



# AI Meets AR

Data Scientists Weigh in on a \$9 Billion  
Problem for Community Associations



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EQUITY



EXPERTS







# AI MEETS AR

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## Data Scientists Weigh in on a \$9 Billion Problem for Community Associations

### INTRODUCTION

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Let's begin with some basic economics for community associations. We will not dig too deep into the numbers, but an overview helps underscore the need and the potential value of solutions.

First, we should grasp the scope of the issue. Based on 2023 data from the Community Associations Institute (CAI) there were 28.2 million homes in community associations that generated \$108.8B in assessments within the US.

## **\$108.8 BILLION**

### Assessments Collected from Homeowners

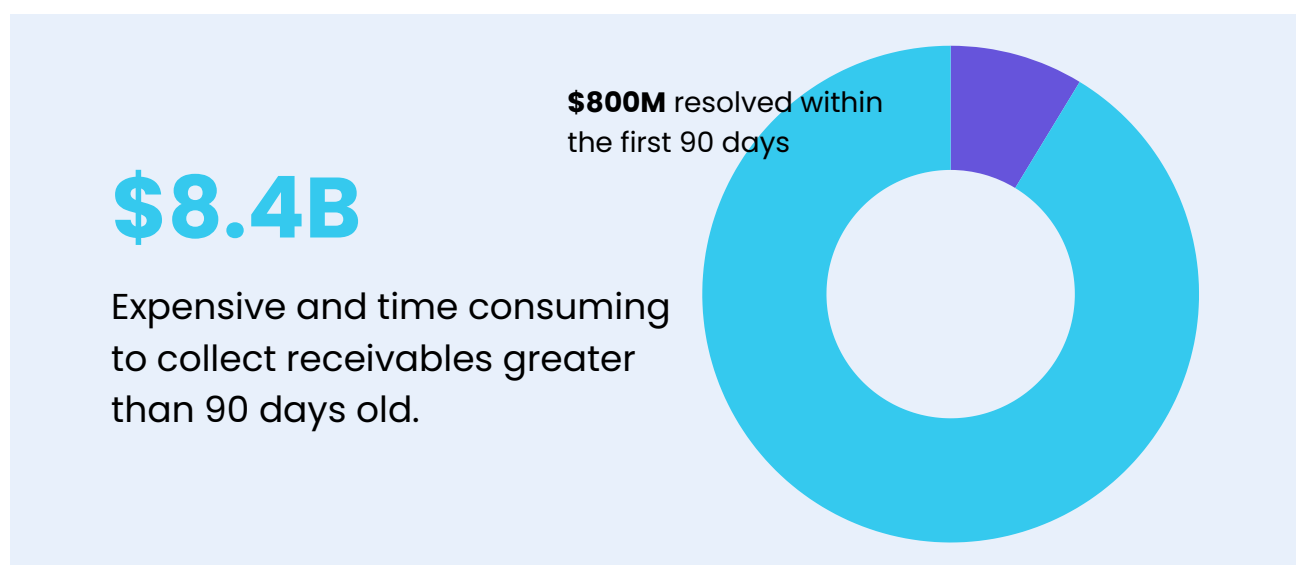
Assessments fund many essential association obligations, including professional management services, utilities, security, insurance, common area maintenance, landscaping, capital improvement projects, and amenities like pools and club houses.



# THE PROBLEM

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Based on a sample of 1,333,821 units across the country, community associations report that an average of **8.42% of units become past due**. There is no data to specify the dollar amount associated with those delinquencies, which could be disproportionately high if we assume higher assessments are more likely to become delinquent, or low if we assume lower assessments are more likely to become delinquent.



Therefore, we will assume that the national delinquency rate corresponds to the total annual assessments reported by CAI, which means **communities are likely carrying \$9,157,940,620 in delinquencies and collection costs**. That would be \$325/year in carrying costs per home. In a recession, these amounts can double or even triple.

Of the 8.42% of units that become delinquent, **4.08% are resolved within the first 90 days**, and the remaining 4.34% are referred to third parties for escalated action. Resolutions that happen within the first 90 days are achieved by managers and boards at a relatively low cost. These make up a small portion (\$705,109,250) of the \$9.2B mentioned above since the principal balance is low and there are no legal fees incurred.

Still, managers that embrace new technologies, including workflow automation and AI, have improved these recovery times while removing hours of wasted labor from monitoring past due accounts and managing payment plans. **The 4.34% of delinquencies referred to third parties totals a staggering \$8,452,831,369 in assessments, including legal fees and related collection costs.** This is the area of greatest economic harm to communities, both in terms of the economic burden and the length of time it takes to resolve these accounts.



# THE OPPORTUNITY

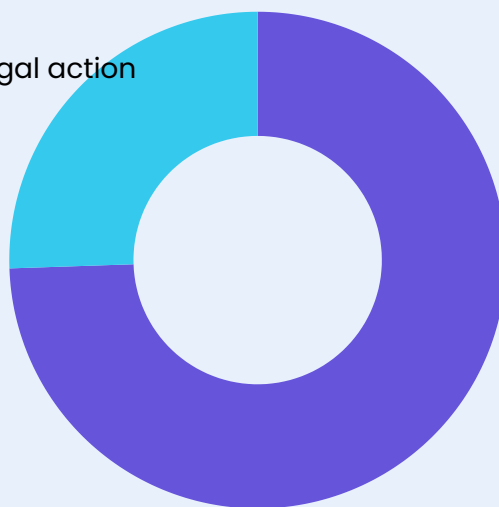
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AI and workflow automation currently has the potential to **resolve 70% of all delinquencies**, returning \$6,274,500,000 to communities in a fraction of the time with no need for human intervention or legal action. That creates an extra \$223 annually per home that can be used to improve the community and bolster reserves.

**\$6.3B**

Artificial Intelligence (AI)  
and automation  
opportunities

**\$2.16B** legal action  
required



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“The integration of AI and predictive analytics into the community association industry represents a monumental shift. By leveraging these technologies, we can significantly reduce delinquency rates, optimize collection processes, and ultimately save billions of dollars. This is not just about improving efficiency; it’s about empowering communities to thrive financially.”

**Jason Harper**  
**President & Founder**  
**Ready Signal**

# U.S. COMMUNITY ASSOCIATIONS, HOUSING UNITS & RESIDENTS

Year	Communities	Housing Units (millions)	Residents (millions)
1970	10000	0.7	2.1
1980	36000	3.6	9.6
1990	130000	11.6	29.6
2000	222500	17.8	45.2
2002	240000	19.2	48
2004	260000	20.8	51.8
2006	286000	23.1	57
2008	300800	24.1	59.5
2010	311200	24.8	62
2011	317200	25.4	62.7
2012	323600	25.9	63.4
2013	328500	26.3	65.7
2014	333600	26.7	66.7
2015	338000	26.2	68
2016	342000	26.3	69
2017	344500	26.6	70
2018	347000	26.9	73.5
2019	351000	27.2	73.9
2020	355000	27.5	74.1
2021	358000	27.7	74.2
2022	362000	28	75
2023	365000	28.2	75.5







# WHERE AI IS ALREADY WORKING

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## COLLECT.AI



Collect.ai is using AI to collect over \$7.6 Billion in AR for 50+ companies in Europe, including applications for rent collection.

## ELISE.AI



Elise AI has reduced apartment rent delinquencies by 52% for their clients.

## GARTNER



Gartner has identified 28 companies that offer cloud-based applications to automatically manage collections.



# WHERE AI IS ALREADY WORKING

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In a recent article titled [5 Ways Generative AI is Transforming Accounts Receivable](#) we see how businesses are already incorporating AI to revolutionize their AR functions and reduce manual tasks that are prone to errors. One of those ways is Personalized Collections Strategies and Correspondence.

- Generative AI enables businesses to develop personalized collections strategies and letters tailored to individual customer preferences and payment behaviors.
- By analyzing vast amounts of customer data, including communication history, payment patterns, and credit risk profiles, AI algorithms can recommend the most effective collection approaches for each debtor.
- GenAI can prepare personalized reminder letters for each customer. Whether it's sending reminders, offering discounts, or negotiating payment plans, personalized collections strategies enhance debtor engagement and increase the likelihood of timely payments.

## GARTNER ON CFOS AND AI

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Based on a [2024 survey by Gartner](#), number one on the list of priorities for CFOs is leading transformation efforts.



"The focus on transformation efforts aligns with the increased interest in GenAI and other disruptive technologies. This also speaks to the role the CFO plays in evaluating and aligning investment in these transformative technologies, both in finance and across the enterprise."

**Marko Horvat**  
**Vice President, Research**  
**Gartner Finance Practice**



## MCKINSEY ON DIGITAL-FIRST COLLECTIONS

Helpful parallels can be drawn from an [article by McKinsey & Company](#) that addresses how digital communication is transforming collections and improving repayment times by as much as 5X for mortgage lenders. What they describe as “critical capabilities in the customer-assistance stack” includes proven value drivers in three key areas: digital-first customer journeys, analytics-driven intelligence, and technology enablement.

McKinsey goes on to say that a digital-first solution should be powered by an AI-led advanced-analytics stack. This means moving away from what they describe as a broad-brush approach that uses a linear contact strategy. (That would aptly describe the collections policies used by most communities.)

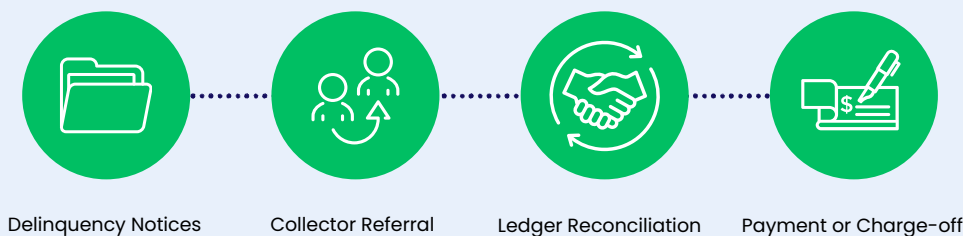
While standard notices at predetermined intervals may still be required, they could – and should – be supplemented by AI-led decision making and communications tailored to each person. “Based on data-driven decision making, advanced-analytics-driven intelligence can be injected into collections journeys to create a more responsive and personal service.”



# AI-LED DECISION MAKING CAN REPLACE A BROAD-BRUSHED APPROACH

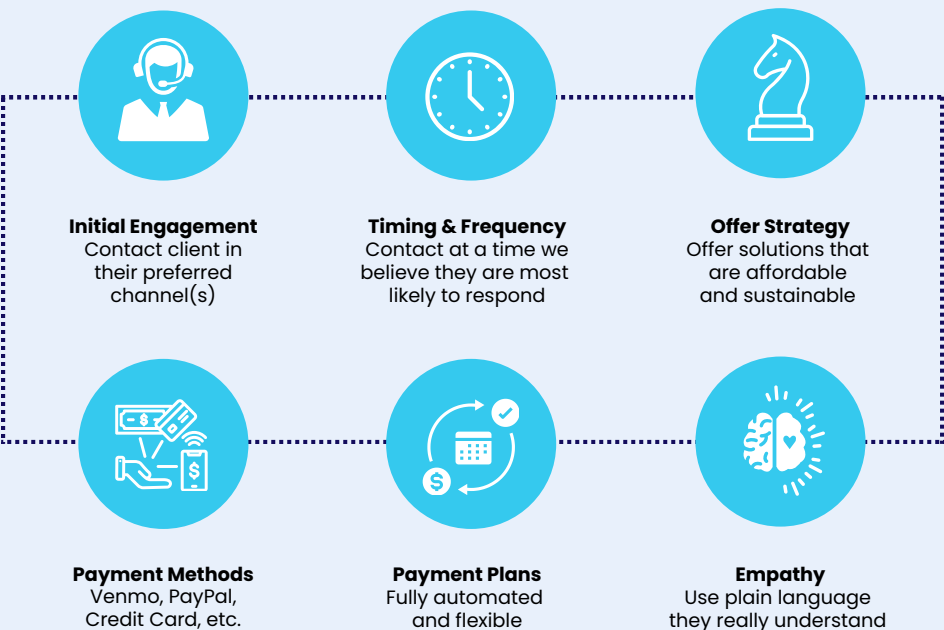
## The Current State – Linear Contact Strategy

Standard notices at predetermined levels have been the industry norm, with minimal success.



## The Future State – Dynamic Contact Strategy

Utilizing preferential communication modes and timing based on Generative AI, collection rates increase exponentially.



# PROMISING RESULTS

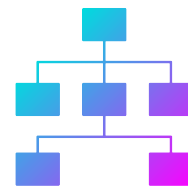
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The opportunity referenced in the opening of this study is already being realized by early adopters of AI and workflow automation that are resolving up to 70% of their delinquencies with zero labor and increased revenue. This is the culmination of data tracked over a 20-year period of collection activities. This historical data was the basis for a patent-pending algorithm that will continue to evolve and improve as future data is ingested by the AI engine. These are details on how best practices have evolved, along with the progress our industry will realize as these practices and technologies are adopted:

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## Standard Sequential Workflow

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This is what most managers already do; a series of prescribed communications at predetermined intervals. As we noted above, this is the baseline for our study where nearly half of all delinquencies are resolved but only \$705M of the total \$9.2B is recovered. Introducing AI at this stage is helping managers reduce labor costs and recover this “low hanging fruit” faster.

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## Rules-Driven Workflow

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Data analysis and intuitive experience has allowed us to continually improve resolution rates for communities to the point where roughly half of all accounts referred to collections can be resolved without legal action. Using this informed method of collection, a resolution rate of 50% is significant at \$4.2B but still time-consuming and relatively expensive.

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## AI-Based Workflow

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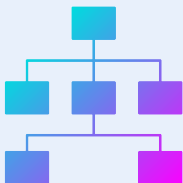


This is where things get exciting. We are scratching the surface with initial resolution rates of 70% that are achieved in a few months for an average cost that is under \$200 per delinquency. The machine learning capabilities of this closed-AI system will continually improve based on experience. We are confident that resolution rates exceeding 90% will be achieved.



# AI-BASED WORKFLOWS AND ITS IMPACT ON RESOLUTION RATES

## Standard Sequential Workflows



Most Community Managers are speaking to delinquent homeowners through a series of prescribed communications at predetermined levels – all with little effectiveness in resolving debt before attorney involvement.

## Rules-Driven Workflows



Success of debt recovery prior to attorney involvement significantly improves when one uses an informed method of collection that involves data analysis and intuitive experience, though this method is costly and time-consuming.

## AI-Based Workflows



When Generative AI is used to determine and automate communication methods, a 70 percent resolution rate is possible. Through enhanced machine learning, experts believe this will climb to 90 percent effectiveness.



## REAL-WORLD EXAMPLES IN COMMUNITY ASSOCIATION MANAGEMENT

Now that we've explored AI's impact on debt recovery as a whole, we will now turn to the community association management space. AI is significantly transforming the collections process for HOAs and COAs, delivering unprecedented efficiency and faster resolutions. With AI-driven platforms, community associations can automate the majority of their collections workflows, drastically reducing the time and labor needed to resolve delinquencies.

For example, a management company utilizing TechCollect resolved **37% of all delinquencies in the first 15 days** of using the platform. In 45 days, the organization achieved a **72% delinquency resolution rate** – compared to an industry average of 48% over 90 days – through 680 automated communication steps, all without manual intervention.

This transformation not only saves time and resources but also fosters a better homeowner experience by delivering timely, personalized communication. As AI continues to evolve, its capabilities in collections management will offer HOAs and COAs even greater precision, speed, and adaptability, ensuring financial health and operational efficiency for the communities they serve.



# THE NABO GROUP ON AI-DRIVEN COLLECTION PROCESSES

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Technology-driven management companies are recognizing the importance of incorporating GenAI capabilities into their tech stack, especially with respects to AR recovery. Prior to onboarding with TechCollect, The Nabo Group faced challenges recouping debt as each generation had unique communication preferences – from younger homeowners preferring digital formats to older residents who still value paper statements.

By integrating TechCollect with their existing systems, The Nabo Group achieved a flexible, automated approach that tailors communication methods to each homeowner's preference, ensuring clear and consistent outreach across the board. TechCollect's automation also helped The Nabo Group stay compliant with state-specific regulations, which can often complicate the collections process for management companies.

Through automated workflows, the platform not only streamlined collections but also provided data-driven insights on the optimal steps for each case, helping avoid unnecessary legal escalation. The adaptability of TechCollect allowed The Nabo Group to offer convenient payment options like Venmo and Apple Pay, making it easier for homeowners to settle debts before escalating to more severe measures.



"By layering TechCollect onto our existing system, we're able to cater to everyone's needs. It works for the 20-year-old who's glued to their phone and the 90-year-old who still prefers a paper statement. TechCollect will help us communicate with homeowners to their preference while staying on top of state legislation."

**Tyler Hawes**  
**Founder and CEO**  
**The Nabo Group**

# HOW AI IMPROVES COMPLIANCE OF STATE REGULATIONS

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HOA collections are uniquely challenging due to state-specific legal requirements. Each state has distinct rules governing late fees, interest rates, lien and foreclosure procedures, and acceptable collection practices. Navigating these varied regulations adds administrative complexity and heightens the risk of non-compliance if state laws are misunderstood or overlooked.

One particular example pertains to legislation that definitively challenged Colorado-based associations in the summer of 2024. [HB22-1137](#) dictates that all associations must offer an 18-month payment plan rather than the previously stated 6-month plan and has a very specific set of communication steps.

AI offers a powerful solution to the complexities of HOA collections by automating compliance with state-specific requirements, eliminating the need for local interpretation. Advanced algorithms enable AI systems to recognize and adhere to state regulations for collections, such as late fees, lien protocols, and communication timelines. This ensures accurate, location-based enforcement without manual input.

AI also has the potential to update these rules in real-time as laws change, streamlining operations and enhancing fairness and transparency for homeowners. This means that management companies are empowered to stay up-to-date on regulations and automate the changes needed within their communication workflows.

# HOW AI-DRIVEN COLLECTIONS SIMPLIFY COMPLIANCE

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## The Current State – Labor-Intensive Compliance Assessment



### Manual Compliance Checks

Compliance staff manually interpret and apply state-specific regulations.



### Time-Intensive Processes

Hours spent on verifying rules for each association slows down processes and has tremendous risk for human error.



### Increased Legal and Administrative Costs

Increased costs occur due to labor-intensive compliance monitoring.

## The Future State – AI-Driven Compliance Platform



### Automated Compliance Adherence

AI identifies and applies state-specific regulations instantly, reducing room for error and manual implementation.



### Streamlined Processes

Quick, automated checks enable faster collections with minimal oversight – all of which is implemented into current communication workflows.



### Cost-Effective Operations

Lower administrative costs and resource demands boost efficiency.



# ADVICE FROM THE EXPERTS

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Jason Harper is the President and Founder of Ready Signal and the past CEO and Founder of RXA. He holds two machine learning-based patents and contributes to data science publications as part of a larger community effort to advance the field of AI and data science. In his analysis of community association delinquencies, Jason states “The integration of AI and predictive analytics into the community association industry represents a monumental shift. By leveraging these technologies, we can significantly reduce delinquency rates, optimize collection processes, and ultimately save billions of dollars. This is not just about improving efficiency; it’s about empowering communities to thrive financially.”

Drawing on his experience in other sectors, Jason offers these insights: “In the same way that retail businesses use AI to personalize marketing and drive customer engagement, community associations can utilize these technologies to create customized communication strategies. This personalization increases the likelihood of timely payments and reduces the incidence of delinquencies.” Jason also notes that, “the parallels between the community association industry and the banking sector are striking.”

“Just as workflow automation revolutionized legal collections during the 2008 recession, AI and predictive analytics are poised to bring about a similar revolution in how we handle delinquencies in community associations. The potential savings and efficiencies are simply too significant to ignore.”



Brent Bassett, an attorney and technologist, was at the forefront of workflow technologies that helped law firms during the recession of 2008. The banking industry had historically used local law firms for collections, but some larger firms developed solutions like workflow automation to process legal actions and bank integrations to remove the burden of manually transmitting and updating delinquency data. These solutions quickly moved from a helpful resource to a necessity based on the volumes of legal actions required during the Great Recession.

# ADVICE FROM THE EXPERTS

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Brent is now bringing his experience to the community association industry. “The parallels to the banking industry are clear” says Bassett. “What was a cottage industry prior to 2008 quickly evolved into a sophisticated and highly efficient network of select law firms that could manage massive volumes of data and processes at a fraction of the cost. The community association industry is poised to do the same.”



Jonathan “JP” Prantner is the Chief Analytics Officer at OneMagnify. His approach to applied mathematics has pushed analytics to the limits for over two decades. At OneMagnify, he leads efforts surrounding applied artificial intelligence and machine learning as well as integrating advanced analytics with data visualization platforms. Jonathan is a celebrated thought leader and recipient of multiple data science patents.

Jonathan offers this perspective based on how other industries are leveraging AI: “The application of predictive analytics and AI in the community association industry is akin to the advancements we’ve seen in financial services, where machine learning models predict credit risk with remarkable accuracy. By leveraging similar technologies, community associations can proactively identify high-risk delinquencies and implement tailored intervention strategies, significantly reducing overall collection costs.”

Likewise, JP notes “The integration of AI-driven decision support systems within community associations mirrors the advancements seen in supply chain optimization, where predictive analytics forecast demand and optimize inventory levels.”

“Similarly, AI can predict delinquency trends and optimize collection efforts, ensuring financial stability and operational efficiency.” When discussing a collection algorithm for community associations, JP shares that “By employing advanced data science techniques, such as clustering and classification algorithms, community associations can segment delinquent accounts and tailor their collection strategies accordingly. This data-driven approach ensures that interventions are both effective and efficient, ultimately leading to higher recovery rates and lower operational costs.”

An aerial photograph of a suburban neighborhood. In the foreground, there's a swimming pool surrounded by a deck and some landscaping. Several houses with green lawns and mature trees are visible. A few cars are parked on the streets. The overall scene is peaceful and well-maintained.

## **WILL WE LEAD, OR FOLLOW?**

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The landscape around collection methods is changing in other industries. A common complaint within the community association industry is how slow we are to recognize and adopt advancements. We are at that point as it relates to delinquencies.

As industry leaders, it is our duty to foster proactive discussions and evolve past outdated methods that are influencing legislation and increasing burdens on boards, managers, and community members.

The traditional “broad brush” approach has yielded inconsistent results that can be particularly punitive for the delinquent homeowner while saddling the rest of the owners with significant carrying costs. Legal action is a vital tool, but it should only be employed as part of a community-focused strategy that aims to meet homeowners where they are and provide solutions.

Now is the time to collectively embrace a more thoughtful and technology-enabled approach that benefits all community association members.



# ABOUT THE AUTHORS

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## **Jason Harper | President | ReadySignal**

Jason Harper is a seasoned data science leader and entrepreneur with over two decades of experience in analytics, machine learning, and artificial intelligence. He is the founder of RXA, Ready Signal, and Weave Workforce, pioneering in consulting, data-as-a-service, and workforce optimization software. Currently, he serves as the Managing Director of RXA at OneMagnify, where he continues to drive the strategic direction of this data science consulting firm, delivering innovative solutions to global clients.



## **Brent Bassett | Director of Product | TechCollect**

Brent Bassett leads the charge in revolutionizing how community associations manage and collect delinquent accounts. With a strong background in product leadership and development, Brent spearheads the creation of AI-driven solutions that empower community associations and redefine the collection of past due assessments. His expertise in leveraging AI and data-driven insights has been instrumental in developing TechCollect's cutting-edge platform, which analyzes thousands of data points to recommend the most effective collection strategies for delinquent accounts.



## **Jonathan Prantner | Chief Analytics Officer | OneMagnify**

Jonathan Prantner is the Chief Analytics Officer at OneMagnify. His approach to applied mathematics has pushed analytics to the limits for over two decades. Jonathan's career has spanned educational research, automotive, consumer packaged goods, travel and healthcare. At OneMagnify, he leads efforts surrounding applied artificial intelligence and machine learning as well as integrating advanced analytics with data visualization platforms. Jonathan is a celebrated thought – leader and recipient of multiple data science patents.

## About TechCollect

TechCollect is the only accounts receivables solution in the community association management industry that leverages the power of generative AI to revolutionize the internal collections process for property management companies. By predicting repayment likelihood and automating first-party communications based on channel preference and state legislation, management companies achieve successful AR recovery quickly and efficiently. For more information, visit [www.techcollect.ai](http://www.techcollect.ai).

## About Equity Experts

Equity Experts is the national leader in financial and legal services dedicated to helping homeowner associations (HOAs), condominiums, and property management companies recover past-due assessments and bad debt in moments where first-party communications aren't enough. By offering a unique performance-based pricing model, Equity Experts ensures that associations of all sizes can access top-tier services without upfront costs.

For more information, visit [www.equityexperts.org](http://www.equityexperts.org).