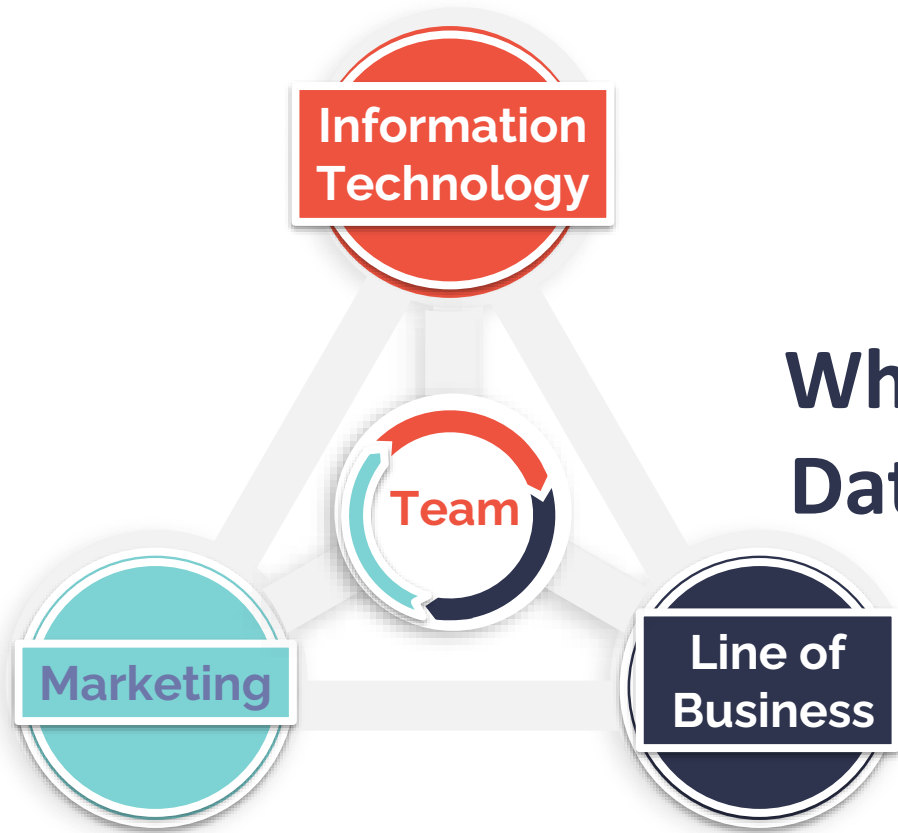
Product/service quality (45%)

Source: Harvard Business Review Analytic Services Survey, 2020



Steps to Begin Your Data Journey





Who Owns the Data Strategy?



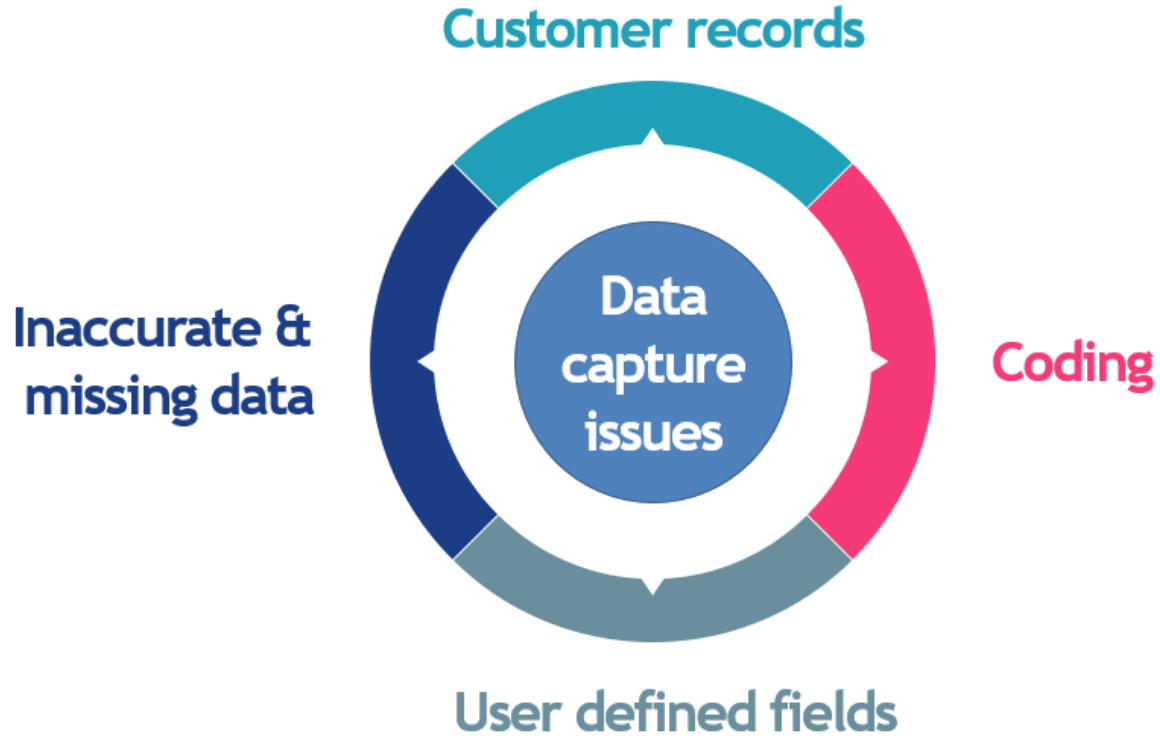


Data Governance

Data Governance Principles

- Data Governance Policy or Framework
- Data Discovery
 - Inventory
 - Classify Data (PII?)
 - Identify Ownership
 - Identify Storage Locations
- Data Security Best Practices
- Data Retention Policy
- Periodic QA/Validation
- Proactive Monitoring
- Communication
- Training
- Data Quality
 - Data Hygiene, Validity, Accuracy, Consistency, Integrity, Timeliness, and Completeness

Data Cleansing





Identify High Value Data and Sources

Define Transformational Data

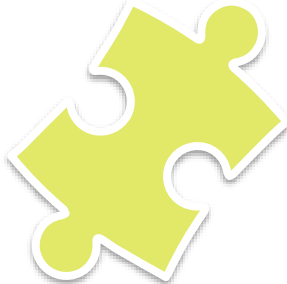
Identify high value data elements that drive your business

Customer



Strategic

**Sales
Management**



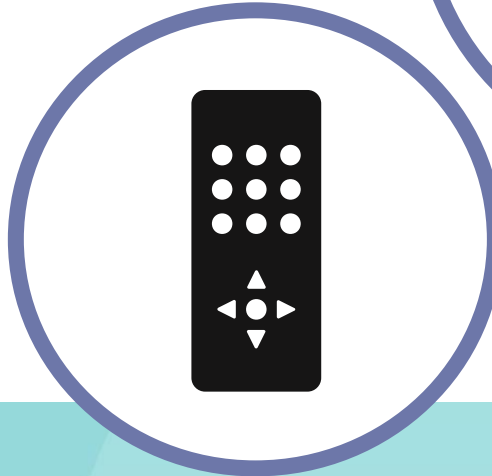
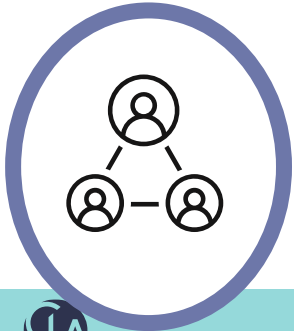
Risk



Data Alone Is JUST Data

Identify the High Value Data Points That Are Most Valuable to Improving Customer Engagement

- Demographics
- Geographics
- Life stage
- Relationship
- Products and Services Used Across ALL Channels
- Channel Preferences
- Spending Preferences
- Customer Profitability





Develop Data Warehouse Strategy

Build vs Buy Decision

Build

- Invest in Visualization Tool: Power BI, Tableau, Cognos, etc.
- Hire Business Intelligence Team to build dashboards
- Devote SME support/resources for dashboard build
- Devote internal validation / QA resources to ensure data integrity
- Technical support

Buy

- Out of the box dashboards – prebuilt – available on demand
- Speed to market
- No team needed
- Leverage industry and data expertise



Connect the Dots...Data Visualization



Enterprise communication using shared information



Interactivity allows for drill down into more detail



Same data set used Across the Bank



Able to process large amounts of complex data more quickly than with static reports



Self Service Access Across the Bank



Visualized concepts yield expedited decision capabilities





Leverage Your Data

Data Fundamental - Relational Databases



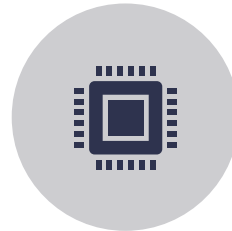
A relational database is when one table uses a unique identifier to look up records in another table



Understanding what makes a record unique



Unique identifiers: transaction ID, record number, vendor ID, employee ID, combination of fields



Relational databases are a common and useful way for data to be stored. Most encountered database utilize relational databases



Data Analytics Tools and Desired Capabilities



Analyze large sets of data efficiently



Work with many types of data



Robust analytical capability built in



Ability to program (macro, script) repeatable processes



Logging all procedures and work steps



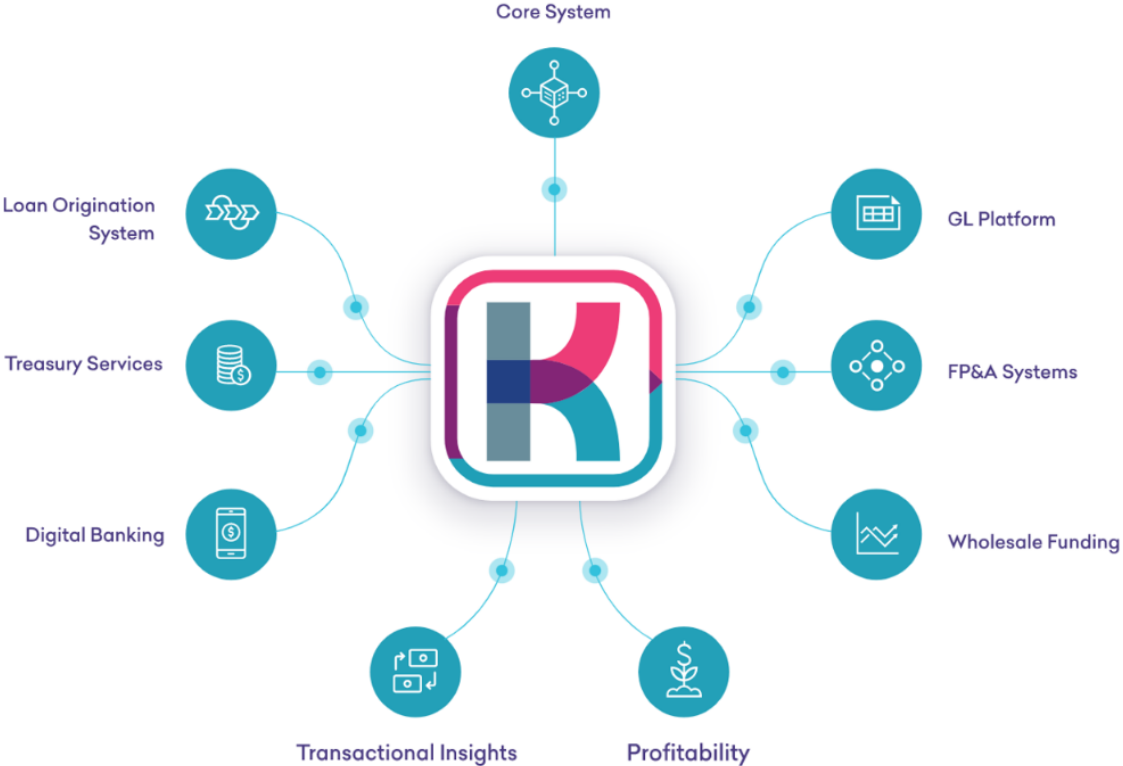
Read only



User friendly



Data Aggregation Example

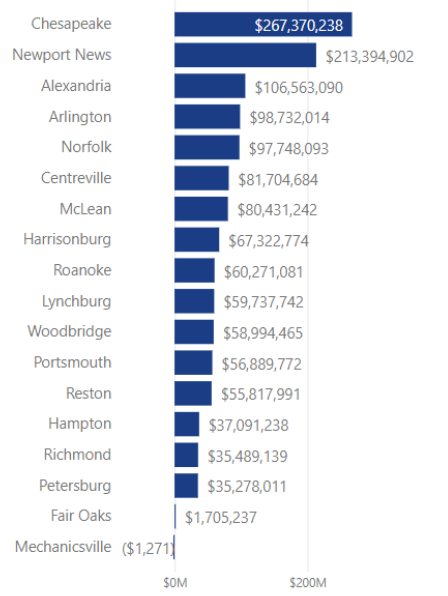


A Picture Is Worth A Thousand Words

← **Deposit Portfolio Summary**
 Date Selection: 11/14/2022

Market	Officer
Branch	Industry
Age Group	Interest Rate

Deposit Portfolio by Branch

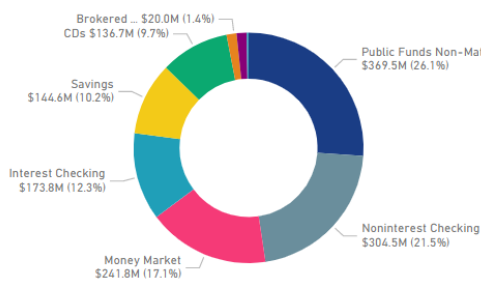


Total Deposits : \$1,414,540,441

(\$8,918,143) MTD Deposit Change

\$9,981,253 YTD Deposit Change

Deposit Composition



\$452,789,357 Top 25 Deposit \$

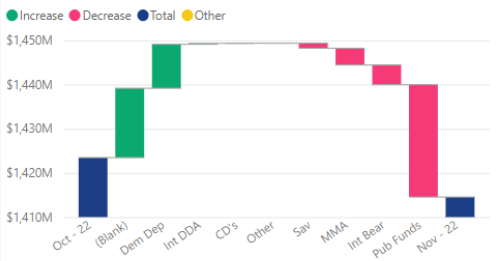
32.0% Top 25 Deposit %

\$36,677 Avg Bal/Cust

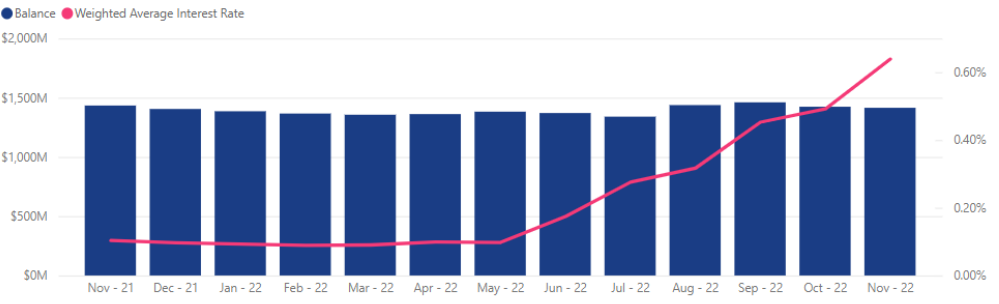
38,567 Number of Accounts

MTD	QTD	YTD	YOY
-----	-----	-----	-----

MTD Deposit Composition Change



Balance Trend	\$ New / Closed Accts Trend	# New / Closed Accts Trend	Enrollment Trend
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Microsoft Tools



POWER QUERY



POWER
AUTOMATE



POWER BI

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Binary Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning

Queries [7]

- RC (2)
- Asset Size Lookup
- ENT
- RICII
- RCRI
- RICI
- Asset Size Category

fx = Folder.Files("Y:\CLA Common\Industries\Financial Institutions\Share\Quarterly Call Report Data Nationwide\CECL Data\RICII")

	Content	Name	Extension	Date accessed	Date modified	Date created
1	Binary	FFIEC CDR Call Schedule RICII 03312020.xlsx	.xlsx	10/12/2021 7:08:20 PM	10/12/2021 12:40:51 PM	10/12/2021 7:08:19 PM
2	Binary	FFIEC CDR Call Schedule RICII 03312021.xlsx	.xlsx	10/12/2021 7:08:20 PM	10/12/2021 12:40:47 PM	10/12/2021 7:08:20 PM
3	Binary	FFIEC CDR Call Schedule RICII 03312022.xlsx	.xlsx	5/24/2022 2:09:25 PM	5/24/2022 2:07:31 PM	5/24/2022 2:09:25 PM
4	Binary	FFIEC CDR Call Schedule RICII 06302020.xlsx	.xlsx	10/12/2021 7:08:21 PM	10/12/2021 12:40:42 PM	10/12/2021 7:08:21 PM
5	Binary	FFIEC CDR Call Schedule RICII 06302021.xlsx	.xlsx	10/12/2021 7:08:23 PM	10/12/2021 12:40:38 PM	10/12/2021 7:08:22 PM
6	Binary	FFIEC CDR Call Schedule RICII 06302022.xlsx	.xlsx	8/19/2022 10:25:28 AM	8/19/2022 10:24:26 AM	8/19/2022 10:25:28 AM
7	Binary	FFIEC CDR Call Schedule RICII 09302020.xlsx	.xlsx	10/12/2021 7:08:24 PM	10/12/2021 12:40:33 PM	10/12/2021 7:08:23 PM
8	Binary	FFIEC CDR Call Schedule RICII 09302021.xlsx	.xlsx	11/16/2021 1:27:49 PM	11/16/2021 1:15:12 PM	11/16/2021 1:27:49 PM
9	Binary	FFIEC CDR Call Schedule RICII 09302022.xlsx	.xlsx	11/23/2022 9:34:27 AM	11/23/2022 9:27:15 AM	11/23/2022 9:34:27 AM
10	Binary	FFIEC CDR Call Schedule RICII 12312019.xlsx	.xlsx	10/28/2021 11:28:22 AM	10/28/2021 11:28:21 AM	10/28/2021 11:28:21 AM
11	Binary	FFIEC CDR Call Schedule RICII 12312020.xlsx	.xlsx	10/12/2021 7:08:25 PM	10/12/2021 12:40:30 PM	10/12/2021 7:08:24 PM
12	Binary	FFIEC CDR Call Schedule RICII 12312021.xlsx	.xlsx	3/5/2022 8:32:49 AM	3/5/2022 8:31:29 AM	3/5/2022 8:32:49 AM
13	Binary	FFIEC CDR Call Schedule RICII 12312022.xlsx	.xlsx	2/17/2023 1:28:13 PM	2/17/2023 1:24:19 PM	2/17/2023 1:28:13 PM



Query Settings

PROPERTIES

Name
RICII
All Properties

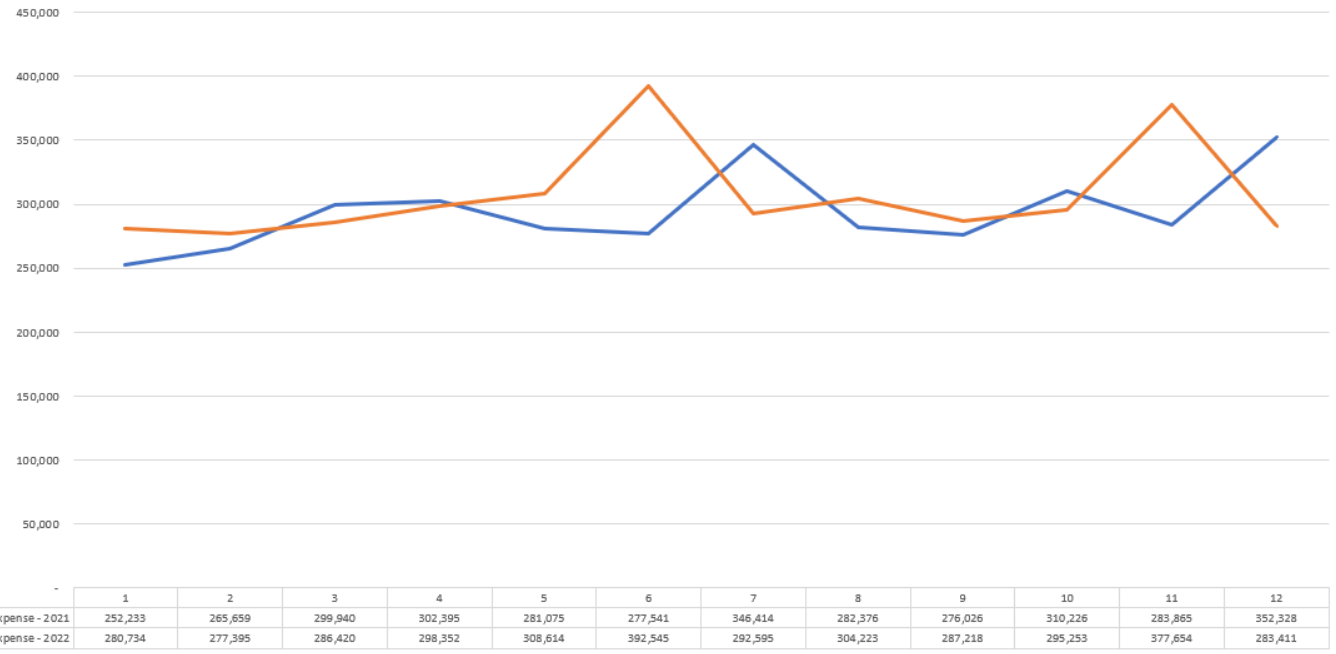
APPLIED STEPS

- Source
- Removed Columns
- Added Custom
- Expanded Data
- Removed Columns1
- Expanded Data.Data
- Promoted Headers
- Changed Type
- Removed Errors
- Split Column by Delimiter
- Changed Type1
- Removed Columns2
- Split Column by Position
- Removed Columns3
- Renamed Columns
- Added Custom1
- Reordered Columns
- Added Custom2
- Split Column by Position1
- Split Column by Position2
- Added Custom3
- Added Custom4
- Removed Columns4
- Changed Type2

- Grouping  
- Compensation Expense
 - Data Processing Expe...
 - Debt Interest Expense
 - Deposit Interest Expen...
 - Depreciation Expense
 - Equipment Expense
 - Income Tax Expense
 - Occupancy Expense
 - Other Noninterest Exp...
 - Provision for Loan Loss
 - Regulatory Assessments
 - ATM Fees
 - Deposit Service Charges
 - Gain on Sale of Loans
 - Gain/Loss on Sale of B...
 - Investment Interest In...
 - Loan Interest Income
 - Loan Origination Fees
 - Loan Service Charges
 - Other Noninterest Inc...
 - Servicing Expense
 - Servicing Fees
 - #N/A

Income/Expense ▾
Sum of Entry

Expense Trend Data



Grouping ▾
Year ▾
— Compensation Expense - 2021
— Compensation Expense - 2022

Mo. ▾



	A	B	C	D	E	F	G	H	I	J	K
1											
2	Max Credit	(Multiple Items)									
3											
4	Column Labels										
5	Line Usage %					Sum of Book Balance					
6	Row Labels	12/31/2019	3/30/2020	6/30/2020	12/31/2020	12/31/2021	12/31/2019	3/30/2020	6/30/2020	12/31/2020	12/31/2021
7	1A		100.00%					595,000			
8	1M	96.58%	100.00%	94.06%	91.72%	84.96%	2,610,000	6,255,000	2,991,000	4,023,516	3,514,000
9	1X					0.00%					-
10	2MM	66.29%	100.00%	68.57%	61.71%	78.40%	116,000	368,000	120,000	107,778	98,000
11	2XM	60.26%	63.64%	47.52%	50.30%	39.37%	11,952,000	3,912,000	9,159,000	8,516,425	7,141,000
12	2XQ	0.00%	75.00%	38.25%	67.75%	0.00%	-	300,000	153,000	271,440	-
13	6B		100.00%					675,000			
14	6M	78.77%	98.82%	70.69%	81.54%	86.76%	444,948,000	179,405,000	450,422,000	461,937,524	657,323,000
15	6Q	72.10%		67.40%	62.60%		721,000		674,000	625,760	
16	6S				94.81%	89.94%				1,350,794	2,136,000
17	6X	4.81%	9.54%	9.77%	8.96%	10.03%	504,000	659,000	7,357,000	10,614,618	13,005,000
18	7AM		100.00%					200,000			
19	7AQ		100.00%					60,000			
20	7MM	46.24%	54.82%	3.11%	11.99%		3,615,000	1,012,000	75,000	100,000	
21	7MS					71.33%					9,095,000
22	7XM	52.09%	50.34%	55.26%	57.42%	44.88%	217,893,000	84,596,000	220,837,000	221,153,959	136,121,000
23	7XQ	0.00%	0.00%	0.00%	0.00%	0.00%	-	-	-	-	-
24	7XS	71.78%		69.00%	65.56%	55.78%	646,000		621,000	589,590	516,000
25	7XX	0.00%	0.00%	0.00%	0.00%	0.00%	-	-	-	-	-
26	Grand Total	66.11%	72.92%	60.12%	64.02%	66.64%	683,005,000	278,037,000	692,409,000	709,291,405	828,949,000



Date

12/31/2023

Bank Name

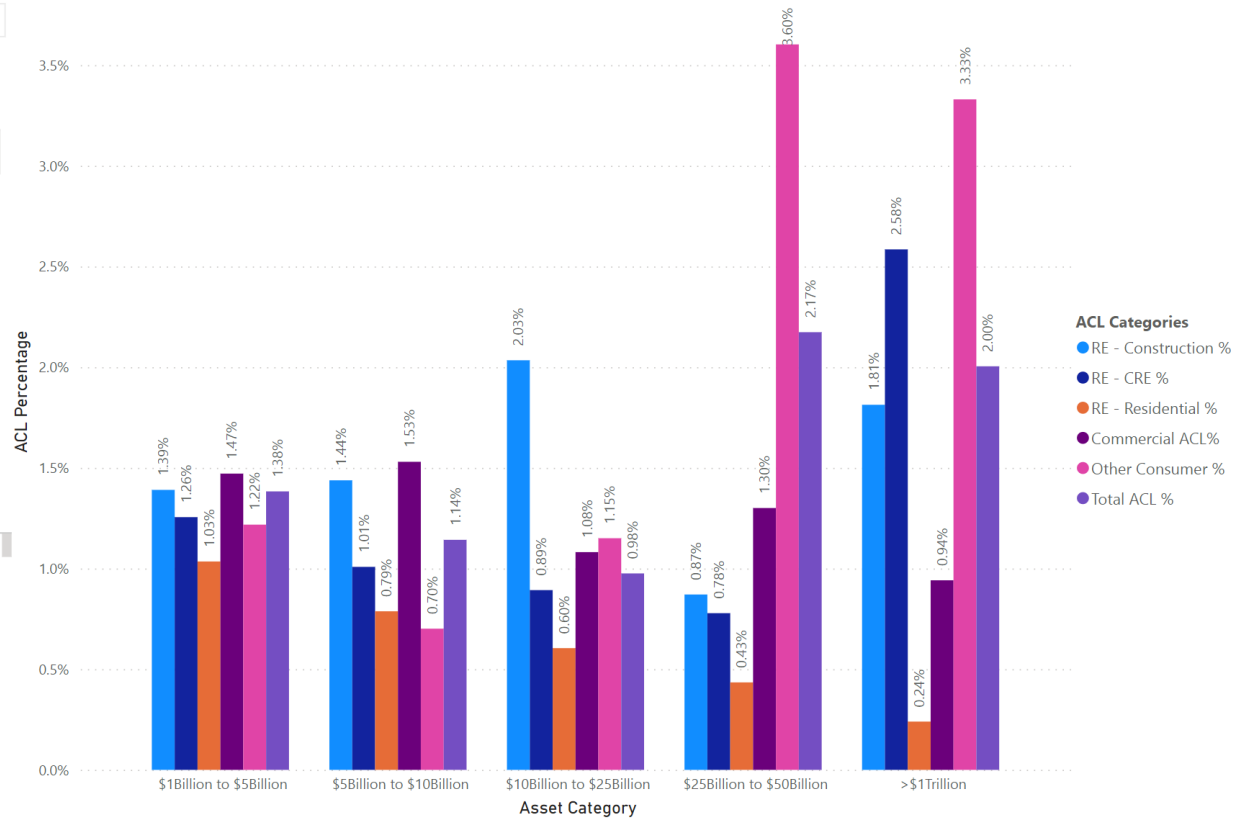
- Search
- 1ST Advantage Bank Saint Peters, MO
 - 1st Cameron State Bank Cameron, MO
 - 1st Financial Bank USA Dakota Dunes, SD
 - 1ST United Bank Faribault, MN
 - 21st Century Bank Loretto, MN
 - 231 Vergas State Bank Vergas, MN
 - Academy Bank, N.A. Kansas City, MO
 - Access Bank Omaha, NE
 - Adams Bank & Trust Ogallala, NE
 - ADAMS COUNTY BANK KENESAW, NE
 - ADAMS STATE BANK ADAMS, NE
 - Adrian Bank Adrian, MO
 - Adrian State Bank Adrian, MN

STATE_ABBR_NM

- Search
- (Blank)
 - AK
 - AL
 - AR
 - AZ
 - CA
 - CO

**HOLD CONTROL TO AND
CLICK ITEMS TO SELECT
MULTIPLE ITEMS**

ACL Percentages by Asset Size





Questions?



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