

Rethinking BI in an Omni-Channel Environment

More data and bigger internal audiences raise the BI stakes for retailers

The rise of omni-channel retailing has introduced new complexities in many areas of the business: marketing, merchandising, order management, distribution and fulfillment have all had to adapt to revamped customer shopping patterns.

What was once a relatively linear process – the shopper sees an ad, goes to the store, purchases a product and takes it away with her – has become a zig-zag, start-and-stop, multi-point process that can include almost any combination of e-mail marketing, online research, seeking out customer reviews and comments from the shopper’s social network friends, price comparisons using a smartphone app, and even, maybe, a visit to the brick-and-mortar store.

Then there’s post-sale activity – delivery and shipping, warranties and service contracts, and returns, which shoppers increasingly expect to be handled in the channel that’s most convenient for them, not for the retailer. That former “straight line” purchase path now more closely resembles an Etch-a-Sketch drawing done by an uncoordinated toddler on a bumpy car ride.

In order for retailers to have a hope of understanding shoppers, and to run their businesses in ways that serve their fast-changing needs, they need business intelligence (BI) that can keep up with the demands of an omni-channel environment. In essence, retail BI is still as simple as getting the right informa-



tion to the right people at the right time – but accomplishing that “simple” feat has never been more complicated or more challenging.

The stakes are high for retailers, in large part because today’s empowered consumers have more information sources, and influencers, than just a few years ago. “It used to be that consumer products companies and retailers had relationships [with shoppers] that could heavily influence consumer buy-

ing,” says Bob Fassett, vice president, North America consumer goods, retail and distribution leader for the consulting firm Capgemini. “If they wanted to drive more product through stores, they could use promotions and advertising to, at the very least, generate store traffic, even if they couldn’t always get customers to buy.

“Now, consumers control where they get information, what information they get, and

whether they believe it,” Fassett adds. “They may not believe the retailer or CG company, but they may believe Joe from New Jersey because he has no bias.”

DATA POINT DELUGE

One of the biggest factors adding to the complexity that today’s BI solutions must handle is the sheer increase in the number of collectable data points. As noted, the transformation of the typical shopper journey into a multi-leg Grand Tour has multiplied the corresponding opportunities for data collection.

The upside for retailers is that, at least potentially, they can use these newly available data points to more accurately map the shopper journey. Data points such as e-mail open

version rates and to determine whether store staffing levels are too high or too low. Home furnishings retailer Anna’s Linens has used traffic counting technology as part of its overall efforts to measure not just conversion rates but the impact of advertising and marketing and the effectiveness of employee training programs.

The latest generation of kiosks and digital signage also features sophisticated traffic measurement tools that are capable of recording not just how many people stopped to view a display but how long they stayed. In addition, signage equipped with facial and body recognition technology can identify the approximate ages

tantalizing to retailers who seek to influence shoppers at the point of decision, but to be effective the location data must be gathered, analyzed and acted on in real time. That requires a BI solution that is automatically tied to the retailer’s promotion engine and its mobile marketing system – and to make the offer truly personalized, the retailer’s customer database must be integrated as well.

NEW DATA TYPES

Location information is just one of the new



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rates and click-through percentages, website visits, page views and clickstream analysis, along with visits to retailers’ mobile sites and the eventual product purchase at the POS can all be recorded. Previous retailing models relying on mass media advertising and a single sales channel may have been simpler, but they provided precious little insight into consumer interest in a product, much less purchase intentions that could be tied to a customer group or an individual shopper.

There’s also more data available in the store itself. For example, traffic counting technology can provide an accurate picture of how many people are in a store at any given time, making it much more feasible to measure con-

and genders of those viewing the display. Interactivity with these technologies has been simplified through the use of QR codes that can be read by a shopper’s smartphone, which can bring data collection to the level of individual identification (assuming the customer opts in).

The rise of mobile technology has also added new dimensions to this data downpour. With the rise of online e-commerce, retailers gained the ability to learn who they were interacting with. M-commerce provides retailers with the ability to know not just who the shopper is but where she is at any given moment she’s using her mobile device.

The addition of location information is

data types being generated today. The exploding popularity of YouTube and social networks such as Facebook and Twitter has uncorked a flood of user-generated content and commentary. The interactive, participatory nature of these networks makes them a sensitive barometer of consumers’ concerns, tastes, likes and dislikes.

However, there are numerous challenges involved in gathering and analyzing data coming from these new and emerging sources. Much of the data is, by its nature, unstructured, so extra “digging” is required to discover which data points are relevant to a particular retailer, product or service. Some of the data is in the form of videos or other graphic ele-

ments that are not easily translatable into traditional data structures.

BI solution vendors have made significant strides in mining social network-generated data for sentiment analysis, and have also been able to identify influential members of these networks – those that have gained the trust of other network members to advise them on topics ranging from fashion to politics. These BI solutions also make use of natural language processing tools that take context into account, and also help to decode slang and abbreviations used in space-limited forums such as texting and Twitter messages.



of user-generated content. Unlike channels that are created, controlled and directed by retailers, such as e-commerce websites, virtually

Indicators (KPIs) that are most relevant to their area of responsibility. These decision-makers also require the ability to drill down into the reported data, checking on the performance of an individual store or the sales of a particular item.

Those in more operational roles also require BI, often in the form of exception-based reporting that alerts them when a KPI has moved outside of an established boundary. For example, a transportation manager might need to receive an alert when an expected delivery is more than two hours late. A merchandise manager would

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In addition, many retailers have themselves embraced social network channels, for example establishing Facebook pages that provide them with up-to-the-minute guidance about what's on shoppers' minds. The most recent *RIS Social Retailing Index* report, appearing in the July 2011 issue, reveals that retailers such as Target and Amazon.com have established multiple Twitter feeds, directing customers to specific product categories or activities while also simplifying the task of tracking customer sentiment.

Still, the rapid growth rate of social networks presents an ongoing challenge to retailers, who must always deal with a high signal-to-noise ratio as they seek relevant data nuggets. There's also the unpredictable nature

anyone can create their own Facebook page or establish their own Twitter feed.

BI'S GROWING AUDIENCE

As if the multiplication of data points and the diversification of data types hasn't put enough pressure on BI solutions, there's also been a significant expansion in the number of people within the retail enterprise who want access to BI-generated insights as part of their daily workflows.

Retailers are discovering that they need to provide BI to people on many levels. C-level executives and other key decision-makers need regular reports, often provided via customizable, user-friendly dashboards, that keep them up to speed on the Key Performance

want to be alerted when sales of a promoted item are exceeding projections so that he can redirect product to the stores or channels that need it. A regional operations manager would want to know when the labor costs for a store in her area are about to exceed the weekly budget by a specific percentage.

Exception-based alerts as well as regular reports are also needed at the store level. A store manager would want to know when a popular item is about to reach an out-of-stock level – and also where replacement stock is located, whether that's within the four walls of the store or somewhere else within the enterprise.

Delivering BI about specific customers to those dealing directly with them also presents

New Retailing needs New BI

Measuring Success in the World of Social Retail.

Q With the number and types of new data sources (everything from Twitter feeds to the traffic patterns around in-store digital signage) expanding so rapidly, what are the key criteria retailers should use to decide which sources are most valuable for their business?

Retailers need to focus on data that are valid indicators of the current or future health of the business. Two categories of information are very relevant, Demand Indicators, and Decision Support Factors. Demand indicators include indirect measures that can be reasonably correlated to sales, factors such as traffic counts, social media sentiment, web search frequency, tweets etc. Conversion rates applied to these factors can point to future consumer purchasing. Decision Support as it's name suggests provides the fact based criteria to make buying, pricing, promoting, placement, staffing (and other resource based) decisions.

Given the increasingly non-linear nature of consumer shopping patterns today, what are some of the ways retailers need to adjust or update their overall approach to BI?

BI has historically focused on anonymous internal data narrowly oriented on the nuts and bolts of sales, inventory, promotions and the like. Today Retailers need to add the dimension of customer to their Data Assets, and increase their scope of knowledge of those shoppers who are looking at their products, thinking about their products, talking about their products to understand how to turn those prospects into purchasers of their products. Tracking consumer demand indicators and determining the exact right influence or offer to motivate a purchase is the future of Retail BI.

Are there some specific things they should be doing to improve their understanding of demand pattern changes generated by non-linear purchase paths?

Capturing and development of the data assets required to create good correlations between demand influencers and actual purchase behavior should be on the minds of forward thinking Retailers. The often talked about 360 degree view of a consumer needs

to happen, and now needs to include more than just cross channel purchase information. Understanding response rates and conversions to sale of promotional offers, web site changes, social feeds, by consumer segment are all examples of the kinds of information that a Retailer needs to start capturing and reviewing.

Is the retail "audience" for BI insights expanding within the retail enterprise, and if so, how can retailers most effectively manage their distribution and usage?

For reasons of cost, scalability, and complexity BI has typically deployed only on a "must have" basis. The reality is that making informed decisions, providing the best customer service and getting the most from each Retail Asset (inventory, real estate, human resources, capital employed etc.) is a "must have" for a very wide audience. Today's BI needs to be available in a secured and role based fashion enterprise wide. BI belongs on every desktop, (smart phone.....tablet.....). Modern BI solutions have built in usage tracking, which helps indicate required functional extensions or training needs.

What tools are available to help retailers track the impact of BI-based decision-making throughout the enterprise, and what are some methods they can use to more effectively "close the loop" with their internal BI consumers?

Creating a culture of analytics for every role within the organization is essential and measurable. Success factors would include: The BI solution is present at key decision making meetings as a real time participant. Research time is minimized, therefore the decision making cycle for different business processes happens earlier in the day/week. Newly hired associates are productive faster, with significantly lower learning curves. Critical success factors with Retailer specific targets for factors such as in stock position, promotional success, sales and margin, market share or others measurably improve. IT time and costs spent delivering new capabilities will decrease with modern self serve BI. One measurement you may want to avoid - take away the BI for a day and measure the decibel levels of disappointment.

Manthan Systems produces cutting edge analytic solutions for global retail and CPG organizations. Manthan's ARC is an innovative, thoroughly comprehensive analytics solution used by over 60 smart Retailers in 16 countries. ARC unearths the hidden relationships between products, customers and promotions, from supply chain to store shelf. ARC supports all roles and responsibilities within Retail, and through collaboration across the supply chain.



retailers with a wide range of new opportunities. Clienteling solutions that can be accessed via a handheld tablet device would give store associates the ability to help a customer complete an outfit, purchase the specific golf club that will improve the shopper's game or pick the lamp or end table that complements the shopper's interior design.

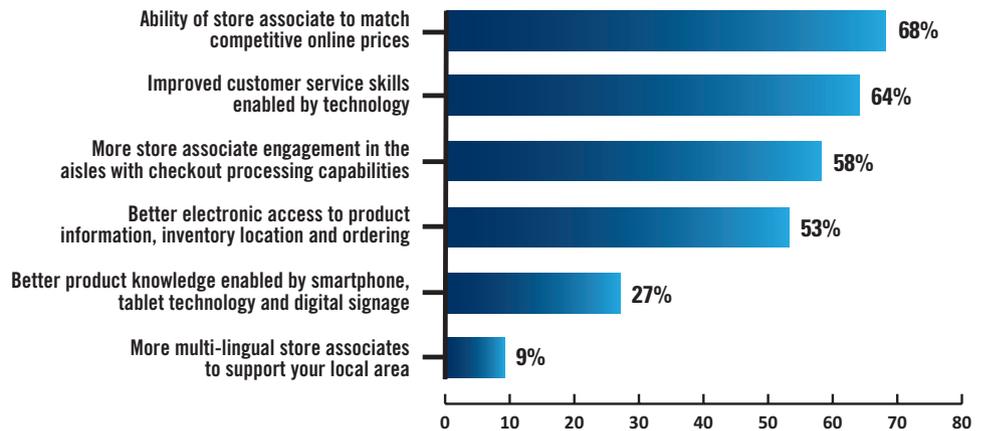
In addition, BI that reveals the customer's overall value to the retailer would allow an associate to offer either a discount or additional services (like free delivery or an extended warranty) to a high-value customer.

Shoppers are more than ready for retailers to offer them this type of in-aisle attention. According to the 2011 RIS/Cognizant Shopper Experience Study, 64% of surveyed consumers want to see improvements in store associates' customer service skills enabled by technology; 58% want to see more store associate engagement in the aisles with checkout processing capabilities; and 53% want associates to have better electronic access to product information, inventory location and ordering data.

The overall audience for BI-generated reports, alerts and tools is also growing because the solutions have become more user-friendly. Graphic user interfaces (GUIs) that employ easy-to-understand visual symbols and charts have replaced sometimes difficult-to-decipher Excel spreadsheets. This is another offshoot of the "consumerization" of information technology: BI solution providers are following the lead of increasingly sophisticated consumer devices, which flattens the learning curve for

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In general, which of the following would you most like to see improved among store associates?



Source: RIS/Cognizant 2011 Shopper Experience Study

Shoppers would like to see improvements in store associates' abilities to access BI on the store floor.

executives already accustomed to using tablets and other smart devices.

CLOSING THE LOOP

Another big challenge that's been exacerbated by the broader audience for BI is the need for retailers to track the actions that are taken based on BI-supplied insights. When BI consisted of reports generated primarily by the IT department, distributed to a limited number of analysts and decision-makers, keeping track of the resulting decisions was a simpler matter.

Today, however, BI is being delivered to multiple departments, with role-specific re-

porting provided to many people within those departments. Without some type of automated system to not only deliver these reports but to track actions taken by their recipients, retailers have no way of knowing if the BI insights prove out in the real world. It's also more difficult to determine if they are sending the right information to the right people: the information may be timely, relevant and totally valid, but if it's sent to someone that can't use it, they'll simply ignore it – or worse yet, misinterpret it.

Another complicating factor is the increased pace of business. Today's BI solutions are capable of gathering data in real time or near real-time, and their increased computing power makes it possible to perform even complex analyses in hours (sometimes even minutes) as opposed to days or weeks. That fits with retailers' desire for quick responses and business agility, but it can short-circuit established structures for ensuring that the actions taken are actually beneficial.

In some cases, the speed of BI has outpaced other processes' ability to use the information