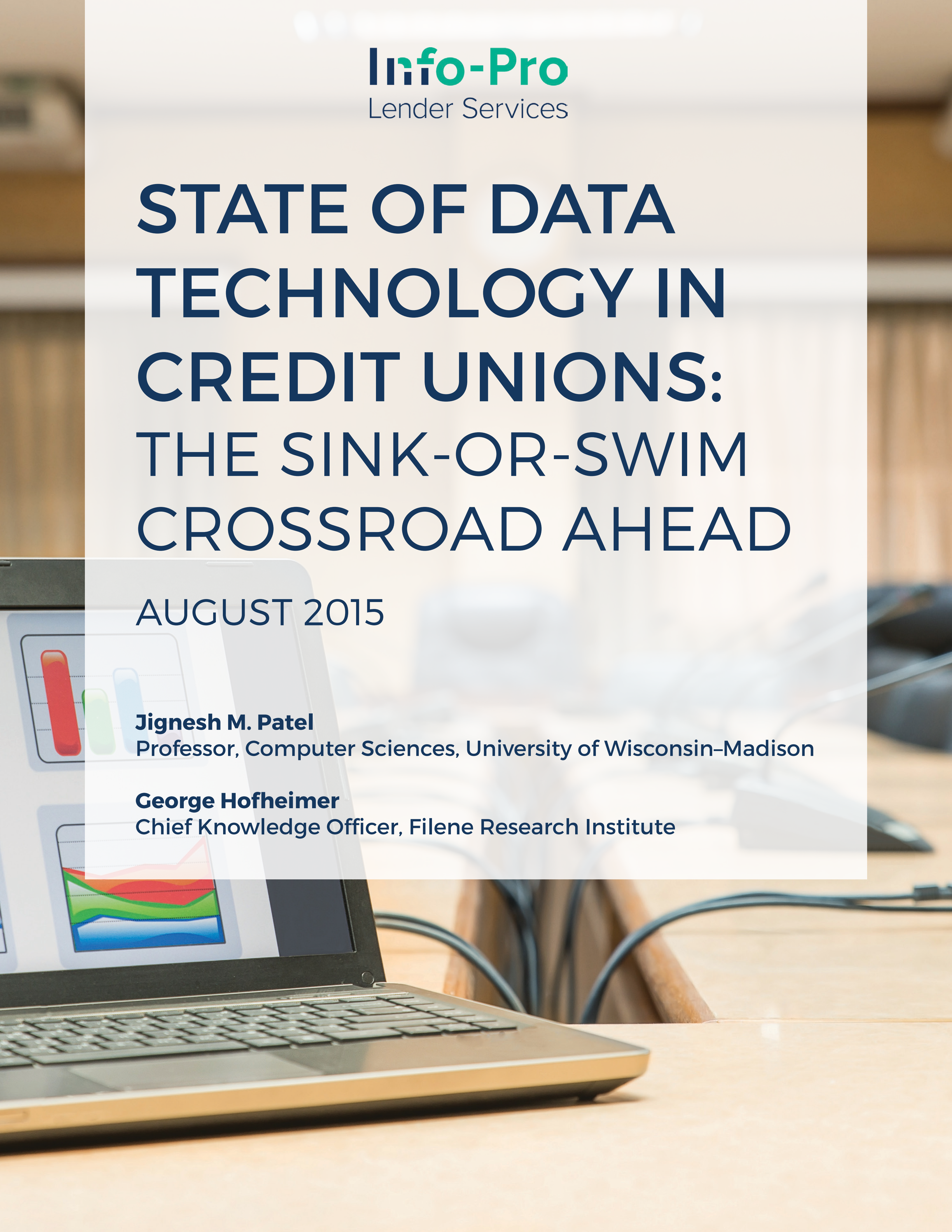

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# STATE OF DATA TECHNOLOGY IN CREDIT UNIONS: THE SINK-OR-SWIM CROSSROAD AHEAD

AUGUST 2015

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# ACKNOWLEDGMENTS

We would like to thank all the survey respondents and interview participants, without whom this report would not have been possible. We would like to disclose that the lead author, Jignesh Patel, was paid by Info-Pro Lender Services via his consulting firm, JMP Consulting. Info-Pro Lender Services also paid Filene, which helped set up the survey. All opinions expressed in the report are those of the authors and do not necessarily reflect the opinions of Info-Pro Lender Services.

Filene thanks our generous supporters for making this important research possible.

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# EXECUTIVE SUMMARY

## Overview

Credit unions seem to be far behind in their use of technology, and while most are aware of the changes that technology has unleashed, there is not a strong sense of urgency to rethink the ways credit unions work.

## Meet the Authors

**Jignesh M. Patel**
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Technology has transformed many vertical sectors of business in the past, and there is a new wave of technology that has the potential to dramatically transform the financial sector. This new wave is being triggered by the changing habits of consumers moving to mobile platforms to interact and transact with financial institutions, and the digitization of the information that powers the decision making in finances for both consumers and providers. An additional trigger is the democratization of big data technologies that now makes sophisticated data analytics capabilities available at an unprecedented low cost both to the providers of financial services and to consumers. Consumers can now compare and contrast competing financial products with a speed and precision that simply wasn't possible just a few years ago.

## What Is the Research About?

Within this broader context of changes, we undertook a focused study of credit unions to better assess the current challenges that credit unions face. Our aim was to determine the role of technology in empowering credit unions to meet the challenges they face today as well as those they anticipate in the near future.

We employed a dual strategy of conducting an online survey, then engaging select respondents in one-on-one, in-depth interviews. Our findings reveal that credit unions are seeing varying levels of growth, suggesting that at least this group of credit unions is competitive in the large landscape of banking institutions.

## What Are the Credit Union Implications?

We found, perhaps not surprisingly, that mobile is the most important touchpoint for consumers when interacting with their credit union. An interesting result of this shift is that physical branches now become more important as relation hubs than as transaction hubs. Physical branches, however, are still relevant in this new dynamic, although the functions that physical branches need to provide are changing rapidly. We find that credit unions use traditional marketing methods in isolation, and they do not have a holistic view of all the interactions with their members, including mobile apps, social media, and traditional direct marketing. Interestingly, incorporating the human element into marketing is likely crucial in the digital age, and ignoring opportunities for actual human interaction in the physical world may dampen credit unions' marketing efforts in the digital world.

A highlight from the research presented here shows an interesting aspect of the gap between CEO and non-CEO respondents when rating their credit union's new member acquisition activities on "importance" and "satisfaction." The research points to opportunities where credit unions have a potential misalignment of their overall business strategy and pain points across the management chain.

Notice a persistent gap in importance and satisfaction with checking and savings and mortgage products. The gap in these cases is over 20%. Delving further into the data, we observe a general tendency for non-CEO respondents to be less satisfied than CEO respondents. This dynamic holds true for every product category except automobile loans, where the responses were nearly identical.

We also observed that credit unions largely employ outdated data technologies to power their core business functions. More alarmingly, rich sources of "new" data, such as user activity data from mobile, are largely ignored. Furthermore, traditional data are often stored in silos, and inefficient and cumbersome processes are used to extract information

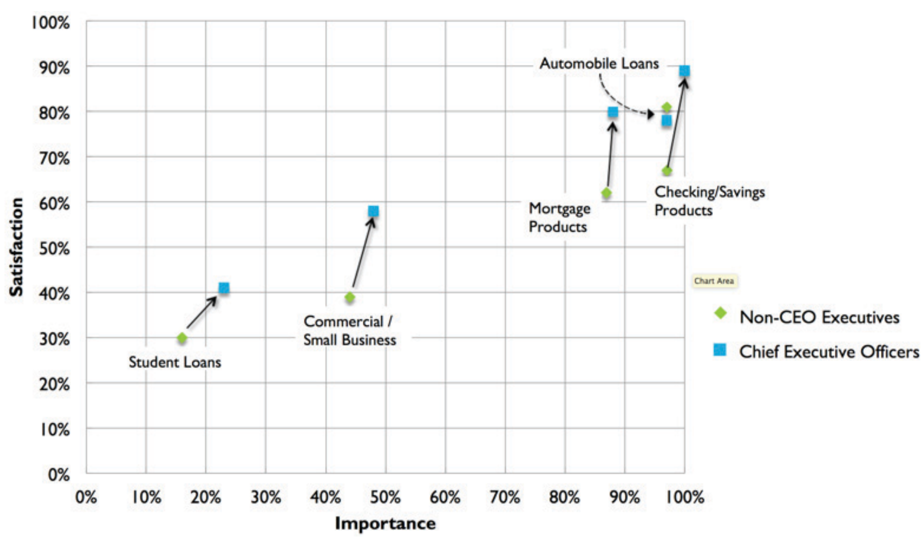


Figure 4: Gap between CEO and non-CEO respondents

across silos. The urgency of extracting real-time insights from data—for example, to maximize a mobile interaction—is largely absent. The silver lining is that this alarming absence of modern big data technologies points to a potential opportunity for credit unions to realize their business goals by exploring and deploying modern data analytics technologies. It is clear that credit unions must embrace big data technologies in order to survive and thrive in the larger financial ecosystem.

# INTRODUCTION

Since the birth of modern computing about six decades ago, computing technology has revolutionized how business works. Different sectors of our economy have adopted technology at different paces, with the financial sector often in the vanguard of new technology adoption. In fact, a key aspect of what powers the so-called big data revolution involves innovations in data processing and management that in the very early days of computing were in large part motivated by managing data for banks. Textbooks on database systems, the precursor to the current big data technologies, are filled with examples that highlight the need for banks to reconcile financial transactions and maintain data consistency.

However, the use of technology in the financial sector has not been uniform, especially over the last decade. While the areas of equity, commodity, and currency trading have aggressively adopted new technologies—witness the dominance of high-frequency trading—other parts of the financial industry have been behind the adoption curve. The banking sector, especially when focusing on aspects that involve core banking functions, has largely been behind in the adoption of modern computing and data technologies.

The key motivation for this research was to focus even further within the financial sector on credit unions. We aimed to examine the state of technology adoption for big data technologies and to point to potential future opportunities for big data in the credit union sector. The overall method that we adopted was to start with a survey across a broad spectrum of participants from credit unions across the country. Then, we conducted focused one-onone interviews with select participants to dig into some of the interesting top-level survey results that stood out. Next, we describe our findings from each of these two components in depth.

# SURVEY BACKGROUND

From February through May 2015, the Filene Research Institute and Professor Jignesh Patel fielded a survey to better understand how credit unions use data to make strategic decisions and where better data and analytics would be most impactful.

We started by developing an online survey[1] and distributing it to Filene's Research Council and members of CUNA Councils (www.cunacouncils.org). This survey yielded 190 usable responses. Figure 1 shows the top-level breakdown of respondents' job titles. The corresponding asset size distribution of the respondents' institutions is shown in Figure 2.

This survey was not meant to be representative of the US credit union system. Rather, the purpose was to examine institutions that have a potentially strong capability in data analytics. Previous Filene studies indicate a strong positive correlation between this capability and asset size[2] National Credit Union Administration (NCUA) data indicate the actual distribution of credit unions by asset size, as shown in Figure 3. As can be observed by comparing Figures 2 and 3, the respondents in our survey tended to be from larger credit unions.

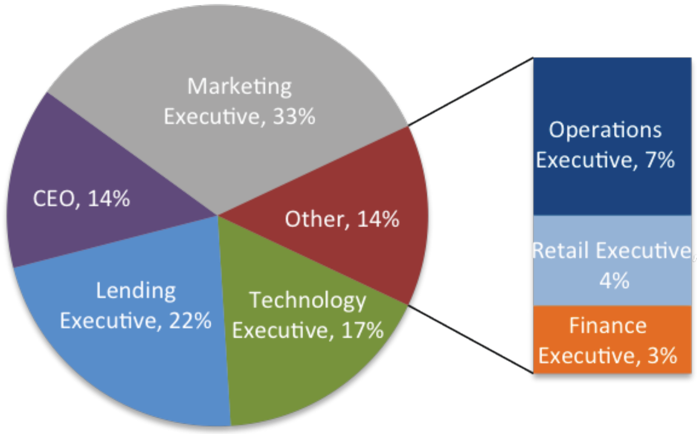



Figure 1: Job function of the survey respondents

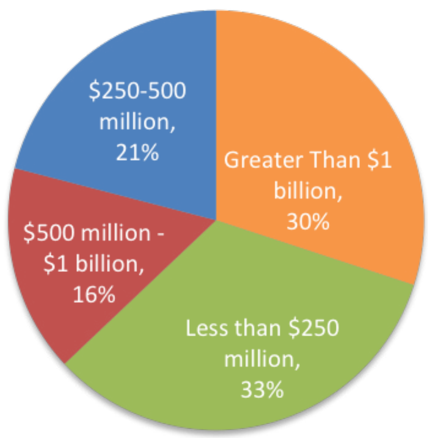



Figure 2: Asset size distribution of the survey respondents

[1]A copy of the survey can be found in the appendix of this research report.
[2]Online and Mobile ChannelStrategies of High-Performing credit unions, Ron Shevlin, Filene Research Institute, 2013.

In addition to the online survey, we conducted extended interviews with survey participants. A total of 39 individuals volunteered for the extended interview, and 12 were selected as interview subjects. These subjects included CEOs and executives in finance, marketing, operations, and technology. The size distribution of the credit unions in this set of 12 interviewees is as follows: 6 participants were from credit unions with assets of over $1 billion (B), 2 were from credit unions with between $250 million (M) and $500M in assets, and the remaining 4 were from credit unions with less than $250M in assets.

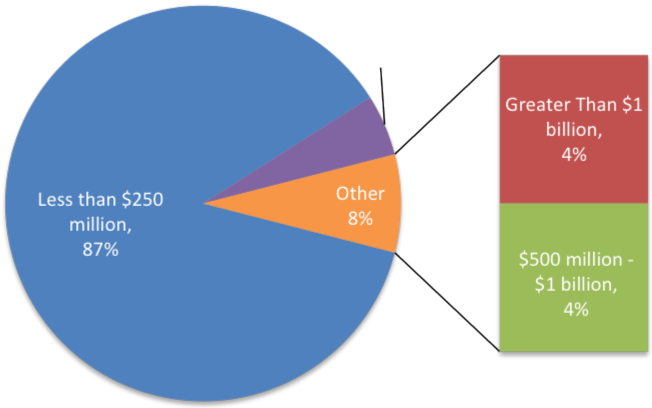



Figure 3: NCUA data on CU distribution by asset size

## Measurement: Importance vs. Satisfaction Gap

The survey was designed to capture the credit union's rating of "importance" versus "satisfaction" in different product areas (checking/savings, automobile loans, etc. and business capabilities (cross-selling, new member acquisition, etc.). This method was employed to understand whether the products and business capabilities are overserved, appropriately served, or underserved in the marketplace. For example, if a product is given an average importance score of 4.8 (on a scale of 1 to 5) but the average satisfaction score for the credit union's current solution is 1, the gap is 3.8. (Note that decimals have been converted to percentages elsewhere in this report.) Such a gap would imply that the market for the product or business capability was underserved and that an alternative solution could create value for credit unions. The reverse is also true. If the satisfaction score is greater than the importance score, the market for the product or business capability may be overserved. An alternative solution for the marketplace might cost less or have fewer features. If the importance and satisfaction scores are similar, this implies that the marketplace is likely appropriately served, so an alternative solution may not be of value.

## Survey Goals

While this research project was designed to provide insight into how credit unions use data to make strategic decisions and where better data and analytics would be most impactful, it was critical to first understand the biggest challenges that credit unions face. The survey was designed to identify those challenges in order to facilitate the follow-up interviews and understand how data and analytics are being used as part of credit unions' current solutions.

## Highlights from the Survey

The survey results highlighted four main areas where credit unions' current solutions are less than satisfactory. The application of big data solutions could help address each of these areas. The four areas are new member acquisition, marketing techniques, cross-selling to existing members, and information resources.

### New Member Acquisition

The first highlight is related to the following survey question: "How important is it for your credit union to sell the following products to new members and how satisfied are you with your current solution?"

We found that respondents ranked the products' importance, in terms of sales to new members, in the following order:

1. Checking/savings products (96%)
2. Automobile loans (96%)
3. Mortgage products (87%)
4. Commercial/small business products (44%)
5. Student loans (17%)

Furthermore, the respondents indicated the following order in terms of satisfaction with their current solution:

1. Automobile loans (80%)
2. Checking/savings products (70%)
3. Mortgage products (66%)
4. Commercial/small business products (41%)
5. Student loans (31%)

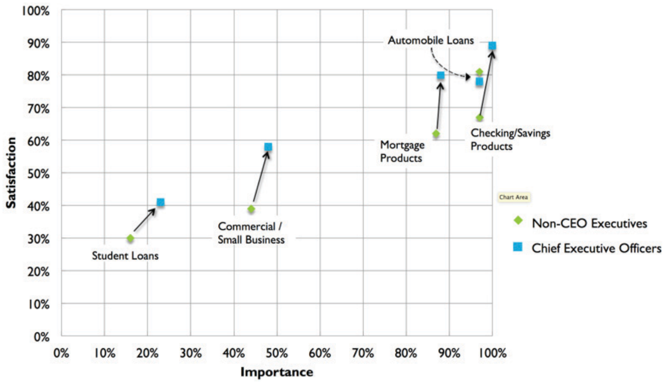


Figure 4: Gap between CEO and non-CEO respondents

Notice a persistent gap in importance and satisfaction for checking/savings and mortgage products. The gap in these cases is over 20%. Delving further into the data, we observe a general tendency for non-CEO respondents to be less satisfied than CEO respondents. As Figure 4 illustrates, this dynamic holds true for every product category except automobile loans, where the responses were nearly identical. The gap between the CEO and non-CEO respondents suggests a potential misalignment of the overall business strategy and pain points across the management chain.

### Marketing Techniques

Respondents were asked to give importance and satisfaction ratings for various marketing techniques used in new member acquisition; the results are shown in

Figure 5. Not surprisingly, marketing is seen as an essential tool in new member acquisition; however, satisfaction levels are noticeably lower than importance levels, especially for new marketing techniques. This relationship remains strong across a variety of demographic categories including large, medium, and small asset size institutions.

| | **Traditional marketing techniques (design, communication, etc.)** | **New marketing techniques (social media, pay-per-click, etc.)** |
|---|---|---|
| Importance | 89% | 86% |
| Satisfaction | 75% | 44% |
| Difference | 14% | 42% |

**Figure 5**

## Cross-Selling to Existing Members

Next, we asked respondents to rate the importance of, and their satisfaction with, specific cross-selling tactics. We discovered significant deficiencies in credit unions' perceived importance of these activities compared with their stated satisfaction (see Figure 6). These gaps exist across all demographic profiles surveyed in this research, with the gaps tending to widen for smaller-sized institutions.

Textual analysis of the comments reveals respondents believe the product mix that best drives retention at their credit union includes deposit products (checking, debit, etc.), followed closely by mortgage loans and credit cards. Auto loans were a trailing product in terms of retention.

## Information Resources

Finally, we examined information resources essential to serving current and prospective markets. The trend continues of respondents in all demographic categories rating the importance of most sources very high with a corresponding low satisfaction with current sources.

| | **Importance** | **Satisfaction** | **Gap** |
|---|---|---|---|
| Identifying members who are good prospects for additional products | 97% | 31% | 66% |
| Knowing the "next best product" for existing members | 90% | 30% | 60% |
| Maximizing revenue per existing members | 86% | 31% | 55% |
| Selling multiple products to existing members | 96% | 42% | 54% |
| Retaining existing members | 95% | 49% | 46% |

| Type | Importance | Satisfaction | Gap |
|---|---|---|---|
| Cost of Consumer Acquisition | 70% | 25% | 45% |
| Competitive Product Features Analysis | 84% | 41% | 43% |
| Product Benchmarking | 76% | 34% | 42% |
| Consumer Segmentation | 83% | 51% | 32% |
| Consumer Trends and Insights | 87% | 59% | 29% |
| Market Share | 70% | 45% | 26% |
| Geographic Analysis | 66% | 47% | 19% |
| Indexing (e.g. loan portfolio comparison to key competitors) | 70% | 51% | 19% |
| Risk Modeling (e.g. balance sheet management) | 87% | 74% | 14% |
| Asset Protection (e.g. mortgage delinquency data) | 70% | 63% | 8% |

The survey results were quite clear: Credit unions are generally dissatisfied with their ability to acquire new members, adopt new marketing techniques, identify information resources relevant to existing and prospective markets, and especially their ability to cross-sell to existing members. The survey enabled us to identify these challenges at a high level and provided the direction for conducting focused interviews to determine the impact data analytics have on the credit union's current solution for addressing the challenges highlighted.

# FOCUSED INTERVIEWS

In the initial survey, we asked respondents to indicate if they were willing to participate in a follow-up focused interview. Of the 190 individuals who completed the initial survey, 39 volunteered for a 30-minute follow-up interview. Filene facilitated the initial communication with those 39 individuals, and 12 interviews were ultimately scheduled and completed. When selecting candidates for the focused interviews, it was important that the interviewee's survey results were similar to the trends for all respondents, ensuring that the interviews were largely representative of the broader group. In addition, it was important to conduct interviews with individuals from credit unions of different asset sizes and representing different departments. The interviewees were not given any insight into the trends or overall results from the survey prior to the interview.

The interview team's goal was to explore the greatest challenges in the four main areas identified in the survey. These areas were:

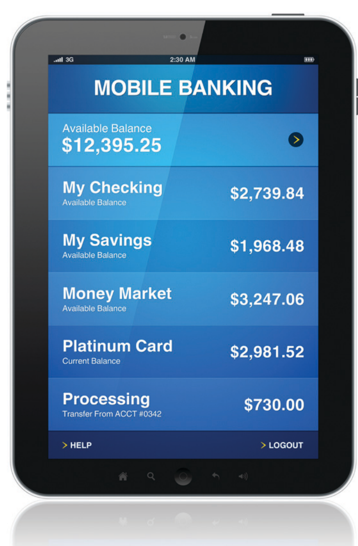
1. New member acquisition
2. New marketing strategies (social media, e-mail, etc.)
3. Cross-selling to existing members
4. Data aggregation and analytics across existing products

The team explored current solutions, current and past successes, current and past failures, and future prospective projects of credit unions in the four areas. There were three main goals for the interviews: (1) understand the approach taken by credit unions to solve problems in the four areas, (2) understand how data and analytics are used to support their approach, and (3) identify specific opportunities within each problem area that are likely to create the most value. We describe these key takeaways from the focused interviews in more detail next.

## Key Takeaways

Most of the credit unions we talked to are successfully positioning themselves in an increasingly competitive market. But there is a rich diversity of strategies to sustain and grow credit unions. These strategies range from taking on competitors (including regional banks) head-on to taking a "swim away from the sharks" approach. An example of the latter is taking a focused approach to growing the automobile loan business, which other lenders tend to avoid, and establishing unique abilities to analyze the data and accurately determine the risks for such automobile loans. Thus, there is no one-size-fits-all solution for growing a credit union.

Even though the credit unions that participated in the focused interviews are doing well and growing, they would like to grow even more aggressively. Credit unions have different missions because of the diversity of their charters, and that adds a unique dimension to their growth strategies. However, a number of crosscutting pain points and themes quickly start to emerge, as outlined below. A thoughtful big data strategy could assist credit unions with each of these pain points and themes.




### Mobile First

Not surprisingly, members have embraced mobile phones as the primary way of interacting with their credit union. The bulk of transactions, especially routine transactions, are now being carried out on mobile phones. Credit unions need to recognize that their mobile presence is perhaps the most important member touchpoint.

## Changing Nature of Branches

Branches, which in the recent past were the key hubs for transactions, have now become hubs for relationship management. Members rarely walk into branches, but when they do, they present an important opportunity to better understand members' needs and make them aware of the relevant products they might not have considered.

## The Human Touch Matters

Even though members interact with credit unions primarily via mobile, human interaction does matter. For example, when trying to expand the circle of trust to the member beyond existing products, using digital means (e.g., e-mail, text, in app alerts) works well only when coupled with some human touch (e.g., a phone call). But the personal interaction has to be done in a tasteful way that is respectful of members' privacy and time. The human touch is crucial in amplifying the effects of other marketing efforts.

## New Marketing Techniques Lagging

Traditional TV, radio, and print marketing are still effective, though their effectiveness varies. TV and radio advertising continue to be important. Perhaps surprisingly, direct mail marketing channels are still very important, too. While many credit unions are experimenting with social media marketing, there haven't been any resounding successes among the group that we interviewed. Most social media marketing efforts are in the early stages, and it remains to be seen if social media will play a significant leading role in marketing. It certainly is important for brand creation and brand imaging.

## Inadequate Marketing Resources

The resources that credit unions allocate to marketing vary widely. Not surprisingly, marketing budgets are largely correlated with the size of the credit union. For the smaller credit unions among our interviewees, the marketing department consists of a few individuals, making it difficult to have best-in-class output.

## Best Product Mixes Not Well Defined

The credit unions we interviewed continue to experiment with their product mix, and while checking accounts are important—they generally start the relationship they aren't the leading revenue maker. Thus, finding the right product mix continues to be a challenge for these credit unions, especially given the highly competitive nature of the marketplace. Newer products such as mobile pay may put even more pressure on these credit unions. Strategies for how credit unions might partner with the big mobile pay players (e.g., Apple, Google) are still in the formative stages, and no clear winning strategy for the credit union has yet emerged.

## Varied Growth Strategies

The strategies for growth vary widely across the interviewed credit unions, and in some cases they are constrained by the charter. Some credit unions are focused on deep crosssell across their products, while others are looking to expand to additional services and are using a profile database to identify potential new members. The big banks offer large incentives to new customers (e.g., cash bonuses for new checking accounts), and credit unions generally cannot afford to compete on such offers. Credit unions tend to focus more on personal referrals. Geographical proximity plays an important role in targeting new members. Thus, physical branches are still important, as in many cases the membership is highly concentrated around the physical branch locations.

## Data Analysis is Largely Manual

The adoption of technology in the interviewed credit unions is clearly lagging. It is very common to see core technologies that are decades old. Furthermore, the back-end enterprise architecture for managing and analyzing data is often a duct taped solution, consisting of various silos of data. An enormous amount of human time is spent on processes that move data from one silo to another or into tools (e.g., Excel spreadsheets) to carry out analytics that power business decisions. In some cases, the crucial analytics that monitor the health of the business or generate insights about how to better engage existing and new members is outsourced. Analysis of data is often static, and it is often not real-time. There is surprisingly minimal use of transactional data for analytics, and there is surprisingly little use of real-time predictive analytics (e.g., predicting whether a member is going to churn).

## Unknown Member Behavior

These data silo issues suggest that the credit unions don't have a 360-degree view of their members, which makes it challenging for them to engage members at every touchpoint in a meaningful way. Not surprisingly, most credit unions complain of challenges in acquiring new members. Ironically, even though credit unions operate under the KYC (Know Your Customer) umbrella, they really don't know their members' behavior and needs that well.

# POTENTIAL OPPORTUNITIES

While most of the credit unions interviewed indicated they had strong financial reporting solutions, many highlighted significant opportunities in leveraging a wider set of data and employing more current data and predictive analytics to increase membership, to grow their share of wallet, and to retain members. One respondent used the phrase "we are walking where we would like to be running" to describe how they are using data to maximize member relationships.

The following opportunities were consistently discussed during the interviews:

- **Actionable data.** Many credit unions indicated a desire to use better data to attract, grow, and retain member relationships. While most credit unions are using data to support their marketing efforts, the use of transactional data, more current data, data from a wider range of sources (including digital marketing), and data from outside the organization were consistently identified as significant opportunities.

- **Member scorecard.** Most organizations have robust financial reporting and dashboards. While many organizations have a good understanding of some member metrics, many reported feeling they do not have a good 360-degree view of their members' impact on the organization. For example, one survey participant highlighted the value of understanding which members refer the most new members to the credit union. A complete member scorecard that integrates member acquisition, retention, monetization, and referrals would improve decision making.

- **Predictive analytics.** There are significant opportunities to use member data to maximize the value of the credit union's relationships with its members. Predictive analytics based on a wide range of data could provide the data necessary to bridge the gap between the ever-changing needs of the member and the credit union's understanding of their members' current needs.

- **Multichannel relationship management.** Most credit unions rely heavily on teller interactions to support their marketing initiatives. Several organizations reported having some kind of cross-selling platform that their tellers use. Leading credit unions may consider moving toward a relationship management model that uses a wide range of data (including transactional data) and predictive analytics and facilitates interactions with all channels (including mobile).

- **Simpler banking enterprise ecosystem.** The back-end systems that are typically deployed in a credit union to manage transactional data are often a duct-taped solution that requires enormous software and hardware engineering resources to operate. There is a clear need for a simpler enterprise platform that has a far lower cost of operation and that permits seamless integration with modern analytics tools. Besides traditional data there is a richer (and far more voluminous) source of data originating from user interactions on mobile devices and web applications. These user activity logs are a gold mine of information that can allow credit unions to better understand their members and their frame of mind at the present moment. This type of data is crucial for any type of predictive analytics, yet it is largely ignored. There are rich opportunities in marrying these data with traditional banking data by employing modern analytics tools.

# CONCLUSION

We are at an exciting and terrifying nexus point for credit unions. Historical events and forces have given credit unions an incredible gift—the time to build a brand and a member base over multiple decades. But credit unions are now in an extremely competitive environment, as banking is becoming yet another service that members can access digitally from anywhere at any time. In this new world, maintaining a brand requires a dramatic reimagination of what the touchpoints are in interacting with members. In addition, gaining new members requires a critical examination of how the credit union speaks to members in the new digital language. Credit unions seem to be far behind in their use of technology, and while most are aware of the changes that technology has unleashed, there is not a strong sense of urgency to rethink the ways credit unions work. In the past, technology has ruthlessly upended incumbents that were slow to change and handsomely rewarded incumbents that fully embraced technology. In our view, credit unions are clearly at this nexus point, and to survive they must incorporate technology deep into their DNA, and fast.

# COPY OF FIELD SURVEY

FIELD SURVEY CONDUCTED FEBRUARY–MAY 2015

Introduction and Overview

Filene Research Institute is working with Jignesh Patel, a computer science professor at the University of Wisconsin – Madison nationally renowned for his expertise in the area of "big data", to better understand how credit unions use data to make strategic decisions and where better data and analytics would be most impactful.

This project has the following aims:

1) Use empirical data to determine what credit union decisions would benefit the most from improved data analytics
2) Describe how these decisions are currently being made and the potential impact of providing better data

To answer these research questions we ask you to complete a short (5 to 10 minutes) survey. Additionally, we are looking for a few individuals who would be willing to have a short telephone conversation with professor Patel to add context to the survey responses.

In return for your time and expertise, Filene will deliver research findings and implications via a webinar sometime in mid-summer 2015. Additionally, when the final report is issued we will distribute the report to you individually.

Thank you again for your time and if you have any questions about this project feel free to contact George Hofheimer, Filene Research Institute's chief knowledge officer at georgeh@filene.org.

*(continued)*

## Demographics

**Tell us a little bit about yourself and your credit union.**

1. Choose the job title that best describes your position.

- ◯ CEO
- ◯ Operations Executive
- ◯ Marketing Executive
- ◯ Lending Executive
- ◯ Finance Executive
- ◯ Retail Executive
- ◯ Technology Executive

2. Which asset size range does your credit union currently fall?

3. Does your credit union currently participate in a Credit Union Service Organization (CUSO)?

- ◯ Yes
- ◯ No
- ◯ Not Sure

*(continued)*

## New Member Acquisition Research

**This section explores the __importance of lead generation for new member prospects__ and assesses __how satisfied your organization__ is with its current approach to this activity.**

4. How important is it for your credit union to acquire new members?

| Not important | Slightly Important | Moderately Important | Important | Very Important |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

5. How important is it for your credit union to sell the following products to new members and how satisfied are you with your current solution?

| | Importance | Satisfaction |
|---|---|---|
| Mortgage Products | | |
| Checking/Savings Products | | |
| Commercial/Small Business Products | | |
| Automobile Loans | | |
| Student Loans | | |

6. In addition to mortgage, checking/savings, commercial/small business, automobile loans, and student loans please list other products for which selling to new members is important at your credit union.

7. How important are the following __marketing__ capabilities for new member acquisition and how satisfied are you with your credit union's current ability in each area?

| | Importance | Satisfaction |
|---|---|---|
| Traditional marketing techniques (design, communication, etc.) | | |
| New marketing techniques (social media, pay-per-click, etc.) | | |

*(continued)*

8. Please provide additional comments on your credit union's new member acquisition activities?

*(continued)*

## Cross Selling and Upselling

**The focus of this section is to better understand how <u>important cross-selling/upselling additional products</u> to your existing members is and how <u>satisfied you are with your credit union's current approach</u> to this activity.**

9. Please rate the importance and satisfaction of the following activities at your credit union.

| | Importance | Satisfaction |
|---|---|---|
| Selling multiple products to existing members | | |
| Maximizing revenue per existing members | | |
| Retaining existing members | | |
| Knowing the "next best product" for existing members | | |
| Identifying members who are good prospects for additional products | | |

10. In your experience what product mix is best for driving member retention at your credit union?

*(continued)*

## Key Performance Indicators

**The focus of this final section is to better understand the <u>business intelligence and information sources</u> that are important to your credit union's leadership and your <u>satisfaction with these sources</u>. We also ask you to identify key gaps in the types of information that you would like to have access to in the future.**

11. How important is it for your credit union to have access to the following types of information for current and/or prospective markets?

| | Importance | Satisfaction |
|---|---|---|
| Market Share | | |
| Product Benchmarking | | |
| Consumer Segmentation | | |
| Consumer Trends and Insights | | |
| Cost of Consumer Acquisition | | |
| Competitive Product Features Analysis | | |
| Geographic Analysis | | |
| Asset Protection (e.g. mortgage delinquency data) | | |
| Indexing (e.g. loan portfolio comparison to key competitors) | | |
| Risk Modeling (e.g. balance sheet management) | | |
| Property Tax Tracking | | |

12. What information sources do you currently receive to understand the markets in which you compete (e.g. industry reports, internal research, consultant reports, etc.)? Please be specific.

*(continued)*

13. If you or someone from your organization be willing to participate in a brief, follow up telephone interview with the researcher to discuss data acquisition and decision making in your credit union, please provide your contact information below.

| | |
|---|---|
| **Name** | |
| **Email** | |
| **Phone** | |

# ENDNOTES

[1] A reproduction of the survey can be found in the appendix.
[2] Ron Shevlin, Online and Mobile Channel Strategies of High-Performing Credit Unions (Madison, WI: Filene Research Institute, 2013). Info-Pro Lender Services

# ABOUT THE AUTHORS

## Jignesh M. Patel

Professor, Computer Sciences, University of Wisconsin–Madison

Jignesh Patel is a professor in computer sciences at the University of Wisconsin– Madison, where he also earned his PhD. He has worked in the area of databases (now fashionably called “big data”) for over two decades. He is the recipient of an NSF CAREER Award and multiple Google, IBM, Microsoft, Oracle, and Samsung faculty awards. His papers have been selected as the “best papers in the conference” at VLDB (2012), SIGMOD (2011), and ICDE (2010, 2011). He also has a strong interest in seeing research ideas transition to actual products. His thesis work was commercialized via an acquisition by NCR/Teradata. He also cofounded Locomatix, a startup that built a platform to power real-time datadriven mobile services. Locomatix became part of Twitter in 2013. Jignesh is also an ACM Distinguished Scientist. He blogs at bigfastdata.blogspot.com.

## George Hofheimer

Chief Knowledge Officer, Filene Research Institute

As Filene’s head of research and innovation, George arms credit unions with the creative yet practical ideas they need to be competitive. Prior to joining Filene, he spent eight years leading the executive education function for the Credit Union Executives Society (CUES). Before his career in consumer finance, George lived for a number of years in Uzbekistan working for such disparate organizations as the US Peace Corps, Price Waterhouse, the American Council of International Education, and Qora-Tepa Village School. George earned an MBA from the University of Wisconsin–Madison. He previously served as board president at Willy Street Co-op, a $40M, 30,000-member grocery cooperative.

# ABOUT FILENE

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Filene Research Institute is an independent, consumer finance think and do tank. We are dedicated to scientific and thoughtful analysis about issues affecting the future of credit unions, retail banking, and cooperative finance.

Deeply embedded in the credit union tradition is an ongoing search for better ways to understand and serve credit union members. Open inquiry, the free flow of ideas, and debate are essential parts of the true democratic process. Since 1989, through Filene, leading scholars and thinkers have analyzed managerial problems, public policy questions, and consumer needs for the benefit of the credit union system. We support research, innovation, and impact that enhance the well-being of consumers and assist credit unions and other financial cooperatives in adapting to rapidly changing economic, legal, and social environments.

We're governed by an administrative board made up of credit union CEOs, the CEOs of CUNA & Affiliates and CUNA Mutual Group, and the chairman of the American Association of Credit Union Leagues (AACUL). Our research priorities are determined by a national Research Council comprised of credit union CEOs and the president/CEO of the Credit Union Executives Society.

We live by the famous words of our namesake, credit union and retail pioneer Edward A. Filene: "Progress is the constant replacing of the best there is with something still better." Together, Filene and our thousands of supporters seek progress for credit unions by challenging the status quo, thinking differently, looking outside, asking and answering tough questions, and collaborating with like-minded organizations.

Filene is a 501(c)(3) not-for-profit organization. Nearly 1,000 members make our research, innovation, and impact programs possible. Learn more at filene.org.

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