synchrony
FINANCIAL

Engage with us.

Taming Big Data

Using the partnership of IT and Marketing Analytics
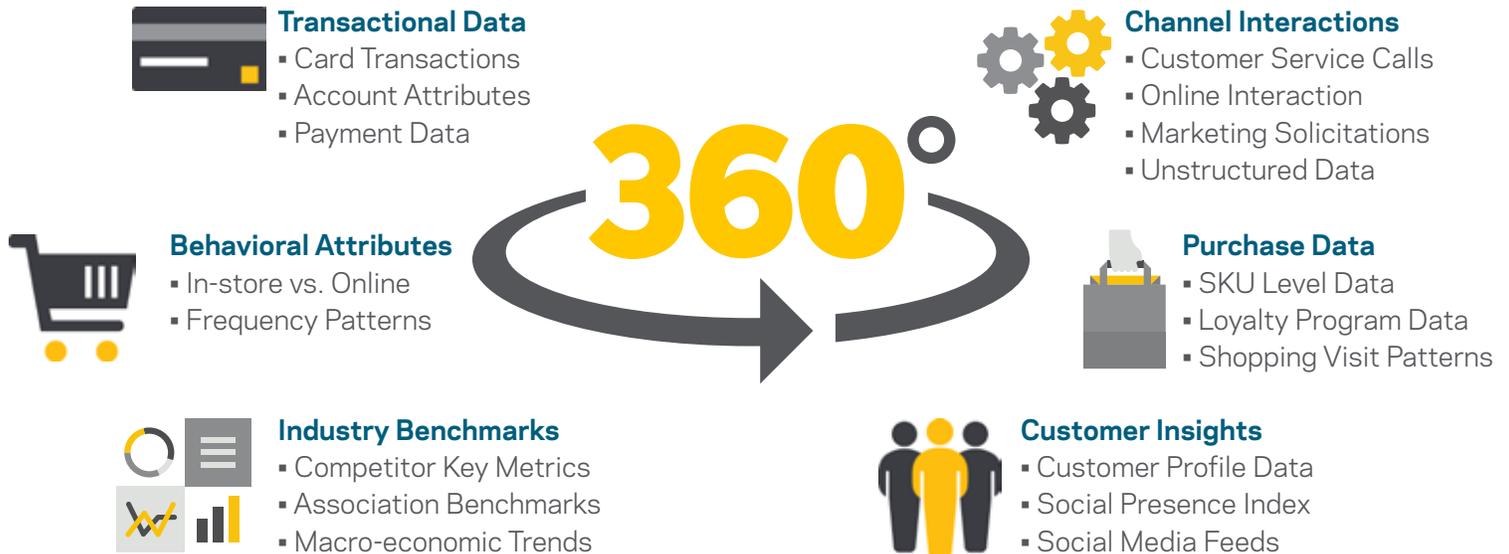to maximize marketing impact

May 2016

INTRODUCTION

With the explosion of big data, it has become increasingly difficult for businesses to access and apply data in a timely manner using traditional database processes. For retailers, implementing an Agile process provides a new, better way to maximize the impact of the diverse, valuable customer data to create more customized experiences.

Working together with a common vision and goal, Marketing Analytics and IT departments can use an Agile process to effectively produce workable solutions quickly and efficiently. By simplifying and speeding up the process of analyzing big data, companies are able to improve their marketing efforts and build better customer relationships.

For many retailers, adopting Agile data analytics can be the key to developing quick, impactful marketing programs, designing minimum viable products, and creating more personalized customer experiences.

BUILDING A 360-DEGREE VIEW OF YOUR CUSTOMER

When there is an overwhelming amount of data available, one challenge is to leverage it in such a way that it helps build a holistic view of a customer. What does all this data tell marketers, and how can it be most useful?

Transactional Data
- Card Transactions
- Account Attributes
- Payment Data

Channel Interactions
- Customer Service Calls
- Online Interaction
- Marketing Solicitations
- Unstructured Data

360°

Behavioral Attributes
- In-store vs. Online
- Frequency Patterns

Purchase Data
- SKU Level Data
- Loyalty Program Data
- Shopping Visit Patterns

Industry Benchmarks
- Competitor Key Metrics
- Association Benchmarks
- Macro-economic Trends

Customer Insights
- Customer Profile Data
- Social Presence Index
- Social Media Feeds

Breaking down the sources of big data:

Transactional Information – every purchase, card swipe, return, etc. In transactional data, there can be thousands of data points on each account, plus customer history data.

Behavioral Attributes – information such as shopping trends and frequency patterns. So, whereas transactional data tells us the "what", behavioral data speaks to the "how" and "why".

Industry Benchmarks – not just looking at competitors, but also macro-economic trends and how they can influence program performance. So it's not all about customer-level detail, but fitting that within the bigger picture, the broader landscape.

Customer Insights – includes customer profile data, reviews/ratings, and social media presence. This adds valuable context to the other behavioral attributes.

Purchase Data – SKU level purchase data shows customer purchase preferences to increase personalization.

Channel Interactions – these include website visits, research, in-store purchases, mobile apps, etc. There are many sources that come in the form of unstructured data. The comfort level of the consumer to interact with the retailer through multiple channels is expanding, as is the amount of information generated by these interactions.
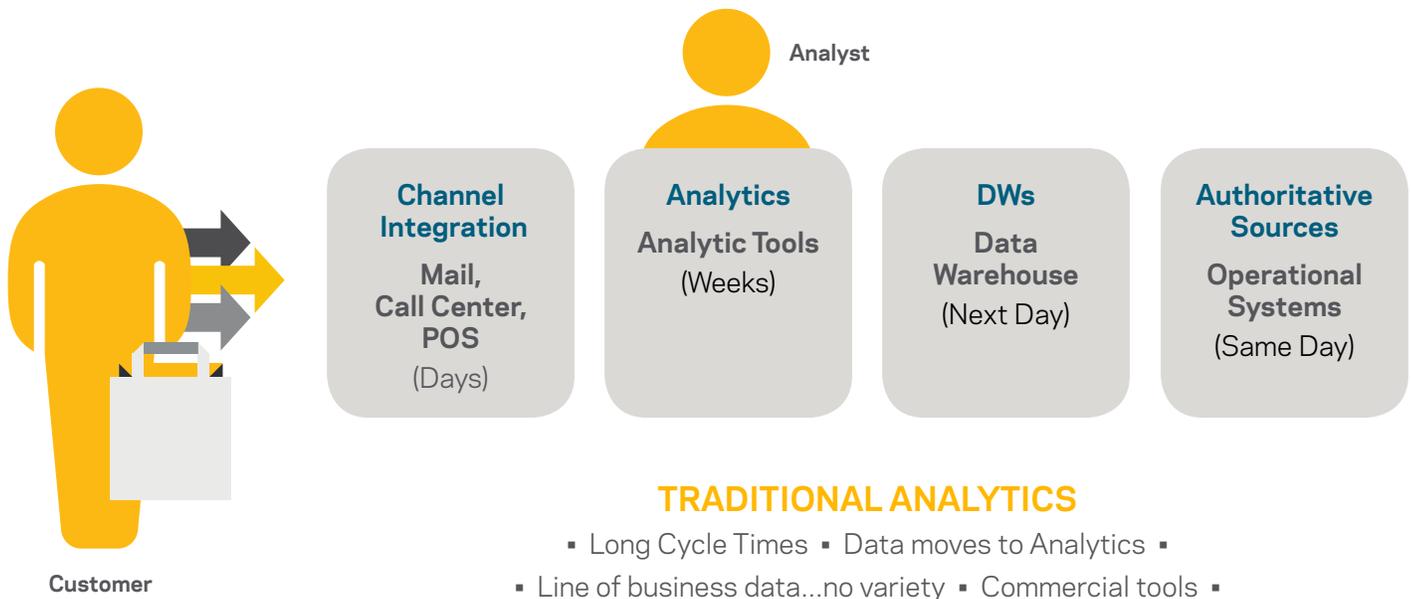
The challenge for the Marketing Analytics organization is in translating this big data into meaningful insights and actions. Some of the data obtained is functional and readily available (such as transactional data), but some is sporadic and harder to measure (such as social chatter). As a result, Marketing Analytics organizations need to find ways to use the data to its best advantage in order to impact customer behavior. The solution resides in partnering with the IT department, using the latest technologies to unleash the data.

THE TRADITIONAL IT DATA STRUCTURE

In a traditional database scenario, data is collected from multiple platforms and then moved to a database built in a prescribed structure. Models are built to enhance the database—with the goal of predicting customer actions based on past behaviors and other data. These processes require up-front planning, are expensive to execute and take time to build. The following factors explain some of the limits of the traditional method.

Data movement adds extra steps

When a customer engages with a business, whether to make a purchase, pay a bill, or make an inquiry, the interaction and the resulting data are recorded in one of its operational systems. Traditionally, analytic processes have been separated from operational systems, because these processes demand considerable resources that can slow down the system and impact business. Consequently, businesses move data to a data warehouse platform so analysts can study the information without impacting the operational system.

Analyst

Channel Integration	**Analytics**	**DWs**	**Authoritative Sources**
Mail, Call Center, POS	Analytic Tools	Data Warehouse	Operational Systems
(Days)	(Weeks)	(Next Day)	(Same Day)

Customer

TRADITIONAL ANALYTICS
- Long Cycle Times • Data moves to Analytics •
- Line of business data…no variety • Commercial tools •

Commercial tools can be difficult to use

During data analysis, sophisticated software tools mine the data warehouse for pre-established datasets, looking for trends and insights related to a specific business scenario. Unfortunately, many of these tools require advanced statistical training to use, and are expensive to license and manage. In addition, the structure of the data is rigid and difficult for Marketing Analytics departments to access. Even with a more intuitive or dashboard interface, marketers may need IT help to get to the insights needed, making a partnership with IT essential.

Long cycle times

With the traditional data model, the analytic lifecycle takes weeks or months to go from the point of customer engagement, through the complete analytics process, and then to the next customer interaction. Because things change so quickly these days, by the time a company reaches the end state, often consumer tastes and preferences have changed, technology has changed, or the consumer expects more. To make big data more useful, retailers need to speed up the process. What's required is a new method—one that is dynamic, fluid, real-time, and Agile.
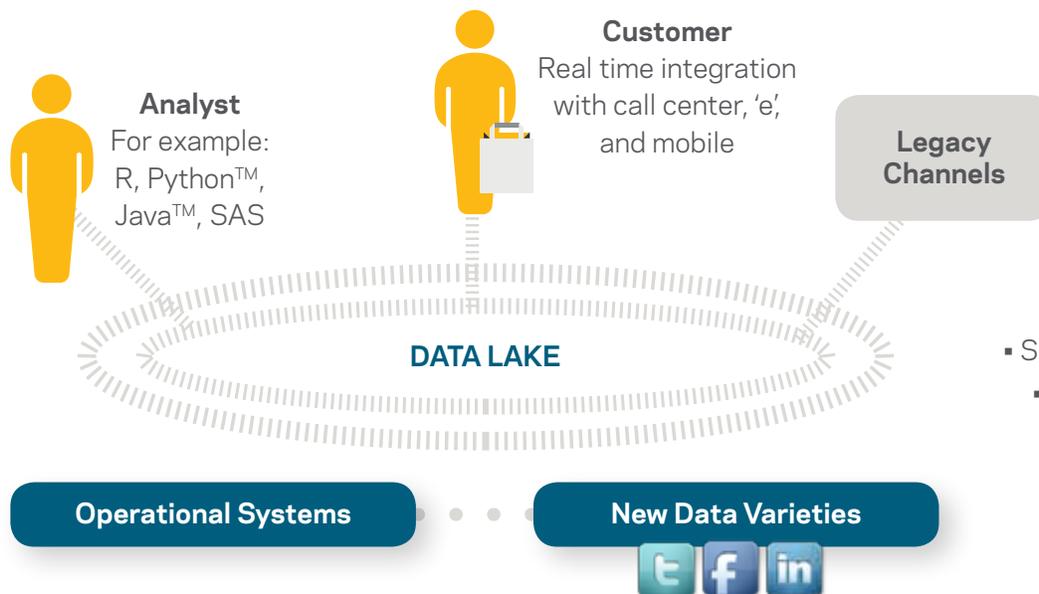
THE SOLUTION: AGILE ANALYTICS

With an Agile approach, IT and Marketing Analytics teams work together toward a common business goal from the start, helping an organization overcome the limitations of a traditional database structure. Agile analytics allows the Marketing Analytics team to work with IT to develop insights from big data and then use the data in a timely manner—yielding improved customer personalization and more impactful marketing programs. Working together as partners, the IT and Marketing Analytics departments can make big data much more actionable.

Agile analytics focuses on customer experiences rather than processes and tools. For big data, an Agile process can provide a quicker route to understanding customer behaviors and preferences. These can be applied in real-time to generate better marketing results and produce happier customers, increased loyalty, and greater customer value.

Advantages of an Agile analytics process

1. Minimizes data movement
In an Agile analytics process, the goal is to catch the customer in the act of engagement. To react with that kind of speed, you need a platform that minimizes the number of times you move the data. A data lake provides a scalable platform where data is ingested from the operational system very quickly, without moving to the analytics environment. The analytics are actually performed on the data lake platform, so the analytics moves to the data instead of the other way around. The analyst then determines the relationships of the data points instead of the database structure dictating the relationship. As a result, development time is shortened, and real customer feedback data can be added at anytime to make the algorithms more accurate—allowing more timely and relevant customer marketing tactics to be executed.

Analyst
For example:
R, Python™,
Java™, SAS

Customer
Real time integration
with call center, 'e',
and mobile

Legacy Channels

DATA LAKE

Operational Systems • • • **New Data Varieties**

AGILE ANALYTICS
- Short Cycle (Hours/Minutes)
  - Analyze the data where
    it resides • Recognize
    new data varieties...
  social media and mobile
    • Open source tools

2. Open source tools are simpler and more affordable
The data structure and tools used on the data lake are mostly readily available open source tools. Analysts correlate the data at run time, using tools like R, Python™, and MADlib that leverage the massive parallel scale of the data lake to perform their analysis.

3. Short cycle times
Performing analytics at scale also requires a platform that integrates with the customer channels. This reduces the cycle time between customer engagement and analytic response, while moving analysts closer to the customer. Shorter cycle times mean the analytics and value created is more responsive, allowing marketers to better serve the needs of the customer.
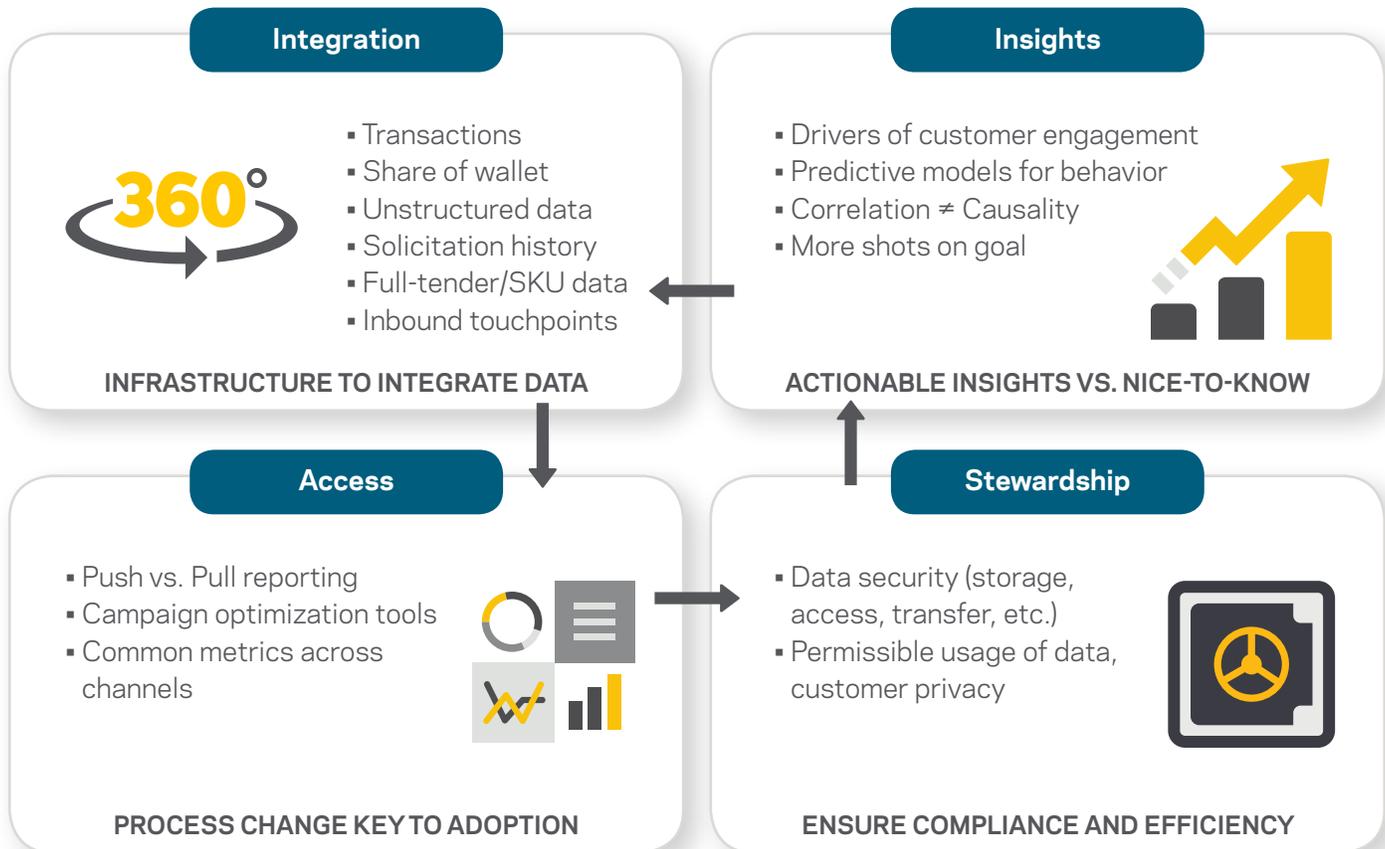
Agile analytics moves marketing closer to the customer and creates a way to quickly and easily listen and respond to customers' changing needs. This is accomplished with a data lake that minimizes data movement, reduces the cycle time, and more efficiently connects your analytics to customer engagement channels.

What is a data lake?
A data lake is a large-scale storage repository and processing engine. Fluid, flexible, and easy to access, it provides massive storage for any kind of data, enormous processing power, and the ability to handle virtually limitless concurrent tasks or jobs.

HARNESSING THE POWER OF BIG DATA
Vision for data—a holistic strategy to harness the power of Big Data

Integration
- Transactions
- Share of wallet
- Unstructured data
- Solicitation history
- Full-tender/SKU data
- Inbound touchpoints

INFRASTRUCTURE TO INTEGRATE DATA

Insights
- Drivers of customer engagement
- Predictive models for behavior
- Correlation ≠ Causality
- More shots on goal

ACTIONABLE INSIGHTS VS. NICE-TO-KNOW

Access
- Push vs. Pull reporting
- Campaign optimization tools
- Common metrics across channels

PROCESS CHANGE KEY TO ADOPTION

Stewardship
- Data security (storage, access, transfer, etc.)
- Permissible usage of data, customer privacy

ENSURE COMPLIANCE AND EFFICIENCY

CREATING A STRATEGY FOR MOVING AND ACCESSING DATA

A holistic strategy centers on an infrastructure that integrates all available data elements. Once the Agile infrastructure is in place, there are essential steps for helping to harness the power of that data. First, make it accessible—not just to the analysts, but also to key stakeholders. A data platform can be used for both push and pull reporting on key business metrics so you can track the performance of your overall business, a specific business goal, or a specific campaign strategy.

With sharing data comes the responsibility of data stewardship. This includes safeguarding the storage, access and transfer of data throughout your organization, and ensuring the proper usage of key data elements. The security and protection of private customer data should also be a high priority. These practices help form data insights that drive specific strategies.

The following case studies provide examples of how the partnership of Marketing Analytics and IT can work together to create impactful solutions.

Driving loyalty through personalized marketing

Developing the strategy and execution for a Next Best Offer scenario

Challenge:

Determining the Next Best Offer for a customer and predicting the response of the customer to the offer can positively benefit customer retention, sales penetration and revenue, and customer sentiment, among others. The problem is, in the retail environment, it's difficult to predict and execute the successful timing and sequence of offers and promotions to shoppers.

Solution:

Taking an Agile approach, Synchrony Financial developed a predictive model for the Next Best Offer. The goal then becomes to determine what offer (if any) should be made to the customer to create the desired incremental response.

Common Next Best Offer solutions include: (a) $5 cash back/statement credit on a purchase of $100, and (b) completing 5 credit card swipes within 60 days to get a $10 statement credit. Such offers incentivize loyalty and private label credit cards with the goal of increasing sales, usage and retention.

The solution is demonstrated in the graphic below:

ENGAGING CONSUMERS IN MORE WAYS AT THE MOMENT OF DECISION

1 Mobile App
Create a vehicle for analytics to connect directly with your consumer.

2 Customer Shopping Cart
Integrate offers seamlessly into the checkout process.

3 Real-time Offer View
Record customer responses in near real-time to understand what customers like and dislike. Leverage the data to adjust the approach for better results.

4 Real-time Performance Dashboard
Develop a performance dashboard to monitor analytic performance.

Machine Learning

Enterprise Data Lake

Results:

Employing an Agile methodology combines the efforts of the Marketing Analytics department with the technology expertise of IT to create a successful solution for both the retailer and end customer.

Dealing with unstructured data

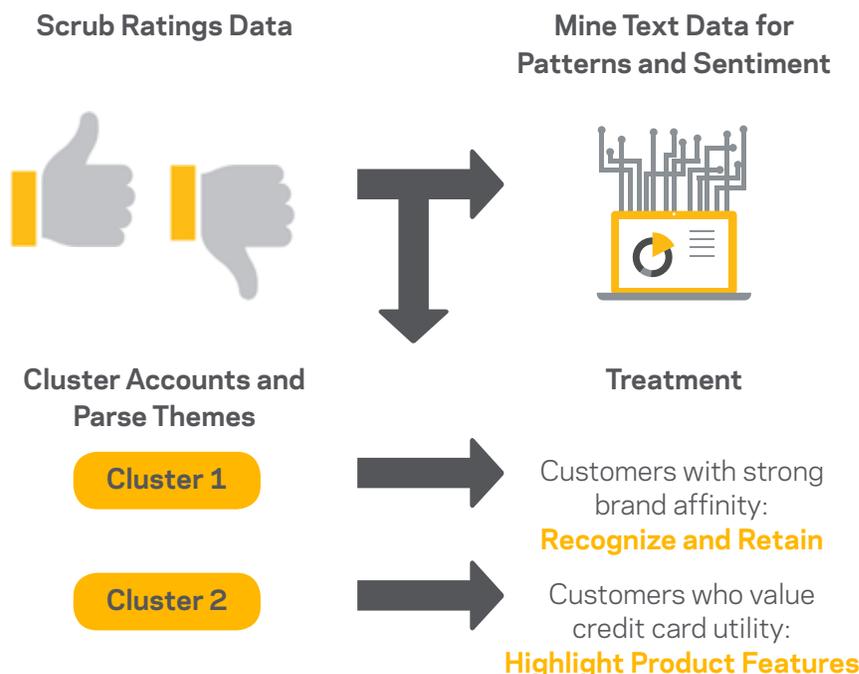*How to effectively leverage customer product ratings*

Challenge:

A challenge for many retailers is what to do with the data generated through customer ratings—whether in the retailer's database or through other social media channels. This data is often unstructured and more challenging to turn into actionable programs.

Solution:

The Marketing Analytics team sets up an Agile work stream to discuss how they could use the unstructured data to maximize offers and retain customers. Using available technology and the Agile process, the collected data is analyzed into clusters and themes. The structured information can then help determine the cadence of marketing to customers. For instance, customers with a strong brand affinity—those who say positive things about the brand or products—can be recognized and retained. These customers can be viewed as brand ambassadors. If certain customers value a particular aspect of the brand, they can be targeted for future marketing that highlights those valued aspects.

IMPLEMENTING CUSTOMER
REVIEWS AND RATINGS DATA

Scrub Ratings Data

Mine Text Data for Patterns and Sentiment

Cluster Accounts and Parse Themes

Treatment

Cluster 1 → Customers with strong brand affinity: **Recognize and Retain**

Cluster 2 → Customers who value credit card utility: **Highlight Product Features**

Results:

Because of the partnership with technology, analytics can work with larger pools of data, at much faster speeds (e.g., in the moment pricing). Data from many different sources (customer reviews, Facebook, Twitter, customer service) can be pooled to create meaningful insights and actions. Things that used to take days, now take minutes or seconds.

CONCLUSION

Data in today's world is ubiquitous. Some is clear and definable, while much is unstructured and free flowing. In order to turn all of this information into actionable steps, Marketing Analytics and IT organizations can work together to create powerful solutions.

Agile analytics is the key. It can be used for both organized, hard data and difficult to classify unstructured data. By embracing an Agile process, businesses can more easily use data to produce quick, actionable insights that result in personalized solutions, improved marketing efforts and better customer relationships.

Focus on what really matters.

Synchrony Financial is one of the premier consumer financial services companies in the United States. Our roots in consumer finance trace back to 1932, and today we are the largest provider of private label credit cards in the United States, based on purchase volume and receivables.

About Synchrony Connect

Synchrony Connect is a value-added program that lets Synchrony Financial partners tap into our expertise in non-credit areas. It offers knowledge and tools that can help you grow, lead and operate your business.

Grow
Marketing, analytics and research expertise to help you drive business growth

Lead
Tools for leading your organization and developing yourself as a leader

Operate
Best practices around business strategy and optimizing cost

Contact your Synchrony Financial representative or visit us at SychronyFinancial.com or SynchronyBusiness.com to discover how we can help you grow your business.

Greg Albaugh—SVP, Business Intelligence and Enterprise Architecture (greg.albaugh@syf.com)
Noel Ang—SVP, Analytics COE Leader (noel.ang@syf.com)
Sanjay Sidhwani—SVP, Marketing Analytics (sanjay.sidhwani@syf.com)
Greg Simpson—Chief Technology Officer, Synchrony Financial (gregory.simpson@syf.com)

Sue Yasav—VP, Market and Research Insights

synchrony FINANCIAL

Engage with us.