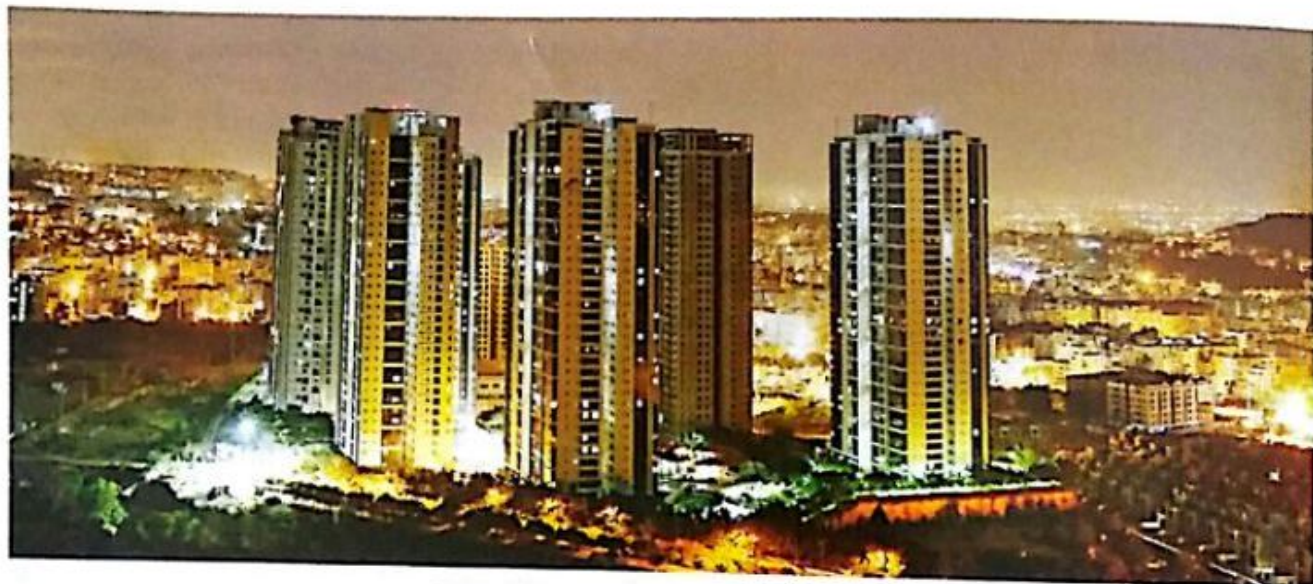# Big Data Knocks on the Doors of Real Estate

Thanks to Big Data, the seller's base of the real estate segment is increasingly well-informed. Bearing in mind the aspect of this globalisation rub-off, Indian real estate developers have shifted gears and are taking on fresh challenges, says **Soumya Das**, Director, Rudrabhishek Infosystem Pvt Ltd.

Lanco Hills, a premium Hyderabad township.

There were 5 Exabytes of information created between the dawn of civilization through 2003, but that much information is now created every two days,"that was Eric Schmidt, Google CEO, speaking at Google's 2010 Atmosphere Convention.

The data that is generated by the world is not growing every passing day, it's just exploding. Every day the world generates huge volume of data from everywhere: digital videos, pictures, conversions from social networks, e-commerce transactions, Internet searches, smartphone 3G and GPS communication, Internet-of-Things sensors — to name a few (Source: Google Trends).

This voluminous data is referred to as Big Data and the process of collecting, organising and analysing large sets of data to discover patterns and other useful information is called as Big Data analytics. This wealth of publicly accessible and privately owned data is giving firms the ability to be more relevant and compelling to their partners and customers. This has helped in bridging the digital divide where many organisations and sectors are involved in order to build a unified model of customer behaviour.

Public safety can be improved through traffic sensors, video cameras and environmental sources, which generate vast quantities of information. Being able to examine, interrogate, and understand what is contained within such unstructured data and combine it with structured data can help to detect and prevent crime, improve public safety, aid emergency services in effectively dealing with disasters and other incidents. Risk can be modelled holistically while transacting business along with avoiding unnecessary commercial or brand exposure by taking into account the real-time market conditions and deep historical trends across massive and diverse data sets.

A survey in 2013 of 720 Gartner Research Circle Members worldwide found that 30 per cent of

organisations had already invested in big data technology, 64 per cent were investing or planning to invest, 19 per cent were planning to invest by the next year, and an additional 15 per cent were planning to invest within two years. Industries leading big data investments were media and communications, banking, and services; however, every vertical industry again shows big data investment.

REAL ESTATE SECTOR AND BIG DATA

In India, real estate is the second largest employer after agriculture and is slated to grow at 30 per cent over the next decade with the housing sector contributing 5-6 per cent to the country's Gross Domestic Product (GDP). The real estate sector is made up of four sub-sectors — housing, retail, hospitality, and commercial. The growth of this sector is complemented by the growth of the corporate environment and the demand for office space as well as urban and semi-urban accommodations. It is expected that this sector will attract more Non-Resident Indian (NRI) investments in both the short- and the long-term very soon. Bengaluru is expected to be the most favoured property investment destination for NRIs, followed by Ahmedabad, Pune, Chennai, Goa, Delhi and Dehradun. The Indian real estate market is expected to touch $180 billion by 2020. (Source: http://www.ibef.org).

Having said that, the practical problem faced by the real estate sector is that it's a fairly disorganised sector, not much in the digital mode. Here the information is generally compiled from age-old land records, bulky agreements, brokerage documents, customer details etc. Some organisations have developed GIS platforms where one takes raw data from cadastral map land records and agreements to create different layers to hold data and interpolate amongst one another to find the required results. This provides ease in project prioritisation, planning, reconciliation, validation etc.

The records are cleaned and put into a format where it can be uploaded in the GIS platform and extrapolated for required use. The spatial maps that date back to a few hundred years have been reproduced on cloth maps, resulting in a distortion of shape in land parcels. A certain level of advancement has been achieved but more linking of data banks is the call of the day.

However, the general working in most organisations like project planning, analysis of market trends, sales and marketing are carried out with usage of software, but are not integrated on any platform. There is a requirement for holding even greater volume of data.

Banking is a domain yet to get connected to the real estate sector. The viewing and selection of information about properties takes place, but integration of banking options with the best interest rate will encourage better selection of options. A few questions arise here: what information can be brought into the platform? What kind of data can be put in the system and what linkage does it make?

The data can range from census data, family sizes, paying capacity, preferences, geographic influences, listing of homes for buyers/sellers/rent, locational information, neighbourhood data, available facilities, connectivity, political information (details of councillors, corporators, etc.), maintaining authorities (development authorities, municipal corporations, their contacts and helplines)... the list is endless, and all avenues have not been explored yet.

The data isn't just providing new information to consumers, it's fuelling new ways of looking at developments and community planning. The buyer preferences like the size of flat or plot, the orientation, preference to a particular location, proximity to a

SOUMYA DAS, Director, Rudrabhishek Infosystem Pvt Ltd.

facility (e.g. club or disco, temple, mosque) which can be derived from a pattern of the user's purchases, Facebook check-ins, etc., can help in zeroing in on the three most favourable choices.

Similarly, for guiding customers with the industry trend, there will be a wide array of choices of wall finishes, tile finishes, furnishings, and other accessories available in the market can similarly be interpolated with some other behavioural pattern extracted from the data analysis to present the buyer his choice. If privacy matters are handled properly in the process, it could be a win.

Similarly, an organisation could be planning to create a new bank of commercial and residential units. But it could also be a big data engine. It is planned to equip the planned spaces with sensors that would track air quality, traffic, energy use and much more.

From that gathered information, real-estate developers stand to learn what kinds of spaces work best in terms of tenant health, energy efficiency and other points which will vastly influence the designing of spaces.

Amongst the sources of lead generation, the Internet has become a major lead generation method in real estate marketing, shadowing local newspapers and all other sources as the consumers' most preferred method to learn about homes for sale *(Source: National Institute of Realtors)*. Some organisations have gone a step ahead in the process as has been cited in an example by Stefanos Chen in *The Wall Street Journal*, May 2015. It says in order to stay ahead of the competition, tech-savvy agents are purchasing data and teaming up with firms that identify potential buyers using increasingly precise metrics. Exotic car owners can be courted to buy a car-collector's mansion. Equestrians are rounded up for ranch homes. Another firm uses public records and research

staff to manually track the habits of "ultra high-net-worth individuals."

Say for example, if there is a sale of a house with six garages, one can target the owners of high-end luxury cars which can be further refined by his investment pattern. What influence will it have on real estate agents? While we are moving towards empowering the customer towards a better choice, what will happen to the guy who has been earning through personal contacts? The real estate professionals are questioning whether big data algorithms can replace the human-wisdom side of property sales. It is becoming increasingly difficult for individual real estate agents to be visible to consumers, both online and offline, as the consumers follow the larger data sources online.

And those with Big Data have more information needed to rank higher in online searches, and place online ads that can target potential real-estate clients with increasing precision. One agency serves ads directly to a household's unique IP address. When the target visits one of the roughly 100 million Web domains in the company's network, they might be served with a real-estate ad, based on their past online behaviour or purchases.

CONCLUSION

Analysing enormous swathes of information, much of it aggregated from disparate places and formats, Big Data proposes that accessing the patterns locked up in a myriad of real estate info could remake the game. The consumer base of the real estate segment is therefore increasingly well-informed, and bearing in mind the aspect of globalisation, Indian real estate developers have shifted gears and accepted fresh challenges. Real estate developers, in meeting the growing need for managing multiple projects across cities and catering to tough competition, are investing in centralised processes not just to target customers, but also to source material and organise manpower. How long the real estate sector in India will take on Big Data completely is a difficult question, but the migration is inevitable. 🔲

About The Author

Soumya Das is Director– RIPL (Rudrabhishek Infosystem Pvt Ltd). As Director RIPL, she holds the overall responsibility of subsidiary company REPL that provides Geographical Information System (GIS) based solutions to its clients. She specialises in architecture, planning and management. Das holds a degree in B Arch from CET, Bhubaneswar; a Masters in Environment Planning from the School of Planning and Architecture (SPA) and she has also done an advance programme in Strategic Management from IIM-Calcutta.