Beginning the Journey: Credit Union Data Analytics

Credit Union Data Analytics: Where to Start and How to Continue

As shown at the recent 2016 Analytics and Financial Innovation Conference in Minneapolis, credit unions and banks alike are on the cusp of experiencing competition like never before.

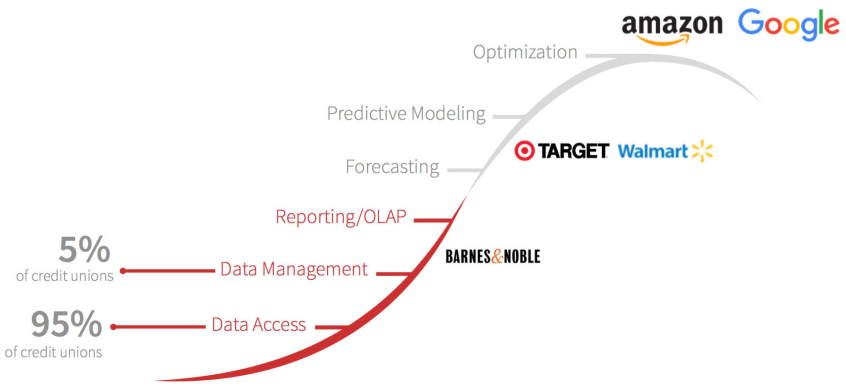
New competitors are eager to take the various profitable pieces of the financial services pie while leaving the unprofitable and heavily regulated side to the traditional players such as credit unions and community banks. In the last couple years, however, many credit unions have realized that there is a way to remain competitive in the new financial services arena. What they've realized is that by leveraging their data for analytics, they can better serve their member base and remain competitive. Many credit unions have come to this realization, but they are still struggling to get there due to the various decisions that need to be made in order to not only start but to, more importantly, continue the journey.

95%

of credit unions lack easy access to their data due to data silos

5%

of credit unions integrate their data effectively enough to execute basic analytics



Where to Start: The Options

The first step in the process is developing the underlying data infrastructure necessary for analytics. There are many terms that are thrown around (probably too loosely) that encompass the data infrastructure necessary for data analytics such as Operational Data Store (ODS), Data Warehouse, Data Model, Data

Mart, Data platform, etc. It is important to know the differences to ensure that the infrastructure being built will satisfy the end users' needs. Additionally, it is equally important to know your options. Credit unions have several options for establishing their data infrastructure, but the four most common are: Core Vendor Solutions, Build it In-House (Do-it-Yourself), Custom Built by Consultant(s), and The Collaborative CUSO Model.

Option 1: Core Vendor Solutions

The core vendor provided solutions, like the rest of the options, have their fair share of pros and cons:

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Pros: One of the most apparent benefits of going with the core provider is the ease of integration and expertise around core data. The core provider will already have a deep understanding of the nuances associated with the system which will cut cost on the discovery side of the project, and get everything in motion that much quicker. The other clear advantage of the core provided solution becomes apparent during the maintenance phase of the project when source data versions need to be monitored. Often times, a new update to the source system can cause the automated jobs to fail. A solution provided by the core provider will stay ahead of all of the updates to the core system.

Cons: While having a solution tied closely to a credit union's most important data source might be valuable to some credit unions (many of those $100 Million in assets and below), for the rest of the credit unions in the industry, data analytics goes above and beyond the core system. The vast majority of credit unions have data outside their core system in an array of soiled data sources (referred to as ancillary sources in this white paper). In order to do enterprise analytics at some credit unions, the data infrastructure

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must include all of a credit unions data at the transaction level, not just the data that resides in the core system. Core provider solutions usually only integrate with their own core's data, which leaves the rest of the data at the credit union underutilized. For many credit unions that choose to purchase a core provided solution, integration of remaining ancillary data sources is either attempted in-house or through outside consultants. The biggest problem with this is the lack of expertise in the data infrastructure from either the in-house or consultant's resources which results in a higher cost and a low performing data model. The data model usually needs to be re-designed to accommodate the unknown data sources which also adds additional costs and complexities. This is especially true of unformatted or data from social sites.
Cost: The cost of the core provided solution is usually fairly priced, but pricing almost always excludes the ancillary integration work done in-house or through outside consultants. Since the core provider does not provide these services, cost, communication with multiple providers, and expertise all become issues both during the initial install and during the maintenance phase of the project.

Option 2: Built In-House (Do-It-Yourself)

The Do-it-Yourself method for developing the data infrastructure necessary for analytics is the most popular option among large credit unions with the resources to take on such a project.

Pros: One of the biggest advantages of the Do-it-Yourself method is having internal expertise with the system and control of the system's intellectual property (IP). Having complete control of the system and its IP allows the credit union to use the system as it chooses to do so which enables it to have data infrastructure that is easily customizable. The other major benefit of an in-house warehouse is support and maintenance can be done internally rather than relying on a 3rd party.

Cons: A common misconception of the Do-it-Yourself model is the cost of the project. Credit unions often decide to go down the route of building out data infrastructure themselves because

they believe it will decrease the overall cost of the project. While this *might* be true during the initial implementation, the long run cost of supporting and maintaining the data infrastructure quickly outweighs the amount saved in the beginning. Data Base Analyst(s) will need to be hired to support and maintain the data infrastructure. Another problem with the Do-it-Yourself method is the amount of knowledge required to develop the data model. The level of expertise required is usually above and beyond that of a traditional credit union's IT resources. This lack of expertise either results in a low performing data model or requires new resources, such as Data Architects, Data Scientists, etc. that would need to be hired in order to take on this endeavor.

The 5 year cost of the Do-it-Yourself data model will, on average, cost a credit union over $2 Million and over $350,000 every year going forward to support and maintain the data model. These costs include salaries for a data architect, report writer, and a database analyst among other costs.

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Option 3: Custom Built by Consultant(s)

Hiring consultants to build a custom data model has many similarities to the Do-it-Yourself method.

Pros: The most notable benefit of hiring outside consultants is acquiring the expertise required and not typically found within a credit union's traditional IT staff. Having this expertise will help speed up the project and ensure the data model is being built correctly.

Cons: The disadvantages of the custom build method are the same as the Do-it-Yourself method with the exception of the expertise. In addition, credit unions may have a difficult time using the solution, as it will be foreign to them. This results in the

data model being unused or underutilized, and more costly as customizations are needed. Also, maintenance and support of the data infrastructure is handed over to the credit union upon completion. This causes problems as the credit union is not familiar with the system they are trying to maintain and supp

Cost: The cost to have consultants build a custom data warehouse is very similar to that of the Do-it-Yourself method, but the cost will likely be higher do to customizations, support, and maintenance needs. Much like, “Do-It-Yourself”, these projects tend to be underfunded.

Option 4: The Collaborative CUSO Model

The most unique approach to developing the data infrastructure necessary for analytics is the collaborative CUSO Model. The CUSO approach aims to leverage the collaborative spirit of the industry by developing, industry standard, “data integration middleware” or platform data model that is “connected” with others that have the CUSO solution, making it easier to integrate with all of the disparate data sources in the industry. All of the aforementioned options are standalone solutions that do not benefit from the collective work being done on each solution. Conversely, the CUSO model enables all credit unions on the system to share secured data and benefit from all of the work being done on the platform by other credit unions and vendors. Similar to the Apple App Store, the CUSO model is an open platform that is open to all to build off of and contribute their work product.

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Pros: The biggest advantage of the Collaborative CUSO model is the shared expertise and resources throughout the industry. Rather than one credit union or consultant trying to figure out what makes the best data model, the CUSO model incorporates best practices from a diverse group of credit unions with diverse source system configurations. Since the CUSO model is agnostic, the source systems of the credit union won’t affect the end output during analysis. For example, two credit unions can have different cores, different Lending original systems, and different

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credit card processors and still use the same reports/analytic applications built off of the platform. In creating this ecosystem, credit unions move up the analytics curve (see figure 1) much quicker than if they were to try to do so themselves. This same concept works with data integrations as well. Since the data model is standardized, integration from one system (e.g. PSCU) only needs to be done one time. Once it's complete, the work can be easily transferred to other credit unions with the same system.

A CUSO solution also ensures that the best interests of the industry are kept in mind moving forward. There will be certain scenarios when the credit union will want to rely on their provider for outsourced analytics and pooled analysis. This process can become prohibitive if you don't know where your data is and who controls the data after it leaves the credit union. Having a CUSO control the data ensures that the data remains safe, as many of the CUSO owners are contributing their own data.

Cons: The biggest disadvantage of the CUSO method is the control of the software. While the software can be easily customizable by the credit union, the CUSO controls the IP and the strategic direction of the solution. Also, since the CUSO method is a standardizing and productizing data infrastructure, some credit unions with very obscure data sources may have to wait for their integrations to become available unless they choose to be the first to fund the integration.

Cost: The cost of implementing a CUSO solution is typically lower than the Do-it-Yourself model and the custom built by consultant(s) method and in-line with the cost of the core vendor solution. Since the solution is productized for core and ancillary systems it is much more quick and cost effective to implement than building the solution from scratch.

Continuing the Journey: Data Analytics

Developing the data infrastructure is one of the most important steps for analytics but it is only half of the battle. All of the

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aforementioned options are viable means to establish the data infrastructure necessary for analytics, but they all vary when it comes to the next step in the journey: data analytics. A data model with no reports/analytic applications built off of it is as useless as a car engine without the rest of the car. There are some serious differences between the four options outlined above such as:

Core Vendor Solutions

The Core Vendor Solution will usually come with a series of canned reports off of the core data only. These reports are mainly for operational reporting and tend to be difficult to customize. The core vendor solutions will not include reports/analytic applications for the rest of the disparate data sources, however. In order to do enterprise reporting/analytics, a credit union will have to spend a lot of time and money developing their own reports after getting the remaining disparate data sources integrated.

Do-it-Yourself & Built by Consultant(s)

The Do-it-Yourself & Custom Built by Consultant(s) methods require the credit union to start completely from scratch. Once the data model is complete, the credit union will have to begin creating their own reports/analytics applications. This requires credit unions to hire report writers and data scientists for predictive analytics.

The Collaborative CUSO Model

The Collaborative CUSO Model has a combination of canned reports and shared applications with other credit unions and industry vendors. Since the CUSO model supports an open architecture, agnostic to the various source systems, credit unions can benefit from the work of other credit unions and application developers. For example, if a credit union were to develop an Allowance for Loan Loss forecasting model for CECL, every credit union on the CUSO platform would gain access to the application and could start using it right away. The collaborative approach enables credit unions to tackle the issues challenging

them as a collective whole, and allows them to focus less on report development and more on the actual analysis that drives value for the credit union and its members. Instead of every credit union attempting to build out everything on its own, the CUSO model allows them to provide their expertise where it's most needed and benefit from others' expertise in other areas.

Data Analytics is a journey that must start with establishing the data infrastructure necessary for analytics. For credit unions, there are many different options to take in order to establish the necessary infrastructure. It is up to the credit union to decide which method is best suited for their specific needs. It is important, however, to keep in mind the steps after the data infrastructure has been established. Once the credit union has all of their transaction data integrated into one single repository,

A Collaborative CUSO Model would allow credit unions to utilize data from various source systems.

they still must access the data through reports and analytic applications. This phase of the journey is constantly evolving over time and requires a significant amount of money and resources to remain competitive. Credit unions can decide to take this effort on internally, or they can band together and work collectively with a collaborative CUSO approach. Whatever the credit unions decide to do, they must act soon. The industry is experiencing unprecedented competition that will change the way people interact with financial institutions.

About OnApproach

OnApproach is a Credit Union Service Organization (CUSO) that enables credit unions to harness the value of their data through integration and predictive analytics. Through our platform, we allow credit unions to use the data they already possess as a competitive advantage, allowing for the discovery of trends in member behavior down to the granular level. This discovery results in improved financial performance, reduced risk, and enriched relationships with members. We help credit unions build relationships through data."

The OnApproach CUSO approach aims to leverage the collaborative spirit of the industry by developing, industry standard, "data integration middleware" (think about it as a data integration "Xbox" for credit unions) that can be installed at any credit union regardless of size or IT configuration. This middleware collects, stores and normalizes all of the credit union's data that is collected daily from the core and ancillary systems. More importantly, it creates a platform (just like the Xbox) that fosters user communities, developer communities, cloud-based analytics and sharing of applications and resources. The communities and platform form an ecosystem that is self-learning and constantly responding to changing needs in the market place.

About The Author

Austin J. Wentzlaff joined OnApproach in 2013 as a Business Development Analyst and is now currently the Director of Business Development. He is responsible for developing marketing strategies, driving prospects to contract award, building and maintaining high-level relationships with current and prospective clients and strategic partners, and elaborating business development plans that support business growth. Austin is an alumnus of Gustavus Adolphus College in Saint Peter, MN. He graduated Gustavus Adolphus College with a B.A. in Financial Economics.