

arkatechture

Become data-driven.



Beyond Business Intelligence: Leveraging Your Data as a Strategic Asset

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A BIT ABOUT arkatechure



Arkatechure is a technology company and CUSO dedicated to empowering credit unions with a better understanding of their members, loans, cards, and transactions through data.



We are a team of data lovers and technical experts who use our skills to help credit unions of all sizes harness, utilize, and optimize their data to better serve their members.



 **Data Strategy**

 **Workbenches**

 **Dashboards**

 **Analytics**

Arkalytics Credit Unions Are Outperforming Their Peers



77%

Higher Asset Growth

6.77% vs **3.83%** NCUA Avg

49%

Higher Member Growth

2.62% vs **1.76%** NCUA Avg

79%

Higher Deposit Growth

3.81% vs **2.13%** NCUA Avg

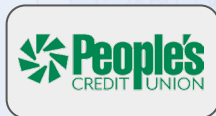
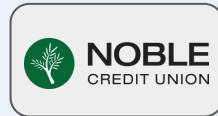
4%

Higher Return on Assets

0.78% vs **0.75%** NCUA Avg

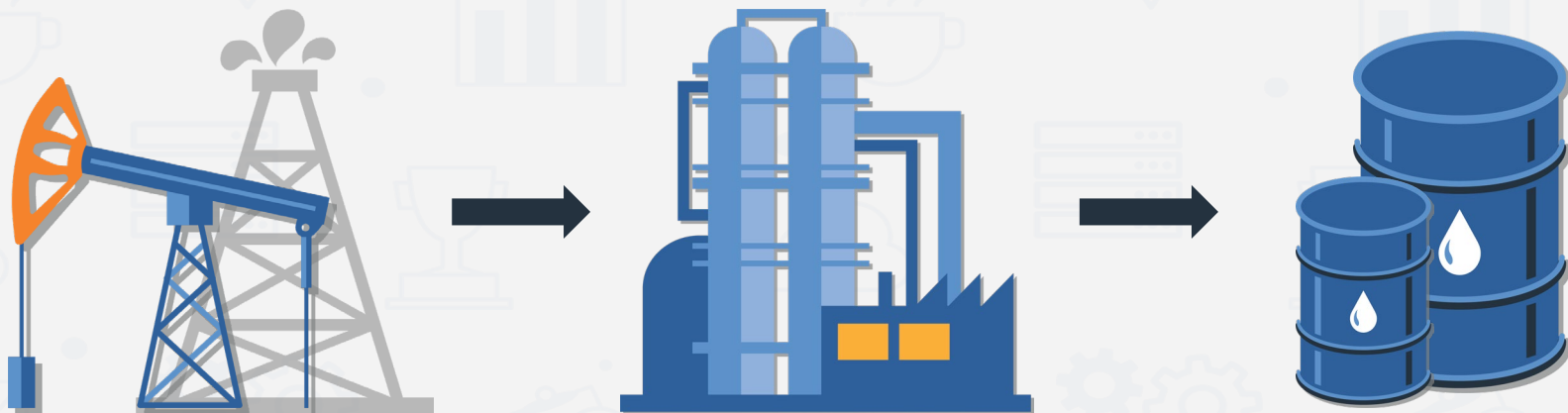


\$133. Building a community of data-driven Credit Unions?



arkalytics

What makes data so valuable?



Just like oil, raw data needs to be refined before its value is fully realized.

If data can be properly shared across an entire ecosystem and made accessible in the places where analytics are most useful, then it will become a true game changer, altering the way we live, work, learn, and play.



High Failure Rates & High Costs...

85%

Big Data Project Failure Rate

On average, 85% of projects fail when done internally

\$500k+

Average Cost of Implementation

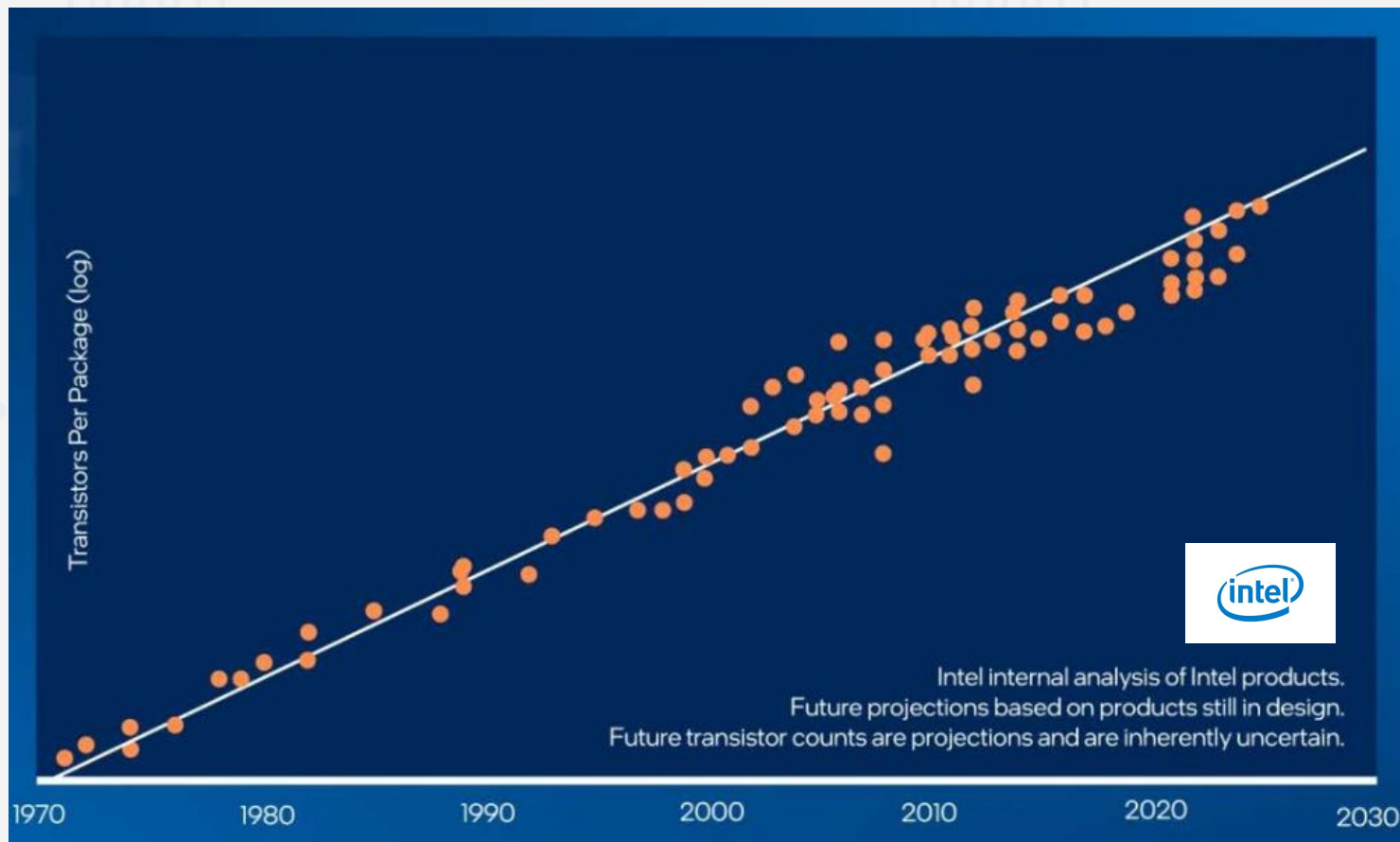
Data warehouse projects cost anywhere from \$500k to \$2 mm

\$880k+

Average Cost of Annual Upkeep

Orgs normally don't have skills internally and need to hire a team to support it

Moore's Law: # of Transistors Doubles Every 2 Years



Tech Talent & Skills Are Changing



\$17,000,000,000

The publicly stated annual tech budget of JPMorgan. The entire Credit Union industry spends approximately \$9.66b

Fintechs Growing Presence

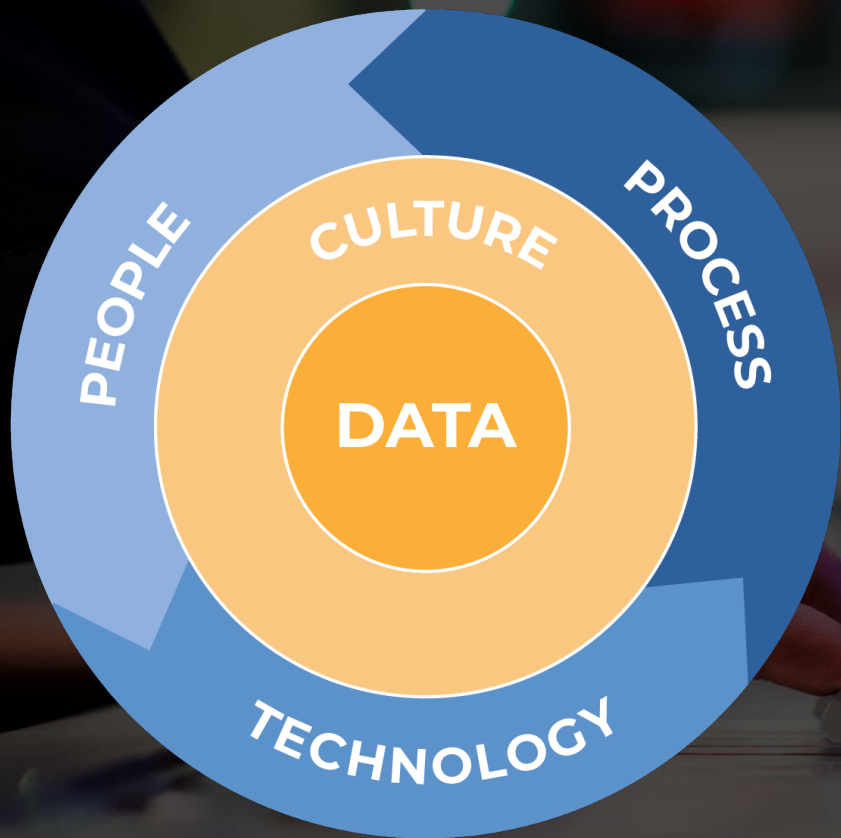


13,770

of Fintechs in USA - 2024

statista

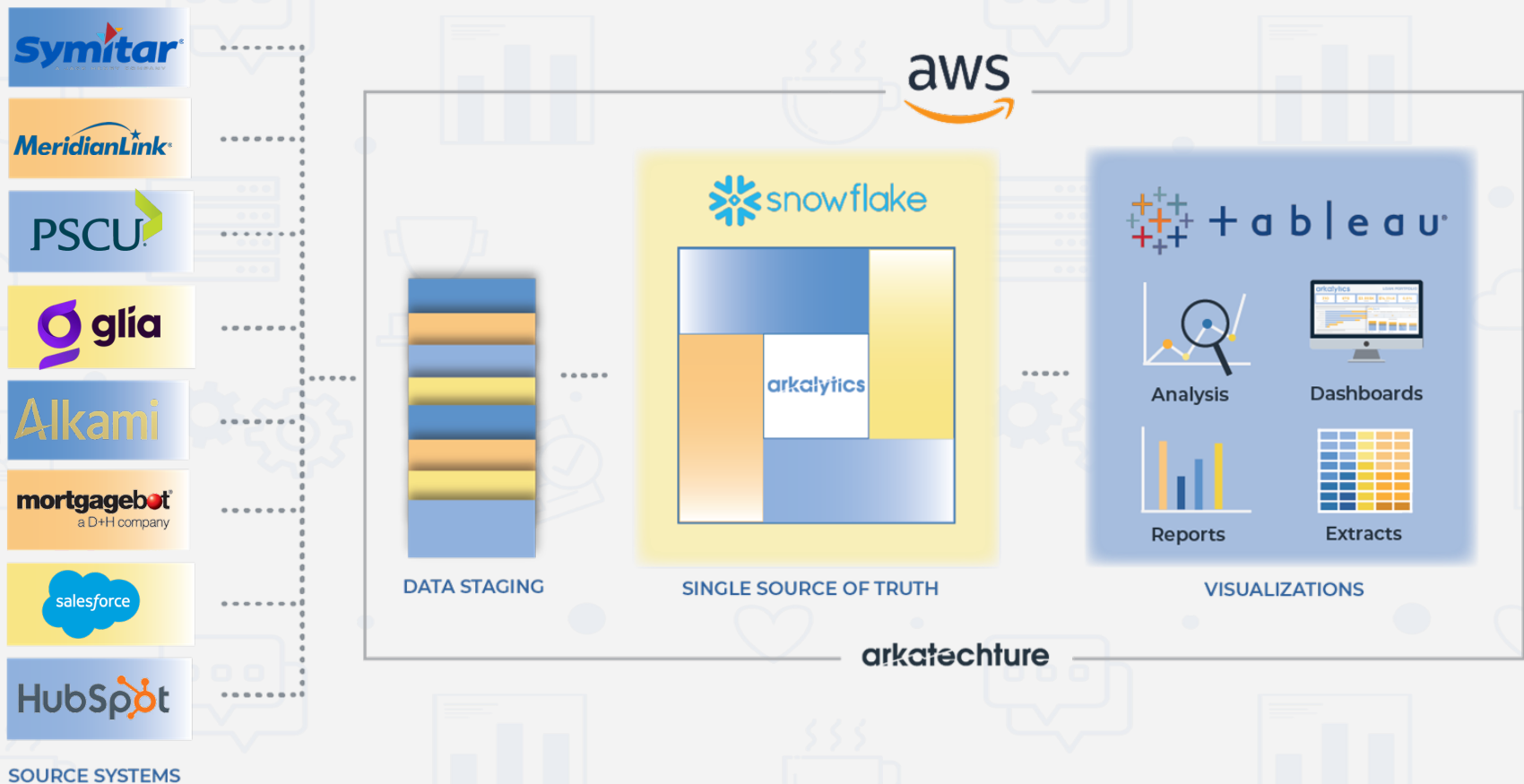




Our Solution arkalytics

- ✓ 100% Successful Implementation rate
- ✓ Deployed/Adopted in months not years
- ✓ Fraction of the cost and numerous ROI opportunities to reinvest internally
- ✓ Not just software deployment, culture creation

Arkalytics - Integrations & Architecture



Data is The New Oil Driving ROI



According to a study conducted by Nucleus Research, on average, for every dollar spent on analytics technology, the customers received \$9.01 in benefits on an average project budget of \$563,114.



“The world's most valuable resource is no longer oil, but data.”

- The Economist, Forbes, etc.

188% ROI

1. Reporting Automation



968% ROI

3. Self-Service Analytics



389% ROI

2. Strategic Dashboards

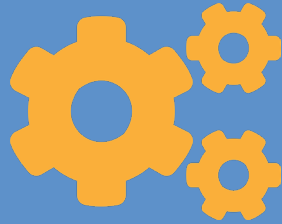


1,209% ROI

4. Predictive Analytics & ML/AI



Reporting Automation



Collections Working List



\$15,200+

Collections Dashboard

5 hrs * 52 weeks
*\$20/hr + \$10,000 =

5 hrs/week reduction in research
time.
Over \$10,000+ in additional
collection efforts.



Transaction Heat Map

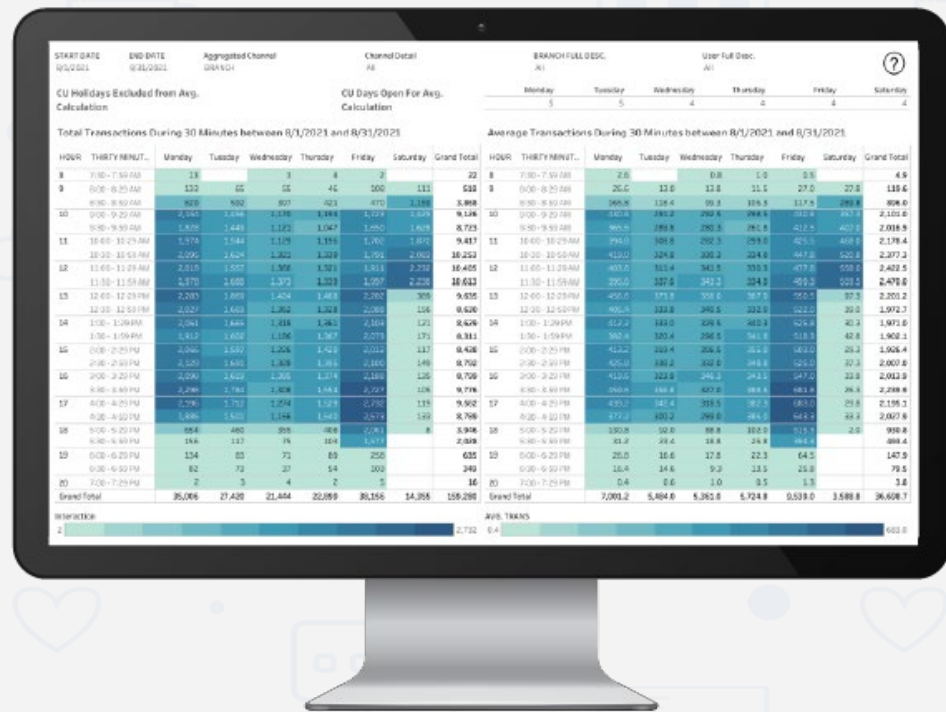


\$124,800+

Transaction Heat Map

120 hrs * 52
weeks * \$20/hr =

Optimal decisions regarding branch
staffing levels.
Competitive improvements by ranking
branches.



Branch Incentives

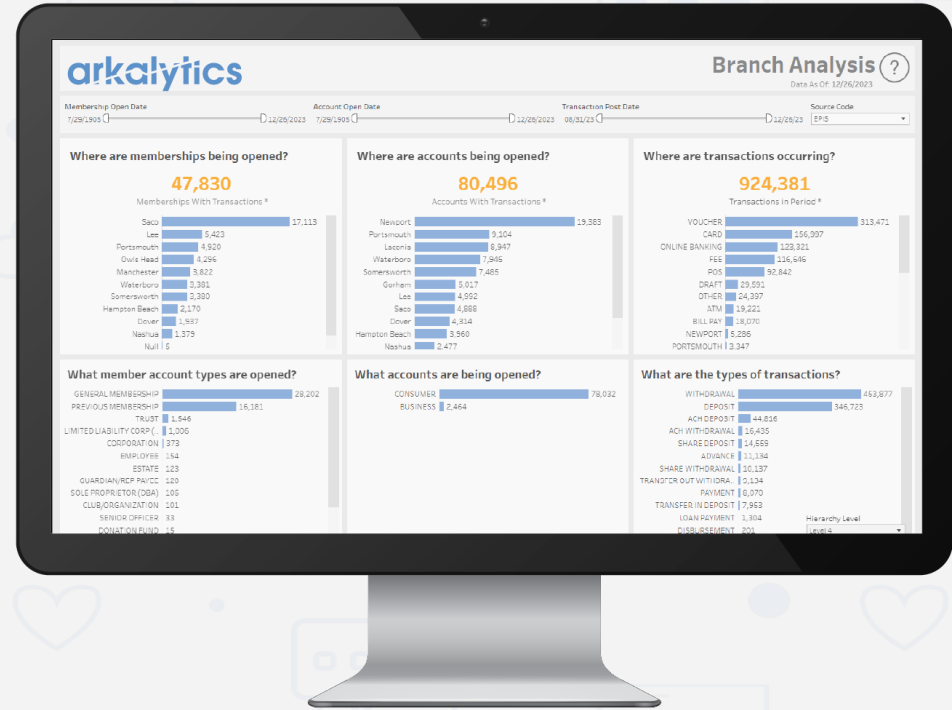


\$52,000+

Branch Incentives

**50 hrs * 52 weeks
*\$20/hr =**

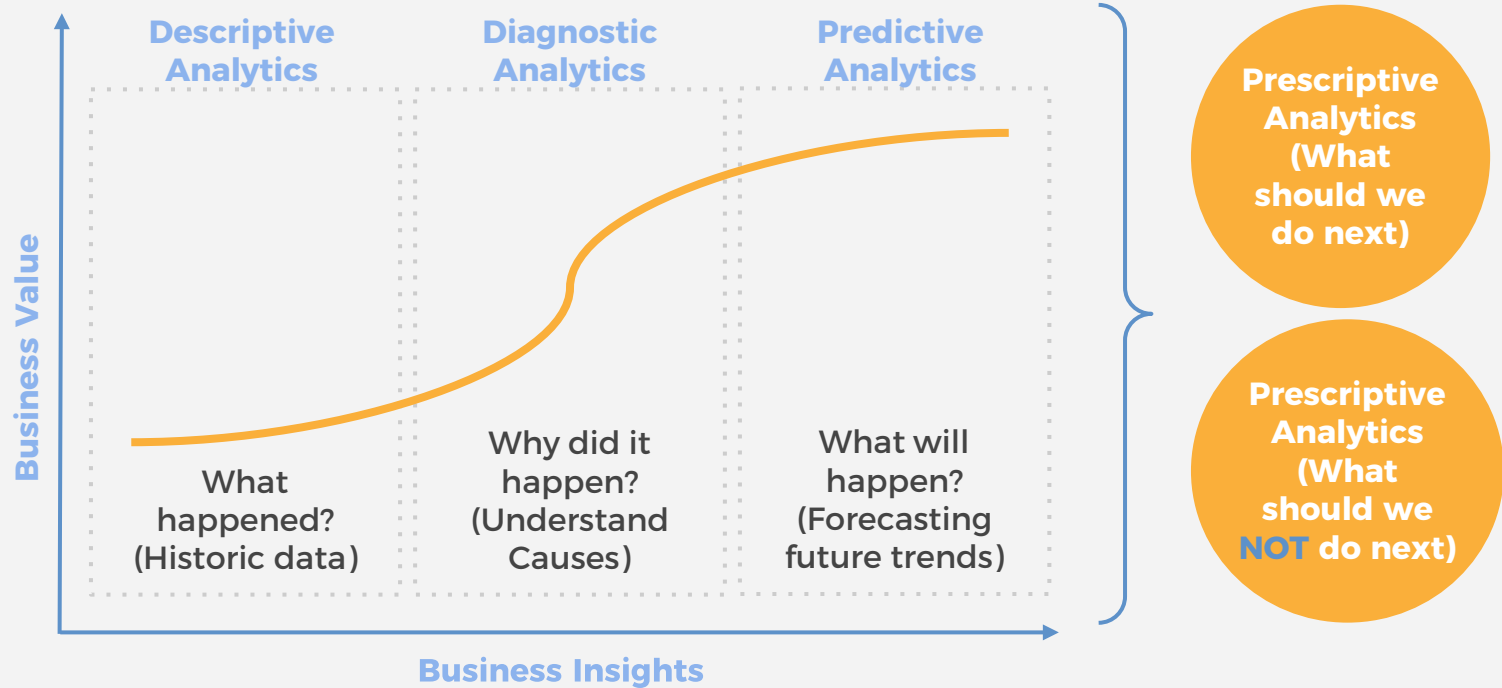
50 hrs/week reduction in excel work
Strategically drive branch change
during the month vs calculating 2
weeks into the next month.

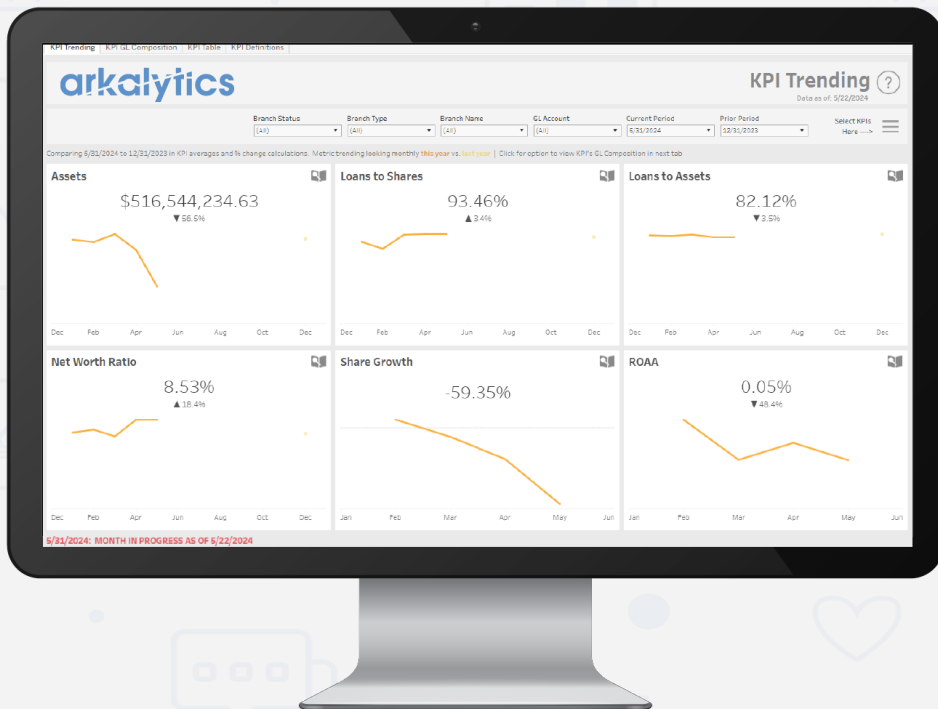


Strategic Dashboards



The Data Analytics Journey





Strategic Decision-Making:

- Loan-to-Share Ratio
- Membership Growth Rate
- Average Products per Member

Financial Health Monitoring:

- Net Worth Ratio
- Return on Assets (ROA)
- Delinquency Ratio

Member Engagement and Retention:

- Net Promoter Score (NPS)
- Member Satisfaction Score
- Member Retention Rate

Operational Efficiency:

- Average Processing Time per Transaction
- Loans or New Money Deposits per Employee
- Operating Expense Ratio

CFOs and other decision makers need visibility when issues arise, not 2 weeks after month end.

Daily updates on vital financial metrics allow decision makers to be agile and confident... before it's too late.

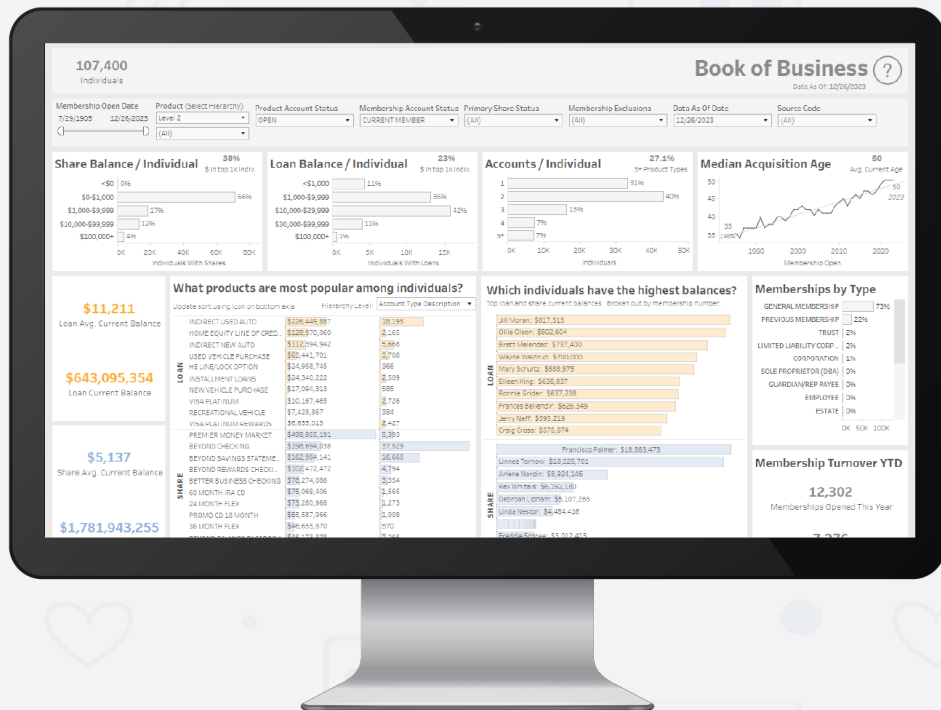


Why you need it:

- Summarize accounts per member, age, and product mix.
- Identify top members by current balances across consumer and commercial account types.

Use Case: Answer questions like...

- “What type of account do our members typically open first?”
- “How has the median age of our members changed over the history of our CU?”



Data Source(s): Account Member

Self-Service Analytics



Dictionary

Definitions from [Oxford Languages](#) · [Learn more](#)



self-serv·ice

/ˌselfˈsɜrvəs/

adjective

denoting a store, restaurant, or service station where customers select goods for themselves or service their car for themselves and pay a cashier.

"a self-service cafeteria"

noun

the system whereby customers select goods for themselves or service their car for themselves and pay a cashier.

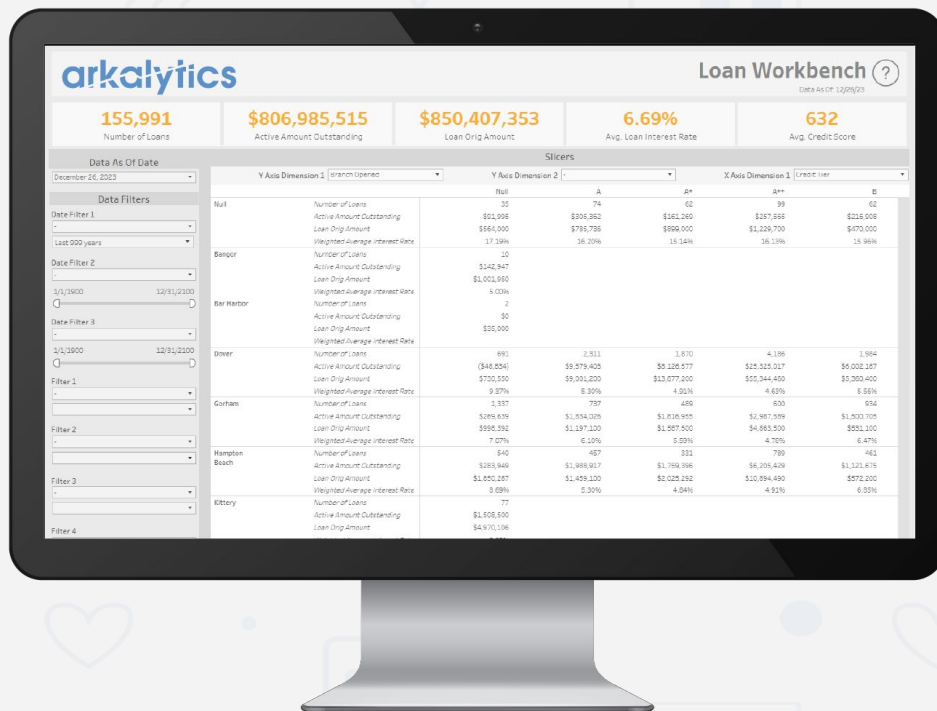
"providing quick self-service"

Why you need it:

- Empower business owners to answer questions without an analyst
- Drill into individual loans
- Month-end analysis and snapshots

Use Case:

- Analyze the attributes of your past-due loans
- Break down your loan portfolio by a host of different metrics such as interest rate, balance outstanding, loan term, etc.



Data Source(s): Loan

Loan Workbench

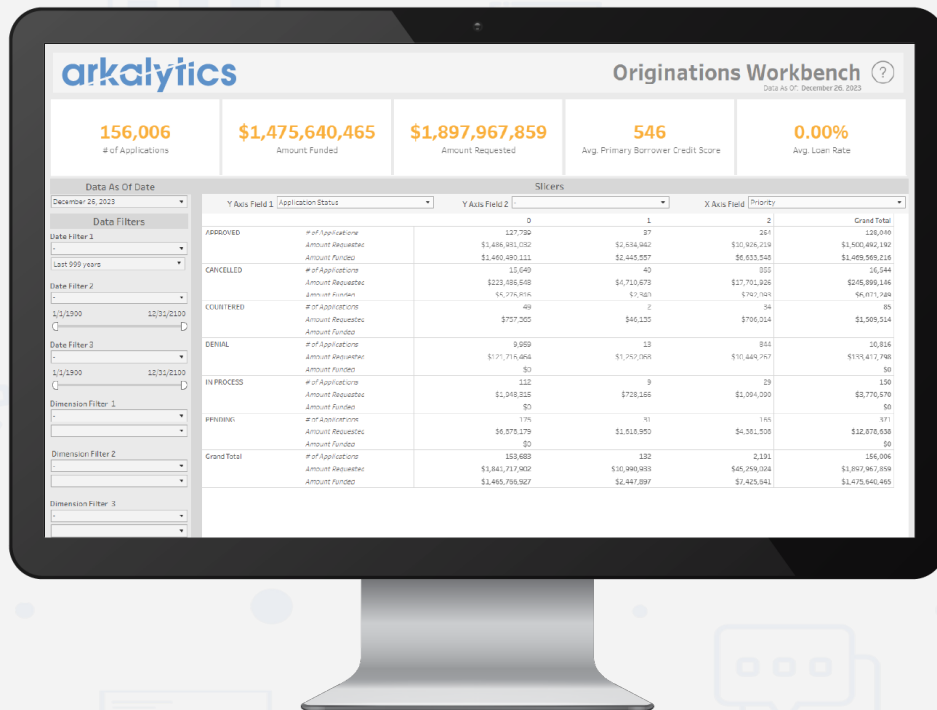


LOANS

MEMBERS

CARDS

DEPOSITS



ORIGINATIONS

COLLECTIONS

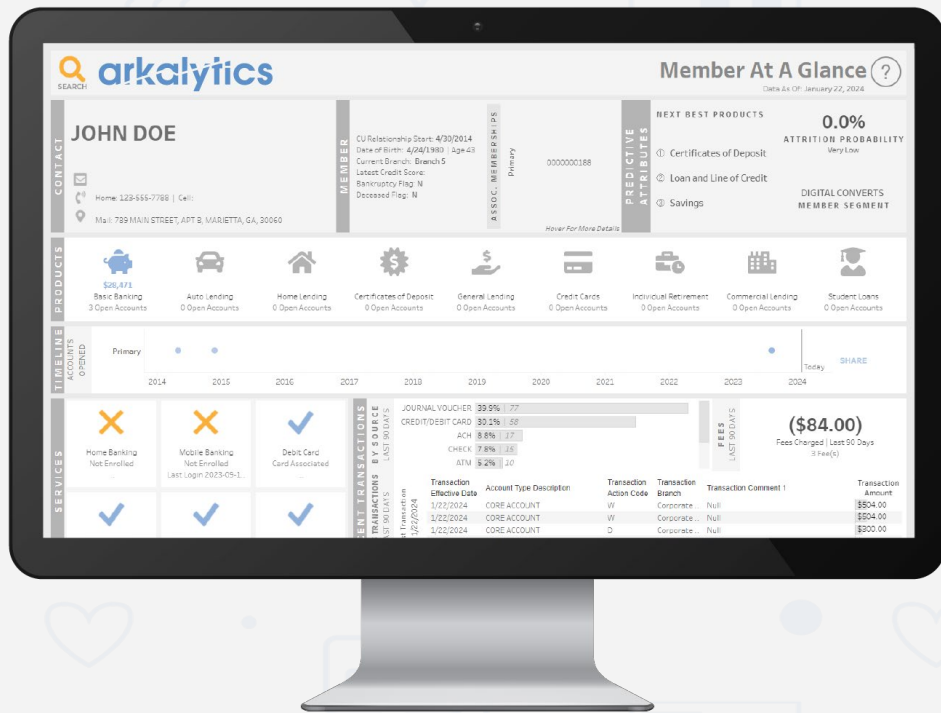
GENERAL
LEDGER

Why you need it:

- Provides a single view of a member, including all accounts, relationships, services and activity.

Use Case:

- Quickly understand the portfolio and membership health of someone who comes into a branch to find expansion possibilities
- Look at all of a member's relationships during underwriting to make a more informed decision about a loan application



Data Source(s): Account Individual Relationship

Analytics Sandbox - Build & Customize Your Dashboards



Why you need it:

- Design, develop, and share new dashboard visualizations and reports
- Write, save, and edit custom SQL queries
- Automate & send routine reports

Live Use Cases:

- **Transaction Heatmap (ORNL FCU)**
- **Distribution of Members by Share Balance (Heritage Financial CU)**
- **Member Profile & Overview (St. Mary's Bank Credit Union)**



2.7x

Organizations that enable self-service data analytics are 2.7 times more likely to report a significant improvement in decision-making speed compared to those that don't.

MicroStrategy®



503

Arkatechture data analysts and business advisors have compiled a library of 503 credit union use cases that benefit from self-service analytics.



76.5%

At one Arkalytics credit union, 76.5% of their 281 employees have a Tableau license to self-serve data in their day-to-day roles.



Predictive Analytics & ML/AI



Get Ready for Generative AI



1. Editing memos, emails, etc. for clarification



2. Knowledge and information retrieval





3. Creative text generation for marketing, mailers, etc.



4. Direct customer interaction, chatbots

(ranked from lowest to highest risk vs reward)

ChatGPT

 Examples	 Capabilities	 Limitations
"Explain quantum computing in simple terms" →	Remembers what user said earlier in the conversation	May occasionally generate incorrect information
"Got any creative ideas for a 10 year old's birthday?" →	Allows user to provide follow-up corrections	May occasionally produce harmful instructions or biased content
"How do I make an HTTP request in Javascript?" →	Trained to decline inappropriate requests	Limited knowledge of world and events after 2021

Create a set of topics for a Customer Success Manager to capture customer details and next-step activities following the first call with a customer. >

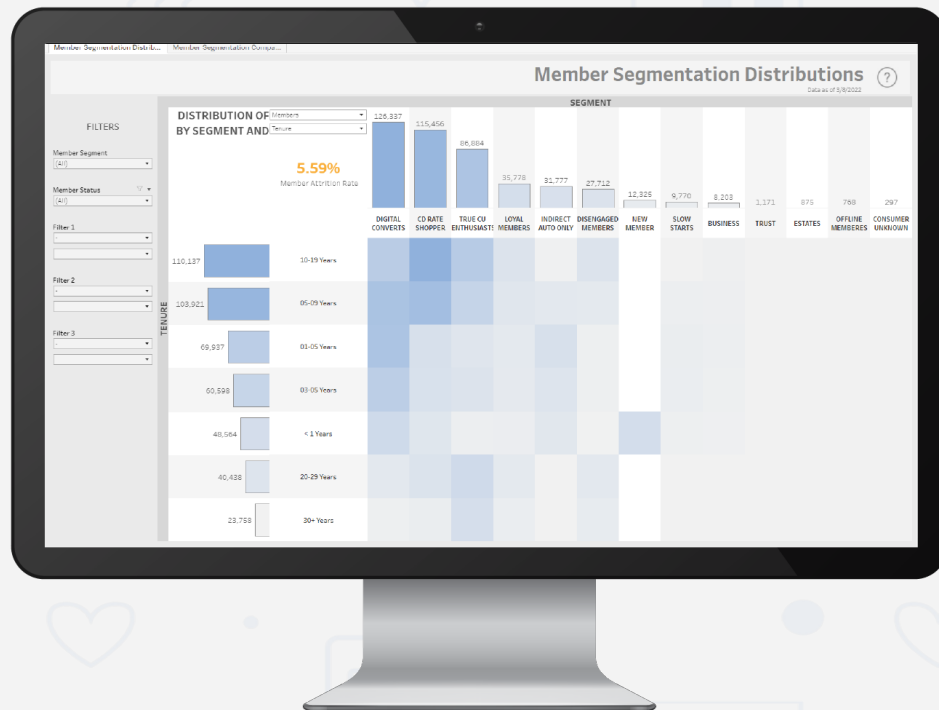
ChatGPT Dec 15 Version. Free Research Preview. Our goal is to make AI systems more natural and safe to interact with. Your feedback will help us improve.

Why you need it:

- Compiles known factors about your membership with results of the customer segmentation model for an in-depth picture of your member base

Use Case:

- Analyze member segments not previously considered to find new behavior sets.
- Leverage descriptive analytical modeling to segment members into natural groupings based on shared characteristics and traits



Data Source(s): Member Segmentation

Why you need it:

- This scientific model takes a look at a host of features to identify the members who are mostly likely to attrite or leave the credit union

Use Case:

- Actively engage members to prevent and reduce attrition, before they make a decision
- Create actionable lists with member contact info
- Analyze whether geography, member segments, or other factors carry a higher risk of attrition.



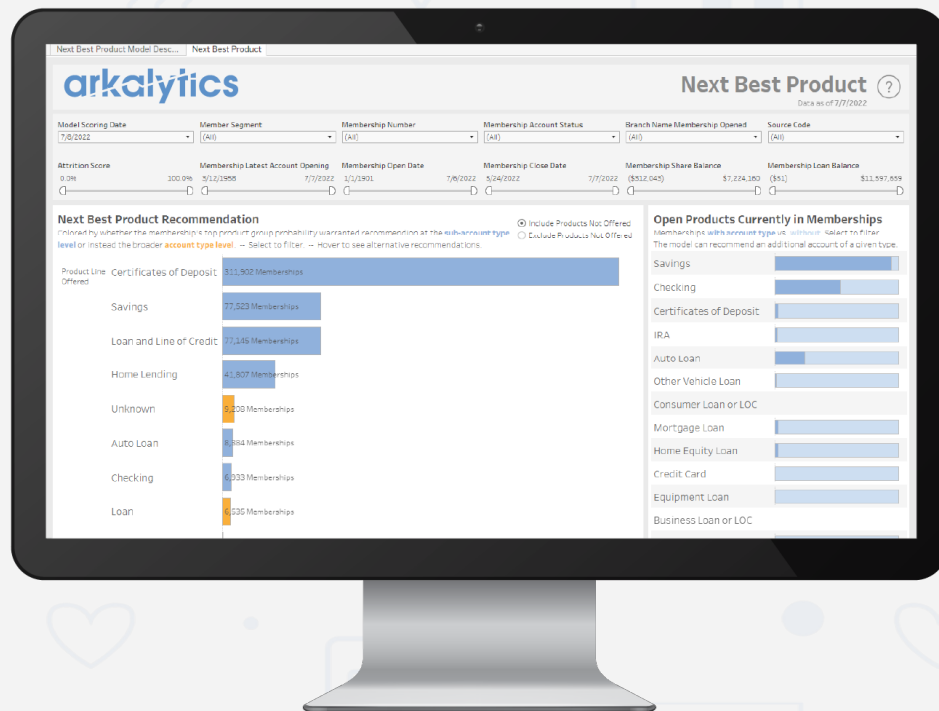
Data Source(s): Member Attrition

Why you need it:

- Predict the next best product for a member or customer
- Integrate into member facing applications

Use Case:

- Look up an individual membership number to see their next best product and secondary recommendation.
- Use in developing an outreach campaign to low tenure memberships with a high attrition score, offering a relevant next product.



Data Source(s): Member NBP

An Equation for Artificial Intelligence Success



1

Automation / AI

Specialized
verticalized tools
with ease of use.



2

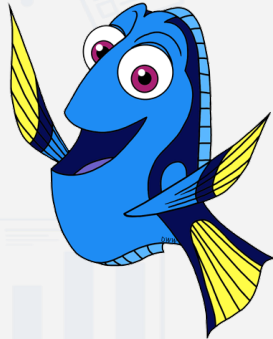
Human Input

Data literate, educated, and committed to
Membership and Mission.

Better Result

A partnership for data-driven
success!

Don't forget to review
and consider the **data
quality** of your inputs.



The Cost of Poor Data Quality

\$12.9m

“The average cost of poor data quality to an organization.”

Gartner



Examples of Data Quality Issues



In 2022, Unity Software reported a loss of \$110 million in revenue due to “Consequences of ingesting bad data from a large customer.



Bad data caused Equifax, a publicly traded credit reporting agency, to send lenders inaccurate credit scores on millions of customers.

Examples of Data Quality Issues



One of our employees received a direct mail offer to open a children's card for their parents to set up... 20 years later after opening their membership

There are 57 2-digit state codes provided by the FAA, one credit union had over 60 since they were manually entered by hand

200 Loans with members the credit union didn't have an SSN for

Foreclosures with collateral with no flood insurance, yet were in a flood zone

Data Quality Rules Engine

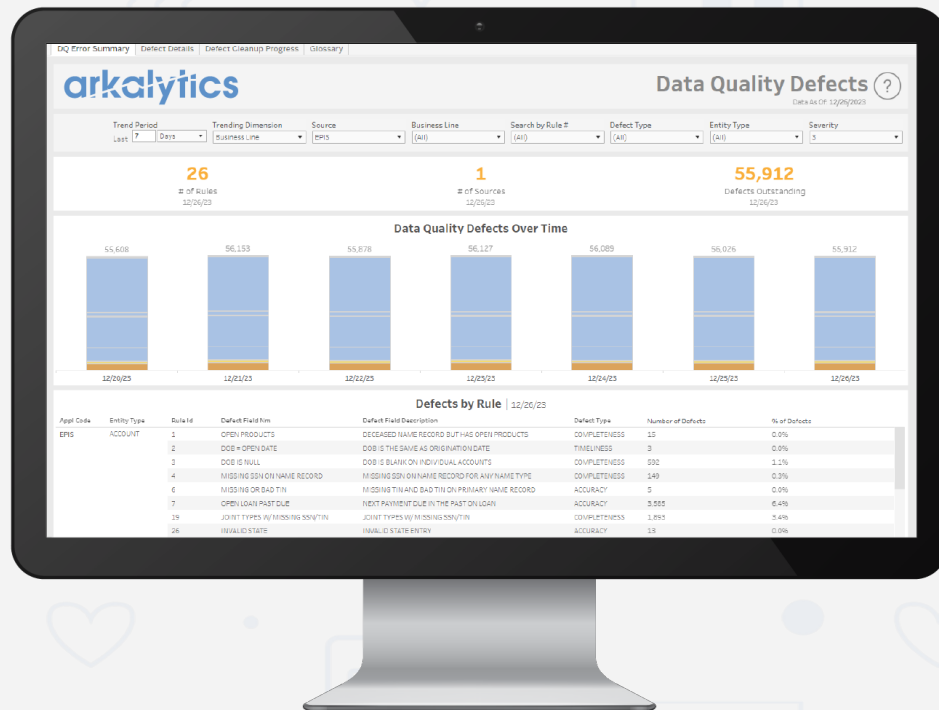


Why you need it:

- Quickly identify and act on data defects
- Monitor defect clean up and creation across business areas

Use Case:

- “Cleanest data I’ve ever seen during a conversion” - Jack Henry Symitar Representative
- One CU was able to resolve over 500,000 data defects



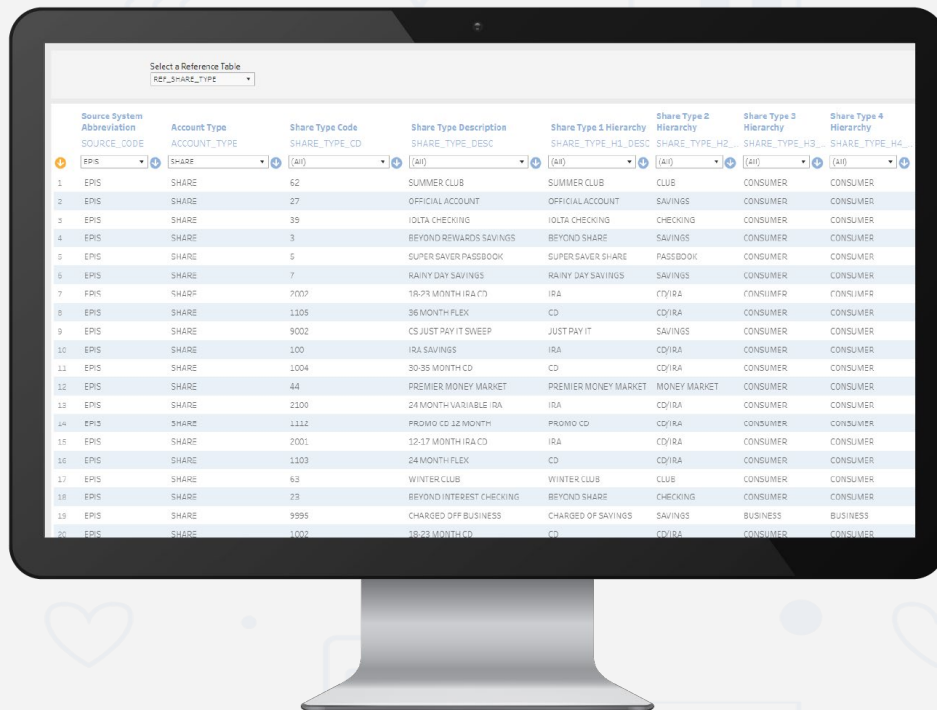
Data Source(s): Data Quality

Why you need it:

- To surface the data lake reference tables up to all users
- Understand different hierarchies and data inputs that have been set up by the business

Use Case:

- View the hierarchies associated with the loan, share, general ledger, and memberships to leverage workbenches and navigate dashboards more effectively
- Look up rate table entries for non-active rates.



	Source System Abbreviation SOURCE_CODE	Account Type ACCOUNT_TYPE	Share Type Code SHARE_TYPE_CD	Share Type Description SHARE_TYPE_DESC	Share Type 1 Hierarchy SHARE_TYPE_H1_DESC	Share Type 2 Hierarchy SHARE_TYPE_H2...	Share Type 3 Hierarchy SHARE_TYPE_H3...	Share Type 4 Hierarchy SHARE_TYPE_H4...
1	EPIS	SHARE	62	SUMMER CLUB	SUMMER CLUB	CLUB	CONSUMER	CONSUMER
2	EPIS	SHARE	27	OFFICIAL ACCOUNT	OFFICIAL ACCOUNT	SAVINGS	CONSUMER	CONSUMER
3	EPIS	SHARE	39	IOLTA CHECKING	IOLTA CHECKING	CHECKING	CONSUMER	CONSUMER
4	EPIS	SHARE	3	BEYOND REWARDS SAVINGS	BEYOND SHARE	SAVINGS	CONSUMER	CONSUMER
5	EPIS	SHARE	5	SUPER SAVER PASSBOOK	SUPER SAVER SHARE	PASSBOOK	CONSUMER	CONSUMER
6	EPIS	SHARE	7	RAINY DAY SAVINGS	RAINY DAY SAVINGS	SAVINGS	CONSUMER	CONSUMER
7	EPIS	SHARE	7000	18.25 MONTH IRA CD	IRA	CD/IRA	CONSUMER	CONSUMER
8	EPIS	SHARE	1105	36 MONTH FLEX	CD	CD/IRA	CONSUMER	CONSUMER
9	EPIS	SHARE	9002	CS JUST PAY IT SWEEP	JUST PAY IT	SAVINGS	CONSUMER	CONSUMER
10	EPIS	SHARE	100	IRA SAVINGS	IRA	CD/IRA	CONSUMER	CONSUMER
11	EPIS	SHARE	1004	30.35 MONTH CD	CD	CD/IRA	CONSUMER	CONSUMER
12	EPIS	SHARE	44	PREMIER MONEY MARKET	PREMIER MONEY MARKET	MONEY MARKET	CONSUMER	CONSUMER
13	EPIS	SHARE	2100	24 MONTH VARIABLE IRA	IRA	CD/IRA	CONSUMER	CONSUMER
14	EPIS	SHARE	1112	PROMO CD 12 MONTH	PROMO CD	CD/IRA	CONSUMER	CONSUMER
15	EPIS	SHARE	2001	12.17 MONTH IRA CD	IRA	CD/IRA	CONSUMER	CONSUMER
16	EPIS	SHARE	1103	24 MONTH FLEX	CD	CD/IRA	CONSUMER	CONSUMER
17	EPIS	SHARE	63	WINTER CLUB	WINTER CLUB	CLUB	CONSUMER	CONSUMER
18	EPIS	SHARE	23	BEYOND INTEREST CHECKING	BEYOND SHARE	CHECKING	CONSUMER	CONSUMER
19	EPIS	SHARE	9995	CHARGED OFF BUSINESS	CHARGED OFF SAVINGS	SAVINGS	BUSINESS	BUSINESS
20	EPIS	SHARE	1002	18.25 MONTH CD	CD	CD/IRA	CONSUMER	CONSUMER

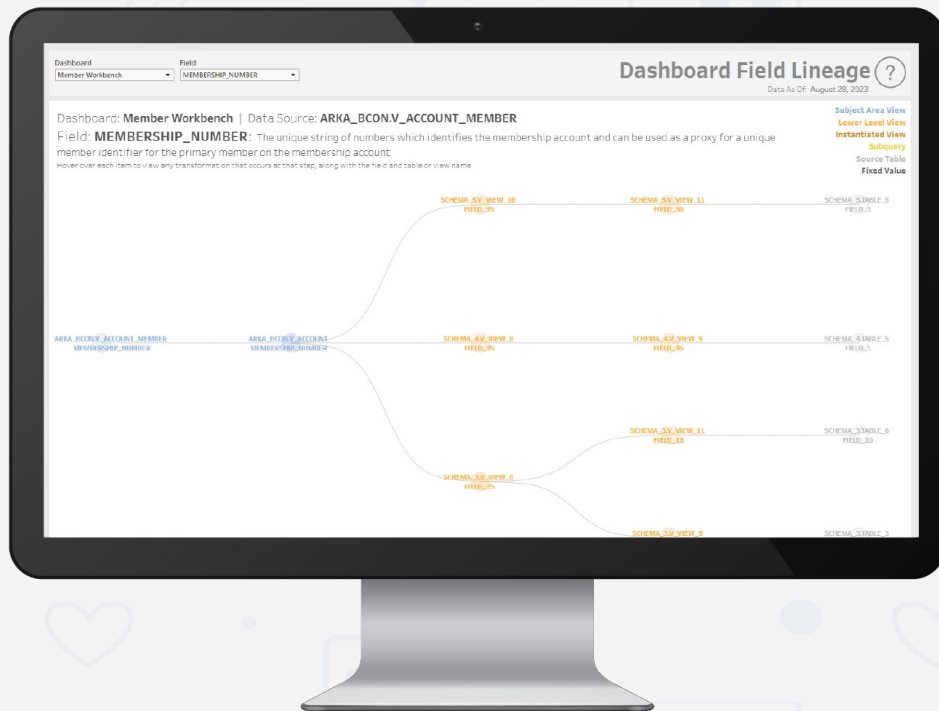
Data Source(s): Reference Tables

Why you need it:

- Understand how data gets from the credit union's source systems into the dashboards
- View the data lineage of fields seen in Arkalytics dashboards

Use Case:

- Determine the current mapping of a field to see if it needs to be updated
- Reconcile dashboards back to your source system(s)

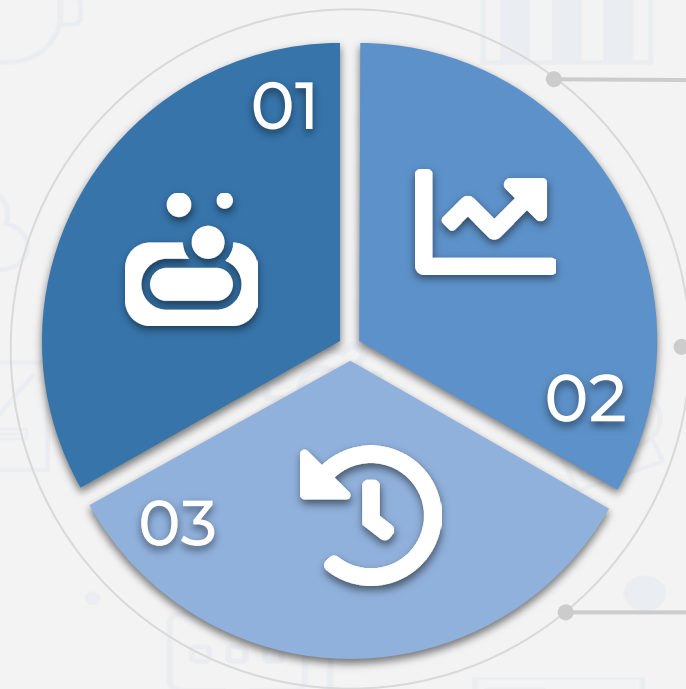


Data Source(s): Metadata

Your data analytics
ecosystem should be a
**foundation for change
and innovation.**



3 Goals During Your Core Conversion



Migrate clean data - Clean up your data before migrating, don't bring over bad data. Identify defects with DQRE and clean up source systems.



Seamless Reporting - Avoid down time for mission critical dashboards and reports. Keep key data flowing before, during, and after conversion.



Continuous Historical View - Stitch together daily snapshots of your data to measure KPI progress over time for MoM or YoY analysis.

5 Steps For a Successful Core Conversion



Arkatechture's phased approach to your core conversion will outline the key milestones, timelines, stakeholders, and resources needed for a smooth transition to your new core.

1

**Data
Extraction**

2

**Data
Discovery**

3

**Data
Mapping**

4

**User
Testing**

5

**Parallel Run
(or Cutover)**

8 Common Data Challenges During Core Conversions



**Data Accuracy
& Integrity**



**Data
Mapping**



**Data Quality
& Cleanup**



**Historical Data
Migration**



**Testing &
Validation**



**Data
Synchronization**



**Data
Volume**



**Data
Security**

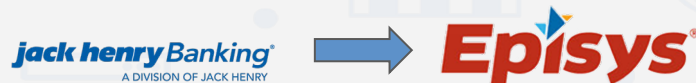


"We needed to convert to an updated core system, and we knew we were going to need some help with that."

Results:

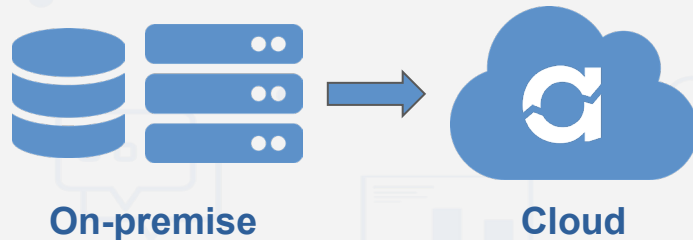
- Implemented 100+ data quality rules to migrate clean and accurate data
- Resolved 500,000+ data defects like missing SSNs, incorrect TINs, invalid DOBs, incomplete addresses, etc.
- Replaced 1,300 custom queries with dashboards & automated reports

Phase 1: Clean up data for core conversion



"Cleanest data I've ever seen during a conversion"

Phase 2: Migrate data warehouse to a managed services cloud platform



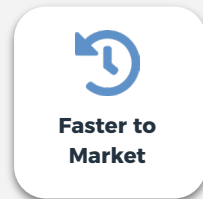
Arkalytics Data Hub



**Best of Breed
Vendor
Selection**



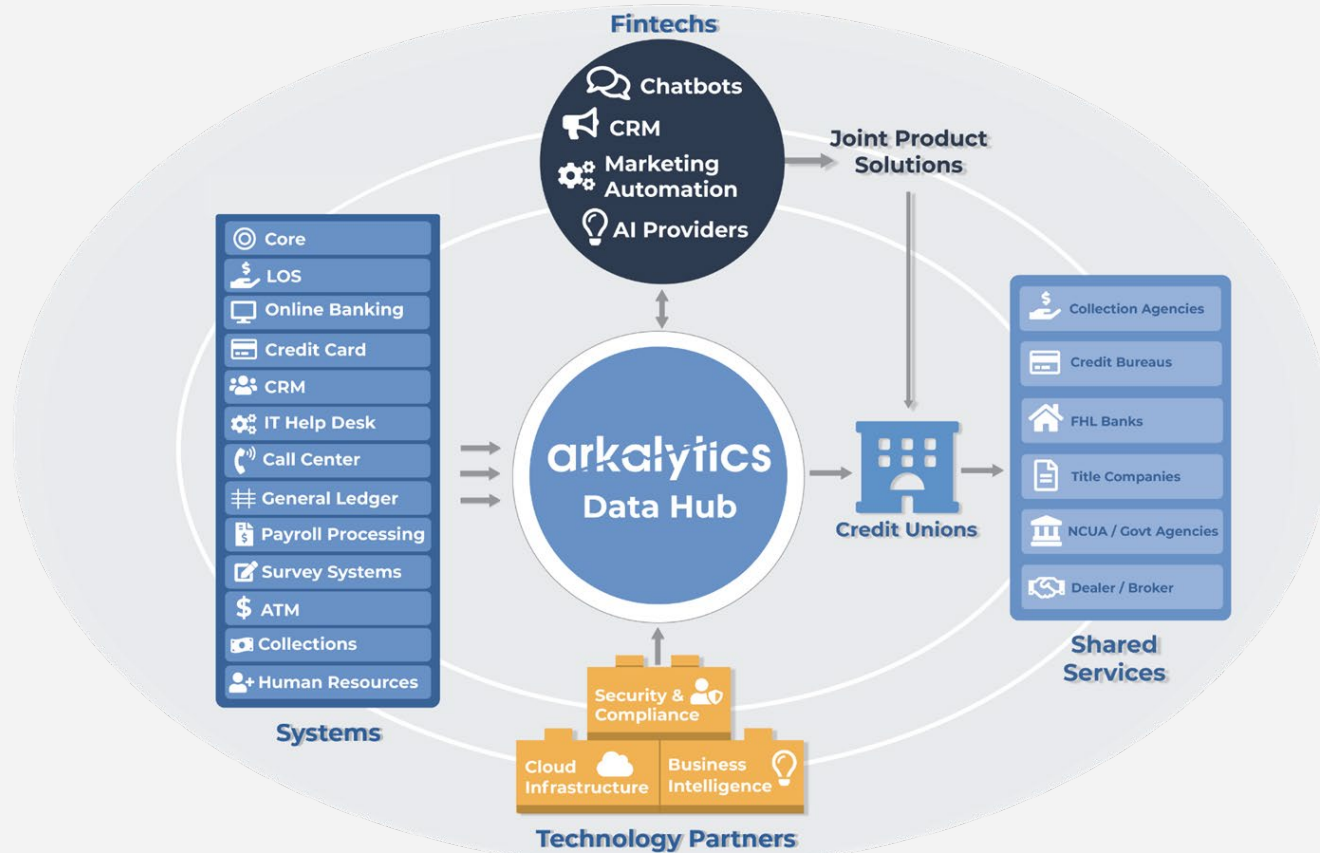
**Reduced Ops
Costs**



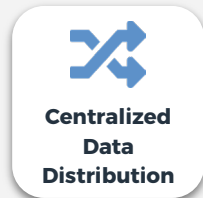
**Faster to
Market**



**Access to
Cutting Edge
Technology**



**Improved
Implementations**



**Centralized
Data
Distribution**



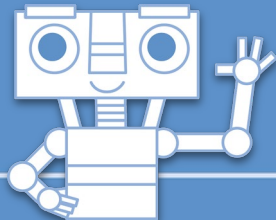
**Expanded
Product
Offerings**



**Shared
Services Model**



**It's all about
finding good
partners.**



“

Arka is a true testament to the importance of finding a partner and not just a vendor.

Arkatechture is a partner, not just a vendor... and that aligns perfectly with our mission and vision as a credit union.

At the core of this culture, Arkatechture is really a partner. They truly care about our success.

”

Upcoming: Data Analytics for Credit Unions



arkatechture



Thank you!



arkatechture 



What Arkalytics Includes



Data Governance

- CU Data model
- SSOT
- Subject Areas
- DQ Rules Engine
- STTM's

Professional Services

- Implementation
- Business Advisory
- Data Strategy
- Training Courses
- Hands-On Analysts
- Custom Development

Customer Success

- Success Manager
- QBR's
- Knowledge Base
- Support Desk
- User Group



Data Management

- Cloud Hosting
- Data Infrastructure
- Data Encryption
- Disaster Recovery
- Source Integration
- Data Lake
- SOC 2

Business Intelligence

- Enterprise Reporting Suite
- User created dashboards
- Self-Service Workbenches
- Predictive Models
- Adoption Metrics

AI & Predictive Models

- Member Segmentation
- Member Attrition
- Next Best Product
- GPT interoperability