

Business Analytics: Roadmap to Actionable Insights

It's been quite a while since business intelligence was the sole province of high-level strategic planners and C-level executives. Today, BI tools and analytics insights are being used by increasing numbers of people to answer immediate tactical questions and identify optimal courses of action. This trend has been enabled and accelerated by the consumerization of IT and the "democratization" of tech knowledge. As the millennial generation joins the workforce, they will expect to have access to the data, intelligence and insights necessary to do their jobs. Retailers will need to adjust, and in some cases rethink, their BI and analytics solutions in order to address the real-world operational needs of a rapidly expanding group of decision-makers. This Roadmap provides seven steps toward achieving actionable insights throughout the retail enterprise.

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Retail is an industry driven by questions. Consumers ask them: Which store should I shop in? Do I need this item? Can I afford it? Retailers in turn ask lots and lots of questions: What's selling today, and what will be selling next month? Next year? Who are my most valuable customers, and who are my least valuable ones? Do I have the right number of people working in my store, and do they have the right skills to do the job?

Retailers with the right answers to these and hundreds of other questions – or at least those with a high “batting average” – will be successful. It's the business of business intelligence (BI) to provide these answers, based on a rapidly expanding pool of data sources that can include social networks and location-based information from consumer mobile devices and sensor-equipped digital signage.

The terms “BI” and “business analytics” are often used interchangeably, and precise definitions can vary. In general, BI produces reporting based on collected data, including exception-based reports that can trigger important alerts. Analytics, particularly the subset of predictive analytics, applies more sophisticated algorithms and data models that allow retailers to create forecasts, model customer behavior and use “what-if?” scenarios that help guide more strategic decision-making.

However, one of the key trends in this area is that both BI and business analytics are being used by increasing numbers of people within (and even beyond) the retail enterprise. While well-run organizations still maintain a decision-making hierarchy, more and more people can be classified as knowledge workers, responsible for the performance of a given project or area.

The consumerization of IT means that the vast majority of retail executives and associates have technological proficiency that had been limited to a much smaller group as recently as a decade ago. This “democratization” of tech knowledge will only expand as the millennial generation joins the workforce. Increasingly, they will expect to have access to the data, intelligence and insights necessary to do their jobs.



Milepost 1:

Use Technology that Enables Self-Service BI

There's been a long-term trend toward making business intelligence and the use of analytics available to a wider audience within the retail enterprise. The trend has accelerated as the use of BI has shifted from shaping high-level corporate strategy to supporting tactical and operational decision-making within specific lines of business.

With wider usage, it's necessary to structure BI as more of a self-service application (as opposed to one mediated through a corporate IT department). Changes in the corporate culture, attitudes and training need to be accompanied by BI/analytics software that enables users to manipulate the data available to them, “and potentially, find and add new data sources to meet new business requirements. Naturally, these functions must all be easy to use if adoption is going to be strong and hearty,” according to the October 2011 Aberdeen Group report *Agile BI: Power to the People*.

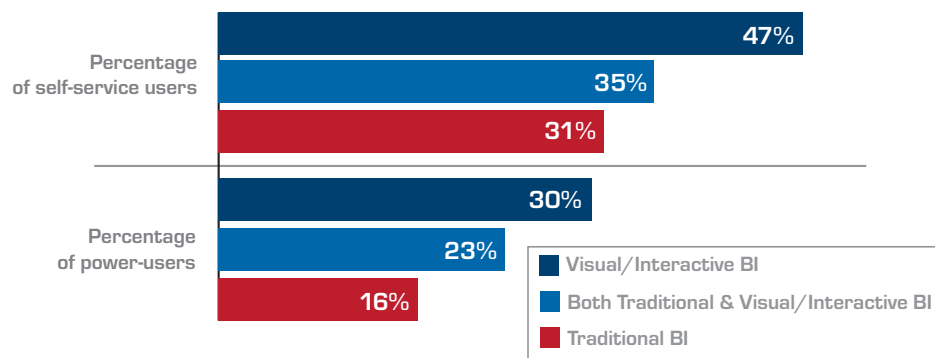
Drill-down capabilities, which let users easily navigate from highly summarized data to the corresponding detailed data, are basic self-service tools. A call center manager, for example, could examine call volumes by employee, by time of day or by service line. “A powerful drill-down capability that provides this ability to interact with and manipulate data can start to reveal new insights that are not possible when BI only delivers static, high level views of information,” notes the Aberdeen report.

**Milepost 2:****Make BI User Interfaces More User-Friendly**

As more business users within a retail enterprise gain access to its business intelligence applications, it's important to provide them with an easily understood user interface. When the audience for BI was primarily small groups of "power users," their training and familiarity with the application allowed them to spot key data points and discern trends even with columns of figures in spreadsheets.

However, with a growing audience of business users in multiple departments, data needs to be presented using eye-catching graphics and visualization tools. Simplifying and sharpening how data is presented is particularly important given the shrinking decision time window that has become a feature of today's retail environment.

With this type of visual/interactive BI, while corporate IT departments retain a critical role, a large part of the responsibility for creating and accessing different views of the data is shifted to the wider business community, according to the November 2011 Aberdeen Group report *Agile BI: Complementing Traditional BI to Address the Shrinking Decision-Window*.

VISUAL/INTERACTIVE BI INCREASES SELF-SUFFICIENCY

A more user-friendly experience and simplified data presentations can increase the number of self-service BI users within an organization.

Source: Aberdeen Group, March 2011

**Milepost 3:****Establish a Library of Predefined KPIs and Metrics**

The downside of a more decentralized BI architecture is that end users in different departments, dealing with different business challenges, may misunderstand the analytics insights generated by the solution. Retailing experts often lament that data points as seemingly basic as the price of a particular item or the number of customers a retailer has can be defined differently by sales, marketing, and operational departments. These variations will lead to inconsistent analyses and sub-optimal decision-making.

A recommended safeguard is to create a library of pre-defined metrics and Key Performance Indicators (KPIs). Such a repository helps ensure that all relevant business units and managers are comparing like with like. In addition, by creating an institutional memory, a library can help ensure consistency when there is staff or executive turnover in a department. "Providing a central repository of metrics ensures that employees know exactly how KPIs are defined, and which metrics are most important to the success and strategy of the business," notes the September 2011 Aberdeen Group *SaaS Business Intelligence* report. "As a result, they are able to act towards achieving those goals."

Metrics provided out-of-the-box not only help managers to agree on definitions, "but they will come with the necessary formula and algorithms to calculate them – plugged-in under the covers," the report adds. Solutions may also provide pre-built choices for visualization of the metric, and connectivity to the correct data elements in source data systems. So when additional KPIs need to be added to a user's dashboard, plucking both the KPI and its associated attributes from a library can also speed this change.

Milepost 4:



Adapt Your Analytics to Today's More Fragmented Customer Groups

The development of Web-based e-commerce has provided retailers with many data warehouses' worth of granular, customer-specific data. But as digital channels and customer touchpoints (and the data that can be gathered from them) have multiplied, it may be a case of too much of a

Seven Mileposts to Actionable Insights

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| 1 | Use Technology that Enables Self-Service BI | Provide users with the ability to manipulate data via drill-down capabilities and add appropriate new data sources |
| 2 | Make BI User Interfaces More User-Friendly | Use applications that present data with visualizations and easy-to-understand graphic tools |
| 3 | Establish a Library of Predefined KPIs and Metrics | Ensure that different users are using agreed-on definitions and comparing like with like |
| 4 | Adapt Your Analytics to Today's More Fragmented Customer Groups | To drive customer experiences based on user behavior and preferences, loop marketing analytics insights back into content and execution strategies |
| 5 | Integrate Collaborative and Social Tools with BI | Take advantage of the networking and participation employees apply in their personal lives to increase participation levels and the overall "stickiness" of BI solutions |
| 6 | Extend Analytics' Reach with Mobile Delivery Systems | Mobile devices, particularly increasingly popular tablets, are a natural fit for delivering analytics insights to people at all levels of the retail enterprise |
| 7 | Align Analytics Insights with Response Capabilities | In developing more powerful analytics engines, don't ignore your enterprise's ability to execute on those insights in timely, cost-efficient ways |

Moving Toward ‘Self-Service’ Analytics for All

Ashraf Zaid, Director, Product Management Technology and Architecture, Epicor

Q: Enhancing customer engagement has become an important business goal for many retailers. How can a business analytics or business intelligence (BI) solution help achieve this?

ASHRAF ZAID: An important step toward customer engagement is one that will be familiar to retailers: getting a single view of the customer in order to aggregate and know about all the interactions with that customer. What’s different today is that there are many more channels than ever before.

Even the Web today is more than a single channel for many retailers, and then there are all the different social networks plus promotions, direct mail, interactions on the phone and inside the store. It’s key to be able to group all of that into one ‘bucket’ in order to evaluate the customer properly and manage the interaction.

Business intelligence solutions are actually well-suited for this function, because it’s the central place where this data eventually arrives, so you can develop a full picture of the customer. BI helps retailers group every interaction regardless of where it happened or when, and then use that information to better target customers and interact with them going forward.

Q: Retailers also rely on BI to improve their internal efficiency and operations. How are those functions changing in today’s retailing environment?

ZAID: In the last few years, the big push for BI systems was about properly managing costs, so efficiency was at the top of the list — things like not having to transfer products to different stores too many times and not having products left over at the end of a selling season. These are also areas where BI excels, because they are based on predictive modeling and the use of historical data.

Today, we’re seeing more of a linkage with the customer side of BI, because after you get the customer in the door, it’s important to ensure that you have the product that customer wants at the location she is at.

“BI TODAY IS FOR EVERYONE. YOU DON’T SEND SOMEONE ELSE TO WRITE YOUR E-MAILS FOR YOU, SO ACCESS TO THE DATA YOU NEED TO DO YOUR JOB SHOULD BE THERE AS WELL.”

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Q: What are some best practices for getting the most relevant insights to the people who need them within a retail organization?

ZAID: BI used to be something that was primarily for analysts or executives, but now that people are seeing the information within a BI system, they are asking for it to be delivered in a more efficient way. People want BI to be a ‘self-service’ application. That means the application interfaces are becoming simpler so that you don’t need a math degree to use them.

In addition, access via mobile devices is crucial, because people are rarely behind a desk any more, they’re moving around. If a system operating in a ‘push’ mode needs to alert someone about an issue, they will be notified whether they are in front of their computer or not.

BI today is for everyone. You don’t send someone else to write your e-mails for you, so access to the data you need to do your job should be there as well. Mobile devices and also cloud or SaaS solutions help with this kind of widespread access, but the system itself needs to be designed so that everyone can access it anywhere, and it must be intuitive to use. •

good thing. Forrester Research has grouped these developments under the term “the Splinternet,” defined as a large-scale fragmentation of devices, data access, and technology standards.

Retailers who want to use the Splinternet effect to their advantage will need to understand the behavior of today’s more fragmented customer groups, and monitor how customer activity differs in various channels and in response to various communications and promotions. And in order to take full advantage of the data generated by interacting with customers across channels and devices, retailers will need to take this analysis beyond static reporting and translate insights into actionable strategies.

According to the September 2011 Forrester report *The Implications of the Splinternet and Future of Web Analytics*, “Feeding the output of marketing analytics back into content and execution strategy allows firms to proactively drive the customer experience with tactics based on user behavior and preferences. Leverage data-driven techniques such as online targeting, triggering, and segmentation to optimize marketing activities.”

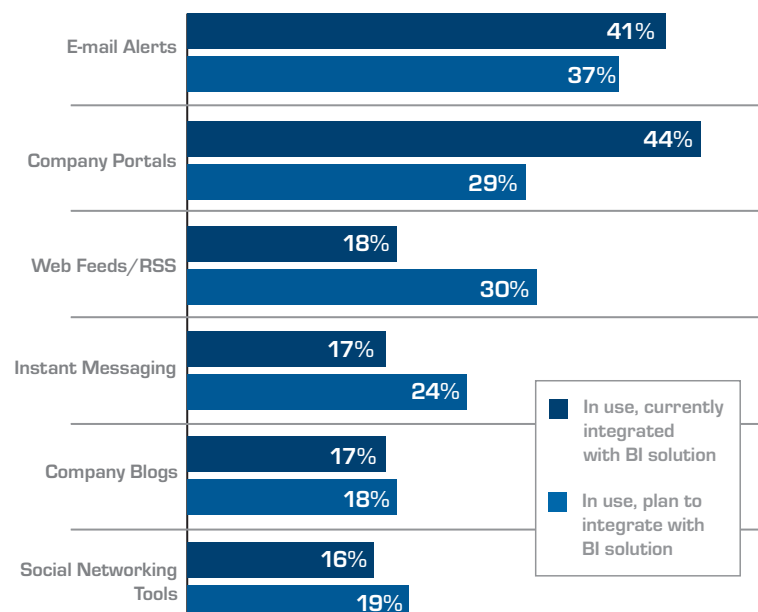


Milepost 5:

Integrate Collaborative and Social Tools with BI

Once the decision is made to decentralize analytics throughout the organization, retailers need to involve as many appropriate associates as possible in order to maximize the return on their investment.

Integrating Collaborative Technologies with BI



Best-in-class companies are leveraging a variety of tools and techniques to enable knowledge sharing and collaboration, many already integrated with their BI platform.

Source: Aberdeen Group, July 2011

BI Solutions Add Operational Execution to Decision Support

Peter Charness, President, Manthan Systems

Q: Business analytics seem to be moving into more tactical/operational roles within retail enterprises. What are some of the reasons for this shift?

PETER CHARNESS: There's a well-understood need to empower more people in the organization, including in stores and out in the vendor community, with business intelligence insights. The problem has actually been that typical BI solutions charge per-seat license fees, making it cost-prohibitive to spread BI broadly across an organization and trading community. The opportunity that retailers are now seeing (particularly with our product's enterprise license pricing model) is to broadly implement BI, giving everyone who can benefit from better decision-making the software that enables them to do that.

Q: What kind of impact can this kind of "democratization" of BI have for a retailer?

CHARNESS: In brief, better decisions, and better business outcomes at every level of the organization. Beyond this broad-based capability, we've also extended our application from not just informing, but to also include action initiation and solution implementation. When someone finds an opportunity in his part of the business, he can simulate the likely outcomes of taking different courses of action to determine the best one. Then, through integration reaching back into the transaction processing system, this person can actually implement the decision. It's moving BI from a decision support role into decision-making and execution roles.

As an example, if you chose to do so, you could have a supplier monitor the entire picture of their product's performance in your store and sales channels – not just the data from sales transactions but also inventory levels, distribution across stores, promotional plans and results, right down to what the margins are. If a vendor has all that information and therefore shares the same vantage point as your own people do, he can propose promotions; he can look at his own production capabilities to ensure that adequate stock levels have been planned – all in all, he can tighten up the ability to put product in front of the customer.

Q: How have you structured the solution to handle this kind of widely distributed input and activity?

CHARNESS: If you are going to provide technology throughout or outside of your organization, learning curves need to be minimal. One element that makes this feasible is guided analytics. The solution can virtually prompt even your newest employees to investigate opportunities in the right way, as well as show them how to simulate different courses of action to select the best outcome. We also incorporate workflow into the application. Say there's a buyer who runs a simulation showing that a price markdown will have a beneficial impact. She can escalate this proposed price change to the appropriate people for approval, and when the approval is given, generate the correct transactions to implement the actual markdown decision.

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Peter Charness, President, Manthan Systems

Q: What about those that need a higher-level, 'big picture' view of the business?

CHARNESS: Dynamic, interactive dashboards provide that quick briefing needed on the overall business situation. With our situational "Retail GPS" we can successfully provide a solid navigational path through a business review. Unlike some BI applications that can require an individual to "drill around" to find the issues, Retail GPS not only brings critical issues automatically to a business associate's attention, but also provides the best path to finding problem root causes, and points out potential resolutions. •

In this case, the consumerization of IT and the impact of social networks can be used to a retailer's advantage. "By taking functionality that supports the same type of networking and participation that people apply to their personal lives, and repurposing it to generate business value, the chances that BI will become 'sticky' and engaging to the workforce are substantially increased," according to *Collaborative BI: Harnessing the Extended Enterprise to Boost Productivity* (Aberdeen Group, September 2011.)



Milepost 6:

Extend Analytics' Reach with Mobile Delivery Systems

With more people within the enterprise requiring access to analytics insights, it makes sense that they should be delivered via the mobile devices that are increasingly an everyday business tool. Combining BI and mobility is a particular priority in the store environment. "Today, customers are the most likely recipients of mobile alerts across all revenue bands. Obviously, this needs to change," according to the November 2011 RIS report, *The Intelligent Retailer's World of Insight*. "Store managers and employees must be armed with up-to-date information, and can't be expected to sit at desks or pore over reports while customers wander around the store, smart phones in hand."

As with other BI/analytics trends, retailers must work on user interfaces and the behind-the-scenes "plumbing" that will support mobile device delivery of reports, dashboards and exception-based alerts. This should include adding (or upgrading) in-store wireless networks to support both customer and corporate mobile devices. The increasing popularity of tablet devices, with their larger screen sizes, extends the possibilities of presenting easy-to-understand visualizations of data beyond desktops and laptops. Mobile delivery offers enhanced opportunities for leveraging real-time or near real-time BI, providing truly up-to-the-minute insights to executives, managers and store associates while they are at the point of decision and able to take action.



Milepost 7:

Align Analytics Insights with Response Capabilities

In the fast-moving world of retail, it's more than likely that a BI solution may provide analytical insights that, while relevant and interesting, the enterprise is not yet equipped to act on. This is particularly true in the area of tracking consumer demand signals. Retailers have enhanced their capabilities in this area, using more advanced Web analytics and promotion management tools along with increasingly sophisticated traffic counting solutions. In addition, social networks and new levels of location-based data are both promising sources for customer insights.

Unfortunately, retailers still face challenges in acting on consumer demand in timely, effective ways. Recent RIS research identified key obstacles that include lack of automated solutions for timely execution (50% of retailer respondents); lack of analytical tools for BI (38.5%) and lack of inter-departmental coordination (34.6%), according to the October 2011 *Customer-Driven Supply Chains* report.

While an absolutely perfect alignment of analytics and response capabilities is impossible, retail planners will need to be aware of the constant balancing act required so that one doesn't outpace the other. It's bad enough for a decision-maker to be hungry for insights that would help her order the right amount of the right product so that it's in the right place at the right time. It's much worse if the insights needed to achieve that goal are available, but the execution systems are incapable of making it all happen in a timely, cost-efficient way. ■

Use Financial Analytics to Spot Profits in Multi-Channel Business

Steve Pugh, CEO, Unit4 Coda

Q: What are some of the most valuable kinds of insights retailers can get from applying business analytics to their financials data?

STEVE PUGH: Having a good financials system combined with good analytics allows retailers to focus on not just ‘What did we sell?’ but ‘How much did that sale cost us?’ and ‘Where are we making our money?’ By using a system like Coda Financials, for example, retailers can drive their costing analysis down to a very granular level. So while selling 10,000 units of Product A compared with only 2,000 units of Product B looked like a win on the surface, it may be that more detailed financial information and better analytics would reveal that the real margins on Product A are weaker than on Product B and therefore this was not the best result.

Q: How has the growth of multi-channel retailing affected financial analytics?

PUGH: One accounting challenge we often hear about is when multi-channel retailers offer ‘buy online/pick up in store;’ services. Offering this means the retailer has to allocate a certain amount of store square footage to the online collection area, which means it can’t be used for product displays or a traditional POS stand. They also have to divert some of the store staff and use part of the warehouse as well.

Q: If both channels are part of the same business, why is this such a problem?

PUGH: It’s a problem because on paper, the buy online/pick up in store element looks incredibly – and often times inaccurately – profitable, because the retailer doesn’t have a system that correctly allocates its costs for each channel. The new channel is in essence getting a free ride. If a retailer doesn’t have the right systems to track costs, their financial people have to spend time making cost re-allocations manually from the brick-and-mortar business toward this service, and it’s usually not very scientific. It’s a problem when you have a business requirement that is changing and the existing financial system isn’t able to keep up.

“WITH THE INCREASINGLY MULTI-CHANNEL NATURE OF RETAIL SYSTEMS, IF YOU CAN’T WRAP YOUR FINANCIAL/ACCOUNTING SYSTEMS AROUND THAT CHANGE, YOU’LL REALLY STRUGGLE.”

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Q: Have financial analytics tools been adapting as the retail business has changed?

PUGH: It’s critical for a finance system to be able to embrace change – retail is in a state of flux, and retailers need solutions that are designed to be flexible. The finance system must maintain accounting standards, of course, but it shouldn’t be a straitjacket around your business. With the increasingly multi-channel nature of retail systems, if you can’t wrap your financial/accounting systems around that change, you’ll really struggle. You’ll have parts of the business relying on analytical information from other systems, but the finance system will be out of step, resulting in missed opportunities for increased profit.

In addition, the big wins come for retailers when they can combine the data kept in the financials system with data from other systems into a reporting cube. It used to be that only the really ‘big fish’ could compile and run a data warehouse, but today it’s a lot more accessible and affordable for companies in the small and medium tiers of the business. When a retailer can combine data from disparate sources, such as operational and financial data, they get a view from all the different aspects of their business. The clues to increasing profits are in that data – but they have to be able to see them. •

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About Epicor

Epicor Software Corporation provides advanced solutions for retailers seeking to streamline processes, integrate channels, leverage intelligence and inspire customers, to maximize profitability. Our end-to-end suite includes: Planning, Sourcing, Merchandising, Store and Mobile Store, Cross-Channel Order Management, Commerce, CRM, Audit, LP, BI, Secure Data Management and Financials for softgoods, specialty and general merchandise retailers, plus integrated solutions for lumber, hardware, auto parts, gardening and related hardgoods businesses. They are backed by comprehensive retail hardware and professional service with 24/7 support. Epicor's solutions incorporate decades of best practices and an in-depth understanding of our clients' varied and evolving needs. Our solutions are trusted by hundreds of leading multi-channel, chain and independent retailers, from American Eagle, CVS Pharmacy and CompUSA to Vitamin Shoppe and Zumiez. Epicor employs more than 800 professionals in retail operations and 3,000 company-wide from offices in North America, Latin America, Europe, Asia, and Australia. For more information visit www.epicor.com/retail.



About Manthan Systems

Manthan Systems produces cutting edge analytic solutions for global retailers. Manthan's breakthrough solutions, under the brand name ARC, transform the way retailers use analytics driven decision making for strategic advantage. The ARC product portfolio spans the entire spectrum of retail decision making with role-based, pre-built applications, and includes products for merchandising analytics, financial analytics, customer centric analytics, supplier portal & analytics. These award winning products provide a significant edge to an organization's analytical capability and maturity, and are proven to deliver unmatched business benefits in a remarkably short timeframe. Manthan's experience spans a wide range of retail segments and formats, having transformed decision making for over 50 leading retailers in 16 countries. For more information, visit www.manthansystems.com.



About Unit4 Coda

UNIT4 CODA has a 30-year track record of providing scalable, robust, proven accounting software that is ideal for multi-channel, multi-brand or franchised retail organizations. Retailers tend to choose Coda Financials for its superior design and finance capabilities and the ease of integration with other specialist solutions that run their businesses. More than a typical accounting system, Coda provides retailers a strategic financial management advantage, through our best-of-class solution, which gives secure, global access to a single, unified financial database but with a truly "multi-everything" approach to finance: multi-company, multi-currency, multi-lingual, multi-cultural. Customers include Selfridges, IKEA, Mothercare, Debenhams, Mexx International and Rank Group. To learn more, visit www.unit4coda.com.