The Value of Smarter Merchandising

How adopting a customer-centric merchandising strategy can increase revenue and margins
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Highlights

• Effectively executing a customer-centric strategy is critical to marketplace survival and improved shareholder value. Smarter merchandising is one answer.

• Smarter merchandising is a journey that retailers can take to enhance their competency in predicting the needs and wants of targeted customers.

• The smarter merchandising journey has three outcomes: Sense customer buying behavior, align products and services and deliver with consistency and agility. These outcomes net quantifiable benefits for retailers.

• Intuitively, retailers understand that there is value in improving their business operations, but what is it exactly? Collaborate with IBM to help quantify the potential economic value of an investment in smarter merchandising competencies.

New technologies and economic pressures have reshaped buying behavior in ways that might persist for a generation

The consumer segment has changed. Today’s discerning, networked consumer demands a more personalized and interactive retail relationship. To meet this demand, retailers need a better understanding of their customers’ behavior, and insight into what that behavior means for their business, their products and services and their channels.

Effectively executing a customer-centric strategy is critical to marketplace survival and improved shareholder value. Such a strategy encompasses more than assortment planning and merchandising execution, starting with customer and product attribute management and moving all the way through the process to pricing and promotion strategy. The customer is at the center of this process as:

• Correct product information is made available at the store-front.
• Data and information is captured using customer interactions.
• Insight into customer behavior is used to tailor assortments and develop targeted pricing and promotional strategies.
• Day-to-day activities are optimized to deliver consistently and with agility.

This broader view of a customer-centric merchandising process, and our vision with respect to the competencies needed to enable it, is what we are calling smarter merchandising.
Smarter merchandising is an analytics and insight-driven approach to retailing

Retailers need a set of competencies that use integrated data and information to develop deeper customer insights. With advanced analytic capabilities, retailers can mine internal and externally sourced customer and marketplace information that can be used to triangulate demand forecasts with merchandising plans and to respond in real-time to changing market dynamics. Effectively managing the volumes of data and related information is difficult; however, getting it right not only can improve operational agility, but it can also enable analytic and insight based merchandising.

Retailers that use targeted promotions and more effective assortment tailoring can see increases in revenue, increased market basket size, growth in customer volume and greater customer loyalty.

The impact of a consumer dominated segment on retailers

Today’s consumer demands a consistent shopping experience, forcing retailers to adapt their information architecture to support omni-channel retailing. Over the last decade consumers have changed how, when and where they make purchase decisions. They have shifted their buying preferences to the value extremes, seeking either low-priced goods of reasonable quality or premium products to which they attach high emotional value. Readily incorporating technology into their shopping experience, consumers are very willing to use multiple channels to research, compare and validate their choices, although most purchase decisions are still finalized in the store.

The expected economic benefit of investing in smarter merchandising

Current economic realities dictate that companies understand the potential benefit of any investment before it is made. The smarter merchandising journey is no different. We have developed a model that can help retailers determine the potential ROI from investing in improving core merchandising competencies and achieving smarter merchandising outcomes. The model also provides benefit and investment details that can be used to develop a financial business case.

Today’s information and communication technologies have enabled a smarter consumer who is instrumented, interconnected and intelligent:

- **Instrumented**: They use technology to get instantaneous access to information about retailers, their products and the shopping experiences of other consumers.

- **Interconnected**: They are ready to use technology to interact with retailers and other consumers.

- **Intelligent**: Technology and applications provide insight that allows them to know precisely what they want from retailers, both now and in the future.
These shifts in buying behavior have significant implications for retailers. To adapt, retailers need a better understanding of customer preferences and insight into what it means for their business, their products and services and their channels. Consumers expect personalized shopping: tailored promotions, consistently available products and overall better quality and value for money.

For retailers who can adapt to this changing demand, the rewards are significant. Not only are most consumers willing to collaborate with retailers, but also 61 percent of surveyed consumers said that they would spend more money with retailers that implement their suggestions. Direct customer collaboration such as codevelopment and testing opportunities, along with product ratings and commentary, provides valuable insight into a customer’s expectations.

**The impact of a smarter consumer on products and placement**

Constantly evolving consumer demand and an expectation of tailored assortments drive short product life cycles, which means more product SKUs that have to be managed over a narrower time horizon. According to Datamonitor’s Productscan Online, marketers launch over 30,000 new products each year in North America alone. This substantially increases the data attributes and overall inventory that a retailer has to manage throughout an increasingly complex supply network, including private-label development and sourcing. The result is lower in-stock rates in the store with retailers putting $93 billion of sales at risk each year due to out-of-stock conditions.

“[The] dynamics of the shopper has changed.... Our customer is spending less time in the store and being more discretionary when they are in the store — to not have whatever it is we believe in, in the store starts becoming calculable about what we’re missing”

— VP and Fashion Director, North American retailer

Not only are volumes increasing, but consumers are paying more attention to product attributes when they make their purchase decision. Whether it is for comparing features and functions for different products, researching product ingredients and origin or confirming product compatibility, accurate, consistent product information is critical yet less than 25 percent of retailer-held product data matched the data from their suppliers.

**The impact of a smarter consumer on pricing and promotions**

The consumer’s focus on value and short product life cycles means that retailers have to become more sophisticated in how they set and manage prices and promotions for their channels. With 40 percent of promotions not executed as intended, retailers have an opportunity to capture lost sales using more integrated planning and greater consistency and accuracy of pricing, especially in new product launches. Using customer insight to tailor promotions based on demographics, integrating promotions with planned launches and loyalty programs and enhancing in-store verification solutions to confirm proper promotional setup will help improve overall effectiveness.
Understanding customer differentiation for a particular product in a certain location and having visibility of competitor pricing are critical insights that help retailers take advantage of their limited sell-through windows and avoid over-stocks that lead to increased mark-downs and reduced margins. Assortment planning for most retailers involves spreadsheets and a lot of art versus science. Incorporating predicted customer demand and preference insights into the planning process supports a more tailored product selection, while enhanced merchandising agility allows for a rapid response when something isn’t working.

The implications for merchandising
To adapt to the changing marketplace and the empowered consumer, retailers must be able to:

- Sense customer buying behavior and improve operational visibility.
- Align products and services to predicted customer behavior.
- Deliver with consistency and agility.

In the day to day core merchandising activities of all retailers, having information and being able to derive customer insight from it are two different things. In many cases, retailers have the data and they have the customer and product information, but their level of understanding is inconsistent. As one retailer put it, “In each of the stores independently they could have been out of stock in this one [SKU] because it wasn’t forecast properly, or too heavy in another one because the information wasn’t correct on a price point or whatever for that particular market.”

Today’s consumer expects personalized products and services. The ability to tailor assortments at a cluster or location level is critical, yet without scalability of the plans and links to in-season forecasts, effective execution can be affected. Often the clustering and allocation methods do not match buyer habits, which tend to be driven more by historical results than predicted demand. For example, one retailer explained “We have three year plans in total but we don’t really have targets out there by area of the business. [The buyers] are already going out and buying. What is going to happen when I start giving out the plans in the next four to eight weeks? They are going to have to shoehorn it in backwards. Obviously not a good way to do it.”

“I think that that’s a consistent challenge in all e-commerce companies...we’ve had instances where a new product is launching, and the pricing has been incorrect, and as a result, we’ve lost tremendous amount of sales and margins.”
— Director of E-commerce, North American retailer

“The sooner you can get out of what’s not working and get back into what’s working, that’s key. It’s like the merchandise that’s not working in season, are there other products that if you react quick enough you could flow back in before the outtake and make money?”
— Senior Buyer, multi-format retailer
By understanding what customers want to buy, and how they want to shop, we can provide better service, convenience, products and rewards, through a choice of formats which deliver a consistent customer experience.”

Responsiveness to changing demands, agility in the marketplace and a focus on offering the customer what they want to buy—they all improve sales, margins and customer satisfaction. These are recurring themes, summarized by one merchandising executive as, “Analyze your customer purchases, take that information, equate that to your assortment, now your assortment’s more efficient, now your buying is more efficient, now your inventory is used better, so you save those dollars, so you’re increasing your sales in margin dollars while lowering your inventory investment, increasing your turn…that’s a huge benefit right there.”

Nearly 2 million people in 30 cities and towns were without drinking water

“A major pipe bringing water to the Boston area sprung a ‘catastrophic’ leak and is dumping eight million gallons of water per hour into the Charles River. Governor Deval Patrick declared a state of emergency and issued a “boil-water” order for Boston and dozens of other communities.”

Within hours, bottled water supplies in local stores ran out. Agile retailers responded rapidly, redirecting supply from outside the city limits to the stores in the affected areas, while others struggled to adjust to this unexpected demand.

Questions to consider
- How has your customer changed in the last 5 years?
- What impact have changes in customer behavior had on your business?
- When you experience unexpected demand, how agile is your response?

Effectively executing a customer-centric strategy is critical to marketplace survival and improved shareholder value.

A strategic vision to achieve merchandising excellence

Smarter merchandising is a journey that retailers can take to enhance their competency in predicting the needs and wants of targeted customers (Figure 1). The objective is to develop and deliver desired products and services while optimizing sales, profits and asset utilization.

Figure 1: Smarter merchandising competency outcome map
Source: IBM Center for Applied Insights
There are three outcomes in this journey: Sense customer buying behavior, align products and services and deliver with consistency and agility. Each builds on the other, and all use their competencies, to help retailers:

- Seamlessly integrate internal and external systems.
- Establish consistent trusted information.
- Deploy advanced analytics for internal and externally sourced customer and marketplace information.
- Effectively and efficiently triangulate demand forecasts with merchandise plans.
- Respond in real-time to changing market dynamics.

By addressing underlying process execution challenges, whether due to data inputs, people skills or enabling technology, retailers can improve their competencies. This improvement can be represented using a maturity spectrum (Figure 2).

Improving business competencies and achieving the smarter merchandising outcomes not only enhances overall operational effectiveness, but it might also provide an economic benefit. For the purposes of our research, we modeled a hypothetical $25 billion retailer with a 41 percent gross margin and 5 percent operating profit and saw a potential net operating profit benefit of 0.8 to 1.8 percent of revenue (or $210 to $441 million). The primary drivers of this benefit include:

- Increased revenue from targeted assortments and more effective promotions
- Increased margins resulting from better price and mark-down management
- Reduced inventory carrying costs from more effective inventory management

While each step adds incremental net operating profit, the investment profile shows a positive net present value and a 131% return on invested cash.

Potential benefit amounts and the investment profile are unique to each retailer’s situation and vary according to retailer size (revenue), business type (for example, soft-line, grocery, specialty goods) and degree of operational maturity (more mature companies will have a smaller benefit opportunity).

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Figure 2: Business Competency Maturity Spectrum

Source: Smart Grid Maturity Model (APQC and IBM)
The benefits of sensing customer buying behavior and improving operational efficiency

Understanding customer behavior requires capturing necessary data at the source and mining the data consistently using customer, product and supplier attributes. This should not be a brute force effort or an ad hoc exercise; instead, it should be seamless, integrated and largely automated. The competency spectrum runs from basic transaction data capture to more advanced integration of supplier and third-party sourced data from across the system landscape.

Outcome 1 Excellence: Companies that deliver effective insight do so with standards and a highly automated metric production process

Excellence is achieved by:

• Integrating existing solutions to provide a flexible, scalable transaction architecture that covers both structured and unstructured data types
• Standardizing processes
• Making real-time updates to critical data sets such as demand forecasts and inventory files

By automatically populating or synchronizing data attributes in both internal and external systems, it is easier to develop and maintain one consistent version of information. Users, accessing this information with standard analytic tools versus spreadsheet-based solutions, can deliver more effectively viable insights that the business needs to plan and execute its merchandising strategies.

Research showed that those companies with strong business insight driven by timely metrics and strong data standards can experience as much as 33 percent greater revenue growth. In addition, retailers such as Sears and the Nuance Group reduced inventory 10 to 15 percent with better vendor collaboration and by adopting transactional and predictive analytic-based data in their demand forecasting processes.

Availability of accurate, timely product information helps consumers make a more educated purchase decision. By improving point of sale product information, one electronics retailer significantly reduced returns because customers had a better understanding of product features, functions and compatibility with other devices.

The benefits of aligning products and services to predicted customer behavior

By applying advanced analytics to data and information sets, retailers can more effectively develop promotional and pricing plans that support tailored and localized assortments. More advanced competencies embed a degree of prediction in planning, shifting from a predominantly historical perspective to one that looks toward the future. By becoming more predictive, retailers can drive greater channel impact with increasingly targeted execution at all levels.
Outcome 2 Excellence: Viable insight is a key input to driving a more integrated planning process and channel execution.

Integrating real-time insights into core processes can improve pricing, promotional strategies and assortment selection. Understanding product-to-demand relationships and being able to monitor results dynamically can help create a greater level of responsiveness to changing marketplace conditions. By tightly linking demand forecasts and assortment and merchandise plans, overall financial forecast estimates can be accurate and there is a greater level of buy-in and acceptance of the strategy.

Targeting the right products at the right place with the right promotion can help increase in-stock rates and corresponding sales. The efforts of a large multi-format retailer to align its products and store placement to meet demographic demand better are based on deeper customer insights and predictive analytics. This tailored approach to segmentation has helped it increase sales per square foot by more than 7 percent.\(^{18}\)

More efficient inventory management reduces waste and carrying costs. OfficeMax saw a 4 percent improvement in fill-rates, a 30 percent increase in forecast accuracy and a 9 percent increase in inventory turns when it used better vendor collaboration to help determine product demand.\(^{19}\) A recent retail study showed that increasing assortments resulted in higher inventory carrying costs, while a 10 percent reduction of low-volume SKUs resulted in increased sales of 4 percent because of space reallocation.\(^{20}\)

The benefits of delivering with consistency and agility

Building on the competencies established in outcomes one and two, the third outcome optimizes the processes and overall execution to deliver with consistency and agility. Competencies include incorporating alerts to support exception-based process monitoring; embedded triggers automatically initiate a response to a situation such as a low stock level, out of tolerance temperature conditions, unexpected weather changes, competitive pricing changes or social media events. With these competencies in place, a retailer can respond more quickly to changes and problems, which in turn can drive increased sales opportunities, reduced costs and improved customer satisfaction.

Outcome 3 Excellence: Agility depends on excellent operational integration

Incorporation of advanced, predictive analytics into planning processes helps drive an optimal price life cycle, better aligns assortment and space allocation, helps establish tailored plans and enables intelligent processes. Intelligence in a process can identify where there are macro exceptions that need intervention, such as a viral trend or natural disaster, or more micro, tactical exceptions, such as an out-of-stock shelf, out-of-date goods or poor shipping or storage conditions.

The focus is on being responsive, consistent and agile by driving planning and assortment tailoring down to a customer or store level and positioning the company to be ahead of the demand curve. Studies have shown that price and promotion optimization solutions can increase gross margins by 5 percent to 15 percent,\(^{21}\) while assortment optimization can drive a sales lift of more than 3 percent.\(^{22}\)
Questions to consider

- How could your merchandising outcomes be improved?
- What steps have you taken to enable an effective customer-centric strategy?
- What are your customers saying about your products, your services, your company?

Intuitively, retailers understand that there is value in improving their business operations, but what is it exactly? What do you put into a business case? How much investment is justified and how do you track the benefits as they are realized over time?

Quantifying the value of smarter merchandising

How do you quantify the benefit potential of an investment? This challenging question has largely been answered in the past using historical achievements. In today’s investment climate, this answer isn’t good enough. What is needed is an objective, fact-based quantification approach.

To help quantify the economic benefit of investing in smarter merchandising, we developed a potential value model. While considering primarily operational value, we found that investments in improved competencies can also add strategic, brand and even societal value. We used adoption or maturity profiles to weight the benefits; sensitivity analysis and statistical smoothing techniques to make the model relevant for companies of different sizes; and the lower quartile of each benefit range to be financially conservative.

Tesco: An example of customer-centric agility

“Our core purpose is to create value for customers to earn their lifetime loyalty.”

Tesco believes in the “power of the consumer to drive positive change,” and acknowledges that businesses have a critical role to play in supporting positive change. Demonstrating its consistent agility, Tesco addressed the recent economic challenges by expanding its product line to include discount brands targeted to customers who value choice and quality, but need to budget more carefully. Expanding internationally, Tesco focuses on flexibility—from the need to shop for extremely fresh food several times a day in Japan to the “hands-on” approach to marketplace food selection of Thailand to the American preference for larger package sizes, they adapt with great service, choice and value.

Growth in Tesco’s business comes from following the customer to new markets and using people, processes and systems to develop competencies. At the individual level, their Clubcard program provides insights that help tailor promotions to specific customers, while on a broader community level, social awareness is a key part of their strategy. From “bag-less deliveries” that reduced single-bag use by 5 billion carrier bags since 2006 to a goal of becoming carbon-neutral while reducing each customer’s carbon footprint in half, Tesco finds ways to add measurable societal value.

Tesco is an example of a leading retailer who delivers with consistency and agility. Their strategy is paying off with sales and earnings up at least 6 percent.
This tool makes it possible to model the potential value of a smarter merchandising outcome. Illustrative examples demonstrate business results that potentially could be achieved by improving merchandising competencies and overall operational maturity. Individual retailer results will vary based on company size, type and degree of maturity. This tool of course is just a model and its use doesn’t guaranty results.

Retailers can use this model to determine where they fall from a business competency and merchandising maturity standpoint. It can also help them make a financial business case to proceed on the smarter merchandising journey.

Illustrating the potential economic benefits
To illustrate the potential benefits, we used publicly available information from a $25 billion soft-line retailer, and input this data into the model, which provided an outcome based quantification of potential benefits for a hypothetical soft-line retailer of this size and average merchandising maturity. Based on this sample set of data, investing in developing smarter merchandising competencies can mean as much as $390 million in annual economic benefit or 1.5 percent of revenue. (Figure 3).

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**Potential Value Model Methodology**

Conducted in-depth, fact-based research:

- 16 case studies with retailers from different segments
- Incorporated data from more than 100 academic and industry sources

Built a competency based benefits model that:

- Is based on 30 common financial and business model data points
- Incorporates a merchandising maturity profile
- Uses weighting, quartiles and sensitivity to scale the model for different retailers

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**Figure 3**: Expected annual economic benefits of smarter merchandising for a illustrative department store normalized on a net operating profit basis

Source: IBM Center for Applied Insights
Considering a typical investment profile, we modeled the cumulative net cash flow over a five year investment window. As Figure 4 shows, this investment profile produces almost $600 million in net cash flow.\(^{28}\)

The incremental value-add and ROI for smarter merchandising

Based on a hypothetical example, a smarter merchandising investment could deliver $322 million of incremental economic value add and a 131 percent return on invested cash, along with these other benefits:

- Modified internal rate of return: 76 percent
- Discounted payback period: 3 years
- ROI: 241 percent
- Net present value: $289 million

We’ve illustrated the potential benefits from investing in smarter merchandising. An example of this type of innovative investment is Elie Tahari, a global fashion design company. After implementing an advanced business intelligence solution, Elie Tahari now has greater visibility of vital business data and has seen a reduction in the reporting cycle from two days to a few minutes and a significant reduction in supply chain and logistics costs.\(^{30}\)

In summary, the potential value model illustrates that a customer-centric approach offers quantifiable benefits to retailers by helping them increase revenue and margins, while reducing operating costs, not just in the short-term but also over time.

**Questions to consider**

- How do you rate the ability of your merchandising organization to predict and adapt to changing market conditions?
- How could improving your merchandising competencies improve your operational agility and add value for your company?
- What is your potential economic benefit?
Consider how an insight-driven approach helps create a customer-centric merchandising strategy with consistency and agility.

Explore how an investment in merchandising might add value for your business

Effectively executing a customer-centric strategy is critical to marketplace survival and improved shareholder value. The marketplace and retail industry has changed:

- Market shift from product to customer focused; shortened product life cycles
- Demanding, informed customers
- Prevalent competition and new business models
- Growing government regulation and compliance
- Increasing commodity and energy costs
- Inconsistent data, attribute and hierarchies
- Disparate, under-performing systems

These industry trends will continue to apply operational pressure and retailers who cannot adapt will find themselves marginalized by more agile competitors. Whether you are experiencing one or more of these challenges today, or if you simply wish to continue optimizing your operations, we can help you.

IBM: Right for a changing world

At IBM, we collaborate with our clients, bringing together business insight, advanced research and technology to help give them a distinct advantage in today's rapidly changing environment. With our integrated approach to business design and execution, we help turn strategies into action. And with expertise in 17 industries and global capabilities that span 170 countries, we can help clients anticipate change and profit from new opportunities.

For additional support and to conduct an in-depth full business value assessment including benefits and costs please contact the authors.
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3 Hypothetical retail company with $25 billion in revenue, 41 percent gross margin and 5 percent operating profit.


14 The competencies are: flexible data capture, consistent information management, value driven insights, integrated planning and execution, and agile ecosystem

15 “IBM CFO Study: The New Value Integrator.” IBM Institute for Business Value. 2010


17 “IBM CSCO Study: The Smarter Supply Chain of the Future, the Nuance Group Case Study.” IBM Institute for Business Value. 2009.

Strategic value comes from the accelerated creation or adoption of new ideas and solutions that position a retailer for future success, such as enabling a customer-centric business strategy, increasing marketplace agility and responsiveness and positioning the business for growth. Brand value is created by strengthening overall brand, reputation and influence, using thought, market and public leadership to attract new customers and increase customer loyalty, acquire top work talent and improve financial health. Societal value derives from the creation of social, cultural or environmental benefits, such as making product content and origin more visible, improving availability of high demand products (especially in crisis situations) and reducing waste and spoilage.

All dollar values expressed in this paper are in U.S. dollars.

Using a hypothetical example, we modeled the investment and benefit cash flows for a typical program life cycle. Solutions are phased over three years, and benefits are ramped up over time. In Phase 1, we have included a sunk cost to implement or upgrade a core merchandising solution. We have not attributed any benefits to this solution. Clearly, if this competency already exists, then no further investment is needed, resulting in a shorter payback period and increased five-year cumulative cash flow. Although we have not reflected a financing option on this chart, applying financial leverage smooths out the investment profile, the result of which is an earlier break-even point, albeit with a larger overall investment.

Discounted payback period is the time from project deployment until the cumulative benefits equal the initial investment, with the benefits discounted by the weighted average cost of capital.