How the industry molds the vast stores of data into useable content for customer outreach

By Sherry Marek

Many hospitality companies are using big data today to understand trends and obtain additional customers. In addition, many more hospitality companies want to comprehend the value of obtaining big data or correlating big data with data from their own systems.

For many years now, hotels and resorts have used big data to understand current customers and obtain new customers by matching attractive customer profiles with current guests. Some of the older big data companies seeded their initial information with government census data, incoming surveys from warranty cards and buying mailing lists. Popular zip code lookup tools, help properties understand their current customer profile and seek additional customers similar to that profile. For example, if the weekend customer generally comes from a 250 mile radius of a property or from three specific metropolitan areas that have a direct flight to the city, companies can understand the demographic characteristics of those customers. Are they: Trendsetters — singles, not ready to settle down, unfettered by home and vehicle ownership, with good jobs who spend disposable income? Or could they be Downtown Melting Pot — barely able to make the ends meet? If it is 85 percent Trendsetter and 15 percent Downtown Melting Pot in a particular zip code area, perhaps it is an area a property should focus on by using direct mail, radio and other media to...
advertise to these potential spending-ready customers. Most of these zip code analysis companies have anywhere from 50 to 75 profiles, providing the percentage breakdown on overall market profile, income, age, population density, etc.

While many properties review their guest history loyalty database or guest history data, what about guests who have only stayed once or never before? Some hospitality companies want to build profiles of this customer, available via big data, to understand their habits such as if they want to rent Segways for city tours or if they like to attend sporting events. Other hospitality companies use big data to compare booking trends and occupancy statistics to analyze the results after a media campaign such as radio or TV ads.

Hotel companies are adding big text analytics to their analysis mix. This practice stores text or comments in many different silos throughout the company and uses programs to translate key words and phrases. A sentiment index can be assigned to the comment, as well as key likes or dislikes. By attaching customer sentiment from social media, survey results and call center logs, companies are able to understand customer experiences which result in improving services and product offerings. Other startups have started taking photos posted to Instagram, comments from Twitter feeds and other social media tools to create consumer profiles that allow companies to create an outstanding customer experience based on the consumers’ interests (i.e. exercise habits or entertainment preferences).

**Think Before Diving into Big Data**
A lot of big data is available today, but not all of it is currently useful to a property. Yet, companies outside the hospitality industry continue to collect the data, reasoning that it may be useful someday. With tracking technology available with the Internet of Things (where everyday devices such as watches, clothing, etc. are networked and connected to the Internet), there is a lot of potential to have a better picture of guest patterns and in turn, provide better service. If a guest consistently resets the room’s thermostat to 68 degrees, this can be noted and programmed for the guest upon their return.

**What Does the Future Bring?**
Google’s predictive application Google Now collects consumer activities and trends to create an automated virtual assistant for consumers. By sifting through e-mail, location, calendar and other data, Google Now can notify a person when they need to leave the office to get across town for a meeting and map the most efficient route. How can this application be used by a property for new guests? Can this be useful for when a first time guest stays at your property and your hotel suggests spa services, which based on the data is a particular interest of the guest? Or how about dining preferences?

**What are the Possible Pitfalls?**
Today, customers want to understand what companies are doing with their data. They are often happy to supply information if they trust the company to keep it safe. Others feel comfortable if there is a perceived value to contributing information such as receiving a service as Google Now. Heeding these concerns, many countries are enacting legislation to protect their citizens and clamp down on how companies handle personal data. Laws regarding data privacy may affect the accurate understanding and tracking of data. For example, the European push to enact the “Right to be Forgotten” concept means that Europeans may have links to personal information removed from the Internet. To maintain respectful management of the data, companies must have security controls in place surrounding personally identifiable information (PII) to protect it in the case of a data breach.

**Data Collection and Use**
Disney has found a use for big data which delights the guests and provides it with a wealth of knowledge to make better decisions, improve its offerings and personalize its marketing messages. Disney collects data from the MagicBand which engages guests with the magic of technology woven throughout the parks and resorts. With the MagicBand, guests can order meals at a restaurant in advance. Upon entering the restaurant, the host greets guests by name. Then, another host welcomes guests to sit anywhere they like and almost by magic, specific food orders find guests shortly after they sit down. How did this work? When the customer is a few feet from the restaurant entrance, a radio signal picks up the family and the hostess is notified...
of Walt Disney Company explained the goals for the MagicBand with a reference to Arthur C. Clarke, “Any sufficiently advanced technology is indistinguishable from magic.” *(Wired, March 2015)*

Today, some resort properties track guests going through specific doorways: to the health club or walkways to the beach, to measure the flow of on-property traffic. This is done via security cameras equipped with software to identify many guests, and coming ahead: facial and voice recognition technology. Add this new metric, plus reservations at the spa or golf course and suddenly, companies are able to understand the amount of time that a guest spends on property.

**What Does the Future Hold?**

Big data markets are estimated to grow 45 percent annually over the next five years. Many companies are looking to understand how they can incorporate pieces of the big data pie into their company and leverage this powerful data knowledgebase *(Gartner Group).*

Equally important, it is vital to measure and understand how to track the changes in metrics as a result of the new big data initiatives. Some metrics may be new to the property. Some big data initiatives need to be tracked to confirm that big data provides the uptick in bookings as expected. Some marketing initiatives may fail, if the technology isn’t mature enough or the database is not fine-tuned to correlate all of the data points expected. As Tim O’Reilly, founder of O’Reilly Media commented, “We’re entering a new world in which data may be more important than software.”

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**Glossary**

**Big Data**

Gartner Group defines big data when volume, variant and velocity of data exceed an organization’s storage or compute capacity for accurate and timely decision making. *(Gartner 3-D Data Management 2001)*

**Data Lake**

Unstructured data, unprocessed by analysis, with no order or hierarchy. (like water modules in a lake, a big free for all).

**Data Warehouse**

Data is archived and ordered in defined way (in containers, on shelves, in orderly rows like a traditional physical warehouse).

**Gamification**

Process of creating a game from something which would not normally be a game. This is a powerful data collection tool.

**Hadoop**

Free, Java-based programming framework that supports processing of large data sets in a distributed computing environment.

**IoT — Internet of Things**

Physical products that collect information about user location and behavior.

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**Additional resources:**

[www.datasciencecentral.com](http://www.datasciencecentral.com)

Online resource for big data practitioners.


Nielson DMA designations — private company which sells exclusive geographic area and reports media market penetration.

[www.esri.com](http://www.esri.com)

Provides data by tapestry segments, income, age, etc. to illustrate demographic and lifestyle information about a neighborhood.