



# **THE RISE OF REAL ESTATE INVESTMENT ANALYTICS**

Prepared for the  
Real Estate Intelligence Network

WHITE PAPER

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LEGACY

# Executive Summary



The confluence of wealth management and advisory and technology (robo-advisory, Artificial Intelligence, Big Data, Machine Learning, blockchain technology and cryptocurrency) is revolutionizing and will continue to revolutionize the way financial advice is and will be provided to and consumed by consumers. Such confluence will also trigger regulatory oversight as government agencies strive to introduce consumer protection legislation and stricter privacy laws, especially in the light of generational wealth transfer in the trillions of dollars that is occurring as the post-WWII generation ages.

According to Daniel Faggella, CEO & Founder at Emerj, real estate is far behind other industries (notably: healthcare, finance, transportation) in terms of total AI innovation and funding for machine learning companies. However, real estate professionals can look at proxy industries to see how they leverage AI to solve similar problems in real estate.

This paper aims at providing insights into the changing landscape of wealth management and advisory, with an emphasis on real estate, particularly both the acquisition and disposition of real estate and the technologies that will be available to the consumer and change the value equation in the provision of real estate services.

# 1. Robo-Advisories: A Quick History



The impact of artificial intelligence on wealth advisory and management was felt more than a decade ago. According to [futureadvisor.com](http://futureadvisor.com):

The first robo-advisors were founded in 2008, the year of the financial crisis. Their initial innovation was to rebalance investor assets within target-date funds, and give investors a modern, online interface. The strategy is essentially passive, since robo-advisors tend to buy and hold, rebalancing only when market shifts skew a portfolio's allocations among equity, debt and other assets such as real estate investment trusts.

Before 2008, wealth management software was only sold to human financial advisors, who used it to automate their workload while charging the same fees, usually between 1% and 3% of investable assets. With the advent of robo-advisors, that product was delivered straight to consumers without intermediaries. Silicon Valley saw proof that consumer

habits had changed for good with the success of Mint, the online checking account aggregator that Aaron Patzer founded in 2006, and sold to Intuit in 2009 for \$170 million. That success created a groundswell of support in the investment community for robo-advisors.

Robo-advisors represent a new wave of financial advice and investment management firms. They automate asset allocation and portfolio management, giving mainstream investors access to a service once reserved for high-net-worth individuals.

Each advance in wealth management software is just one more step toward automating all financial advisory services. With automation, these services become scalable and accessible to more investors than ever before. Robos will soon democratize access to services like cash-flow management, tax planning, college savings and other types of investing.

# ...Robo-Advisories: A Quick History



was predictive of the higher use of technologies humans would employ to communicate with not only other humans, but with machines. The gulf between what was once considered science fiction and machine functionality today is no longer. The expectation has been set that machines will help us to live better and happier lives. Consider that "Today, the business is quite different. The most profitable companies in the world are predicated on artificial intelligence and machine learning, such as Google, Facebook, Amazon, Netflix, and Microsoft. While these companies did not start out using AI, the technology has since become the backbone of these firms. They would not have been able to reach their current prominence without machine learning."

The race is on to facilitate expectations people have.

Running that race has required that traditional ways of doing business and interacting with clients be replaced with platforms that provide seamless and fast interaction from a mobile device. Financial advisories have had to find ways to create

value for clients while investing in technology. This has meant creating brands that consumers trust, not an easy task with the fallout from the subprime crisis. In the provenance of real estate education in Canada, the Real Estate Investment Network has provided investors with sound, systemized advice for 26 years. It has no equal. The brand will play an important role in the near-future of real estate transactions in Canada.

The significance of a trusted brand is highlighted in a white paper prepared for the financial advisory industry:

Brand recognition will also be an important element of competition in this future. With the high costs of customer acquisition, a recognizable and trusted brand can serve as a passive means of attracting new clients. Likewise, financial institutions with a large base of captive customers (e.g., through checking or brokerage accounts or complementary services) are well positioned to gain competitive advantage in this environment.

# 2. The Role of Big Data



The role of big data in the transaction of real estate will be put in to context below, but it requires definition to make that context clear. What big data is not is Business Intelligence or data mining. Rather, “big data concept is different from the two others when data volumes, number of transactions and the number of data sources are so big and complex that they require special methods and technologies in order to draw insight out of data.”

It is the capability of Artificial Intelligence to capture big data and analyze it for insights that is having high impact on modern business. One such area of insight is “predictive analytics.” Predictive analytics looks at past and future trends

and asks “What might happen next?” and “What decisions do I need to make and when?” This is very different from reporting analytics that business is used to doing. “The difference that big data brought to the table are twofold: i) the appetite and ability for precise forward-looking insight; ii) the appetite and ability for fast and actionable insight. Forward-looking insights means that business now has the appetite and ability to predict what might happen next.”<sup>6</sup> Algorithms are used to predict future outcomes. Consider the impact of AI on the real estate industry, when the acquisition or disposition of real estate is no longer the realm of reporting analytics (“comparables”), but a science called predictive analytics.

# 3. The Birth of REIAlytica



In the white paper *Worldwide Real Estate Marketplace*, author John Lombardi identifies a range of mobile apps that allow the consumer to access specific functionalities:

The increased computing abilities of mobile devices and mobile phones have made so many things possible so quickly for homebuyers and realtors. Here are some examples of functions that well known real estate apps are performing.

**Zillow** – Using your mobile device location, it performs a real time search for properties that are for sale or rent, and, it also has the ability to determine your mortgage costs, and an affordability calculator based on the information you provide.

**Trulia Mortgages** – This app allows a user to obtain personalized mortgage quotes based on information a user provides such as credit score, property value, down payment, and more. Additionally, it allows a user to compare the results of possibly refinancing their mortgage with different rates.

**Lovely** – Based on user location, the app makes it possible to find places for sale nearby and once the user signs up for an account, they can receive live updates as soon as a property becomes available in a place they list as a favourite.

**Real Estate by Trulia** – The app is based on the user location, allows for many search parameters, and the user can find properties for sale or for rent. What's neat about his app is that it has an overlay that can help you see crime rates, and it is integrated with Yelp so it can display restaurants and other places nearby.

**Sitegeist** – If a realtor or buyer needs to know more information about an area such as demographics, temperature, commutes, and more, then this is an app that can be very useful.

**Bigger Pockets** – The app allows for live interaction between people who are looking to buy homes and other people who have dealt with similar properties.

**LoopNet** – LoopNet is basically an equivalent of MLS listings but for commercial properties.

**HomeSnap** – What may have seemed impossible 10 years ago, HomeSnap allows a user to take a picture of a home and then the app tells the user all the information about house and the surrounding city. For realtors, this app can be a big draw because it can allow immediate interaction with the user who snapped the picture from within the app.

# ...The Birth of REIAnalytica



Typical forms of data that are captured are web data, text data, time and place data, smart grid and sensory data, and social media data. Analytics are applied to the data from which insights are drawn. As *Introduction to Big Data* points out, "With most of the big data source, the power is not just in what that particular source of data can tell you uniquely by itself. The value is in what it can tell you in combination with other data (for instance, a traditional churn model based on historical transaction data can be enhanced when combined with web browsing data from customers). It really is the combination that counts."

Now, consider this: the advent of a technology that captures big data in real estate and offers an investor present-time and future-time scenarios to trigger an investment decision. Consider the advent of a technology that uses big data for building and managing a portfolio, and that will predict the optimum time for an

investor to exit. Consider the advent of a technology that does away with siloed content that is currently in the marketplace and aggregates big data into an unparalleled service for investors and realtors. That powerful, predictive tool is called REIAnalytica, and it is set to irrevocably change the real estate industry. The impact of AI on the financial services industry has been a touchpoint in this paper, and this dynamic is articulated in a white paper undertaken by the Center for Financial Planners:

*Across the board, the integration of technology into a firm's business model has become a table stake for firms and independent advisors hoping to compete with online platforms. Ever more sophisticated cloud-based software runs analytics on data from consumers' bank accounts, credit cards, and accounts at multiple financial institutions to generate automated advice and a much more seamless customer experience.*

# ...The Birth of REIAnalytica



What does this mean for the real estate industry, an industry that is ripe for creative disruption? This is the central question that REIN has asked in looking into the future of doing business in real estate.

Two significant advances and investments that REIN has pursued and made are the education and certification of the Real Estate Investor Advisor and the partnership that has resulted in the creation of REIAnalytica, which aggregates big data and through its algorithms presents thousands of data sets to help those engaged in real estate make an informed decision.

The opportunity is here, now. The threat of competitors is ever-present, but the strength lies in the science and the head

start REIAnalytica has in the marketplace. As Daniel Faggella points out, "Perhaps the biggest problem with any AI integration in an existing company is accessible data. Most companies that adopt AI in their operations often do not have enough data available in the proper format to train machine learning applications. The data may be there, but not organized for easy use with AI applications."<sup>10</sup>

This critical point Faggella has made is REIAnalytica's competitive advantage.

Critical information in real time is at the fingertips of the investor, home buyer, realtor and researcher. The application of REIAnalytica is global in potential and with new iterations will always be a product at the forefront of the real estate industry.

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