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## **Big data, or big algorithm: Don't miss this move or you will be left far behind (part 1)**

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Petabytes, zettabyte, quintillionbytes, are all words you probably haven't heard of, or at least I have not. FYI, two zettabytes can contain the total amount of all global data. These words are used to describe "Big Data", which we have all heard as it has become the big buzz word. All the articles, and all of your quant-type friends will tell you that, if you're not into Big Data over the next few years, you will be left far behind. But what is Big Data, and do we professionals in real estate need it or know how it will help us.

First of all, Big Data seems a misnomer. It should really be called Big Algorithm, because Big Data is not about collecting information, it is about using it with purpose through synthesis and correlation, through models, that help us answer questions about our business. It is not about data per se, but more about how to process more of it. As someone said succinctly, "Big Data is about making data actionable, that is, usable to answer specific questions".

Data itself is growing exponentially, with some predicting at least 15 times more collected and stored by 2020 than currently exists. In fact, 90% of the world's total current stored data has been collected in the last two years, far more than existed in the previous entire civilization timeframe. Additionally, the storage of data has dropped dramatically in cost, so organizations are collecting more data, sometimes without specific purpose, simply searching for patterns, rather than asking questions of it. A little like the cart before the horse, organizations are collecting data in hopes and belief that data scientists will create more models that put it to good use someday.

How can Big Data or Big Algorithm help us in real estate? Many will say it already has, particularly in retail, where companies like Walmart and Amazon have been mining and reviewing data for many years in order to determine consumer preferences. Think of the data modeling background behind the ubiquitous question from Amazon "Since you bought this book before, you may be interested in the following." However, while retail analysis is good for Walmart, and thus ultimately useful to real estate decision making, it is mostly useful for them, and not so much for us. We real estate pros respond to retail needs, but we are not yet being predictive.

Understanding Big Data and how to use it in our business, is all about getting to a predictive state, rather than the reactive state. Rather than relying on past trends such as we may do in market studies or valuation, Big Data can theoretically help us predict future trends or conditions. Yes, all modeling relies on some past trends, but the best models live in the future.

What questions could it help us with in real estate? What comes to mind first is what many are already doing, that is linking customers to the real estate professional through rudimentary data dissemination. Zillow and Trulia come to mind as providing "automated" analysis for the consumer. These companies are examples of Big Data unlocking significant value by making information transparent.

In analyzing data, we real estate professionals can also create ever narrower segmentation of customers, and therefore tailor outreach and products for services. Let's call these basic opportunities Level 1. At a more advanced level, data manipulation would allow brokers, for example, to determine what people wanted in housing, what were the trends going to be, what they would be willing to pay, by predicting future client behavior, rather than relying on past client behavior. Big Data can also help with testing development decisions, improve property management, or model city growth. Mayors and city planners can also benefit. Frankly, this future only limited by ourselves.

To be continued, so please see June 13 Financial Digest section for part 2

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