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Tomorrow's Trends Delivered Today *Food Retailing* 2013

Technology Deep Dive

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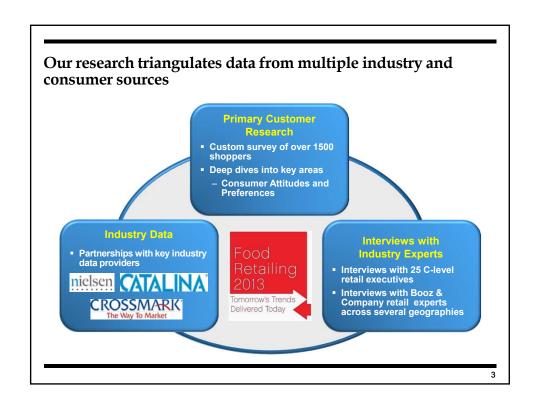
Topics for Today's Discussion

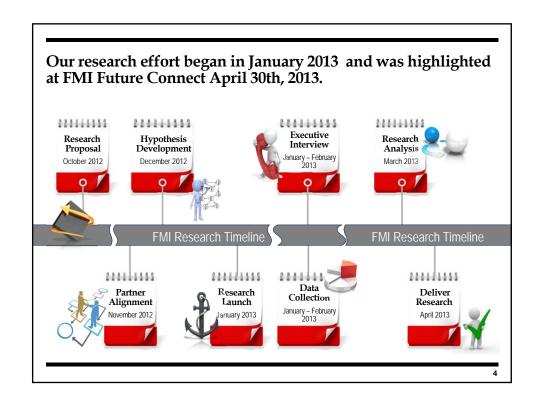


Introduction and Objectives

- Summarizing Food Retailing Trends
 - Capacity and Demand
 - -Shopper Landscape
 - Merchandising and Marketing Innovation
- Technology as a Strategic Enabler
- Guide to Investing in Technology
- Creating Differentiation







Our conversation today centers on exploring three critical future growth issues at retail

Key Industry Questions

- "Is the grocery industry in the midst of a structural transformation driven by major consumer, competitive, and economic forces?"
- "How will the changing the changing shopper landscape alter food retailer strategies and tactics?"
- "What are the new capabilities (merchandising, marketing, technology) which will drive lasting differentiation?"



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 - Capacity and Demand Imbalance
 - Shopper Landscape Transformation
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- Technology as a Strategic Enabler
- Guide to Investing in Technology
- Creating Differentiation

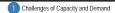


Retailer and CPG Manufacturer C-Level Perspectives On Current and Emerging Industry Challenges

- Growing concern about capacity across all channels for grocery retailing
- Continued acceleration of industry consolidation
- Changing dynamics of consumer behaviors including ethnic differentiation
- Absolute need for understanding the shopper
- Impact of price vs. value creation positioning strategies (across merchandising and marketing)
- Acknowledged potential impact of digital technologies
- Growing need for a more seamless retail environment supporting competitive differentiation
- Intensified need for shopper-centric collaboration capabilities
- Creation of effective cost-to-serve new operating models

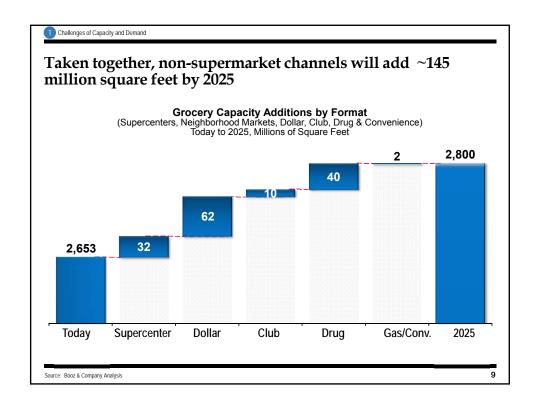


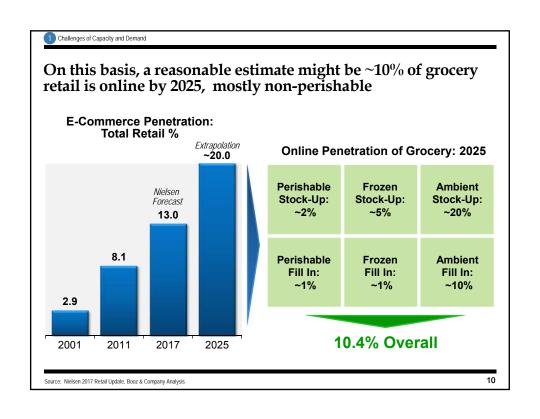
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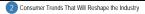


Overall Grocery Demand/ Capacity dynamics imply intense competition in the years ahead

- Overall demand for groceries grows with population in recessionary periods, demand ticks down by ~5% to 7% on a per capita basis
- Looking forward we see key uncertainties:
 - Projected flat level of per capita demand
 - Continued grocery capacity additions by both traditional grocery retailers and new channels
- Accelerated encroachment from internet and mobile
- **By 2025**, we expect:
 - -Supercenters to have reached saturation in all but the most urban markets
 - Dollar stores to be approaching saturation at about ~36,000 stores
 - -Online grocers to command ~10% of the market
 - Overall industry to have added ~290 million square feet

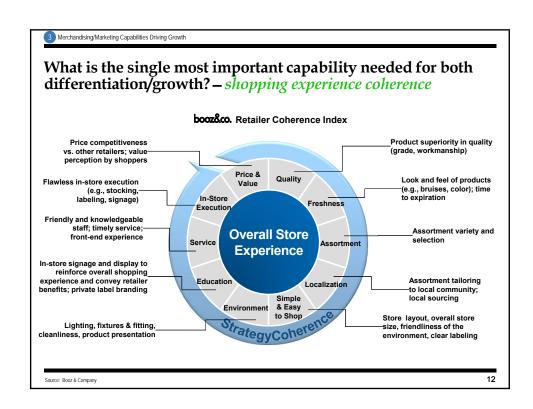


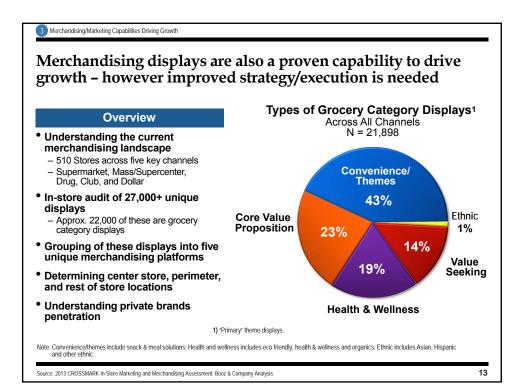




Shifting Consumer Demographics are going to create new competitive challenges for both retailers and manufacturers

- US Ethnic population share will increase to 47% of the US consumer base
 - Represents a 13% increase in the next ten years
- Hispanics and Asian populations are forecast to grow the most
 - 41% and 37% respectively, in the period 2010 to 2025
- Ethnic-based marketing and merchandising will increasingly present a growth opportunity for grocers
- In addition, the opportunity to carefully architect an Ethnic store strategy is significant
 - Ranging from dedicated full ethnic stores to "bodega like" store-in-store formats
- In parallel, age-based shifts will need to be dealt with competitively
 - The 65+ year old segment will increase 7% (as % of total US population),
 - Both the 18, and under and 25-44 year old segments will decrease
 - All other age segments will remain relatively flat





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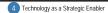
Executives characterized technology as a highly disruptive force in the go forward grocery retailing market

- Identified as the single greatest catalyst of change at retail
- High consumer adoption of mobile smart devices
- The Question of Big Data the challenges of scalability, affordability, end effective application
- In-store technologies automate the in-store experience as well as improve operating models
- "Seamless retailing" emerging table stakes demanded by the consumer



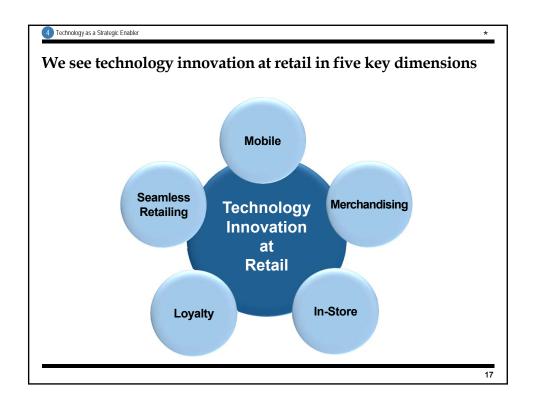


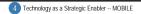
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Five technology predictions encompass the challenges retailers face with next generation priorities

- Mobile becomes the single greatest contributor to changing the overall shopper experience at retail
- 2. Consumer and shopper analytics will pivot merchandising and marketing capabilities to drive revenue and profit growth the "tuned store"
- 3. In-store technologies will be used to significantly change the shopping experience:
 - New Supply Chain Systems reduce cost of inventory
 - Next Generation Shelf tags reduce labor costs while better informing shoppers
 - In store Camera Technology drives both sales increases as well as labor reduction
 - Environmental lighting becomes a shopper marketing tool
 - Geo-fencing and store Google Map-like mapping become standard shopper tools
- 4. Next generation loyalty systems will drive a new level of "tailored shopper interaction" rewarding both normalized patronage as well as incremental spending
- Omnichannel retailing will evolve in grocery eventually becoming table stakes winners will be seamless – followers will be "patchwork"





The evolution of consumer smartphone technology will outpace retailer's ability to harness the impending level of innovation

■ The New Smartphone

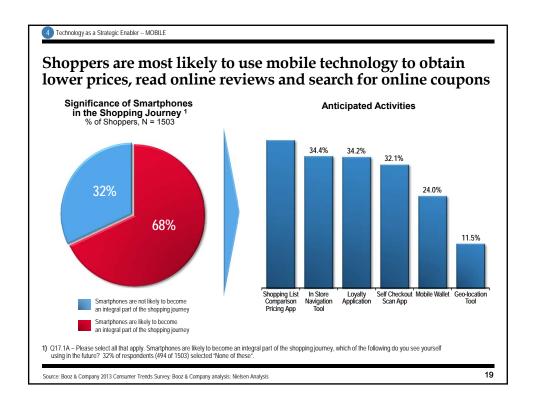
- 10x more powerful than today
- -6-10X more on-board memory
- New "personalized" form factor
- On always "communicating for you"
- -6x 8X more power life
- 100 plus applications "just for you"

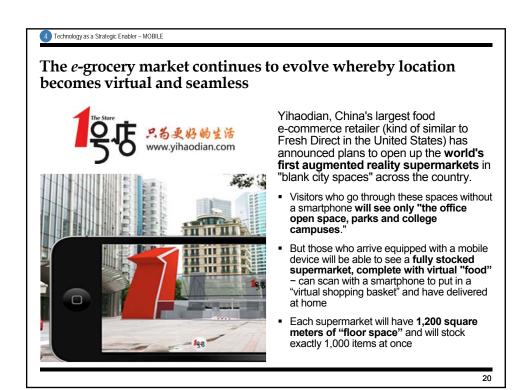


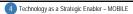


Note: Includes all Asian ethnicities

Source: Booz & Company Analysis 2013 Consumer Trends Survey: Booz & Company Analysis







How the Yihaodian Virtual Store Application works













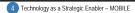




Recently Yihaodian, China's leading eCommerce platform for grocery shopping products, launched a highly innovative marketing campaign to increase its customer base. Each of the stores is packed with promotional discount coupons and high-value, free gift vouchers that are just waiting to be claimed by shoppers. Consumers can buy products using the application. Next, these items will then be delivered – just like with Yihaodian's regular website.

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Walgreens - Increasing Basket Size

Walgreens is an example of a retailer who is **effectively using SMS messaging**. When a customer drops off a prescription they will text you when prescription is ready. This allows customers to focus on their shopping as they wait, rather than having to run back and forth to check if the order is ready. An additional service they provide it the ability to **re-order prescriptions by scanning a barcode** on the pill bottle.





Revolutionizing the In-Store Shopping Experience: IBM

IBM research scientists have created a prototype application that adds **augmented reality (AR) to the shopping experience**, enabling shoppers to scan products in-store and view personalized information like allergen info, recommendations, and discounts on their mobile device.

Consumers download the application, register, and create a profile of features that are important to them, like ingredients that could trigger an allergy or whether packaging is biodegradable.

Then, when they point their device's camera at products in the aisles, the app instantly recognizes them and overlays details such as ingredients, price, reviews, and discounts using AR technology.



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In-Store App Smartly Syncs Shoppers and Sales Staff

This mobile application built by Signature complements the in-store Neiman Marcus experience by **connecting shoppers to sales associates when they enter the store**. The consumer interface allows shoppers to browse promotions, favorite items, see events, scan QR codes in-store, and check-in at the store.

The sales associate interface delivers a Facebook photo when a preferred shopper arrives and shows the purchase and favorite history of the user. This information provides the sales associate with a better understanding of the shopper's likes and dislikes. The centralization, use, and delivery of data in this way thus offers a distinct competitive advantage.





Walmart application makes check out faster, easier

Walmart's new Scan & Go system lets customers scan and bag their own items using the store's iPhone app.

The application stores the items until the customer is ready to check out and pay.

"The list that they've already scanned populates right into the register; it's all done for you. You don't have to load the groceries onto the belt, have your cashier scan them, reload all the bags. Everything's already taken care of," said manager Justin Shank.

The Omaha store is one of 200 testing the new technology.





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4 Technology as a Strategic Enabler – MOBILE

Fox Movie Mall Virtual Storefronts Offer Up Savings With Innovative Application

Twentieth Century Fox Home Entertainment and Taubman Centers announced a year-long partnership to create unique shopping experience with **Fox Movie Mall virtual storefronts**.

Along with the Fox Movie Mall app available at the iTunes Store and Android Market, shoppers at participating Tubman shopping centers can simply Stop, Scan and Shop.

By picking a film title from a wallscape, consumers can scan a QR code and instantly be taken online to buy and have shipped right to their door.

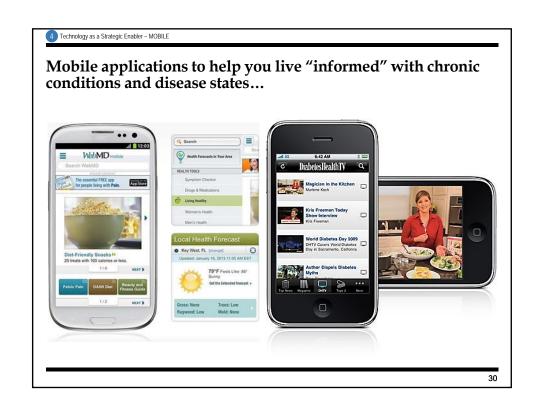


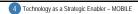










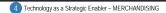


Mobile applications to drive fitness...





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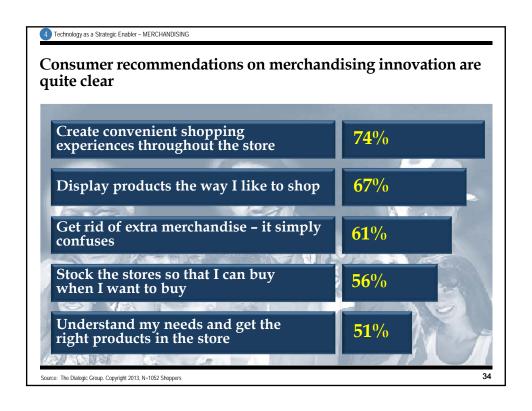


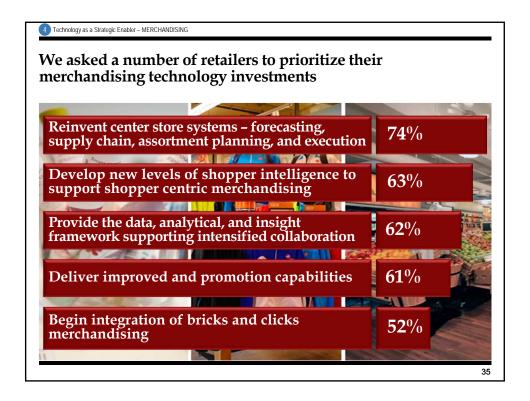
New Merchandising systems will be designed to align with the way consumers shop and the way they live

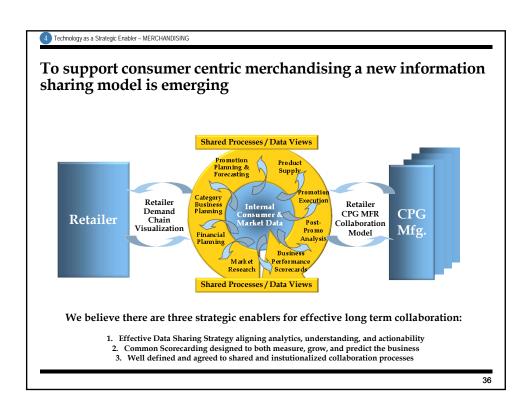


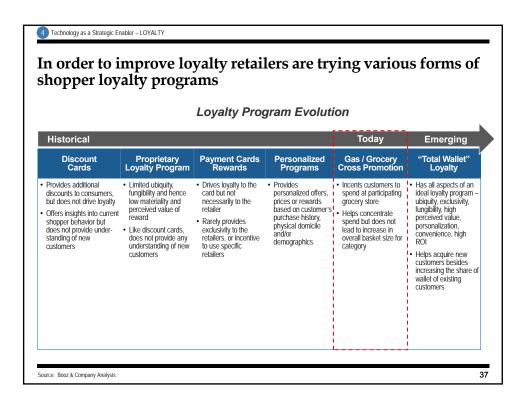
- Retailers are developing a shopper-centric IT strategy
 - Core merchandising is redefined to reflect changing shopper preferences and needs states
 - High degree of localization to hyper localization in merchandise planning and execution
 - Systems are redesigned to reduce operational costs by 15% - 20%
 - Significant investments in next generation collaboration capabilities

| 4 Technology as a Strategic Enabler – MERCHANDISING | | | |
|---|-----|--|--|
| Consumers' realize that merchandising innovation is being supported with Retailers technology investments | | | |
| Where Shoppers Perceive Merchandising Innovation | | | |
| SmartPhone/Internet | 84% | | |
| Grocery Store | 57% | | |
| Specialty Store | 50% | | |
| Department Store | 46% | | |
| Mass Merchandiser | 37% | | |
| Convenience | 35% | | |
| Source: The Dialogic Group. Copyright 2013, N=1052 Shoppers | 33 | | |





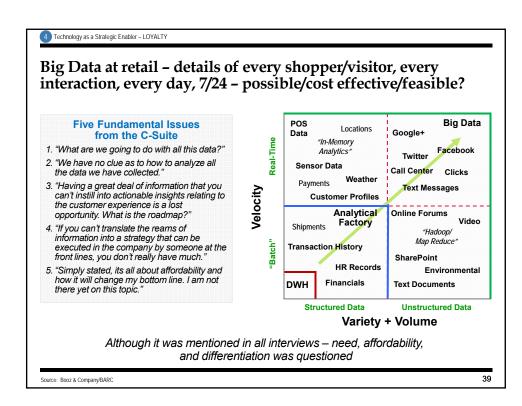


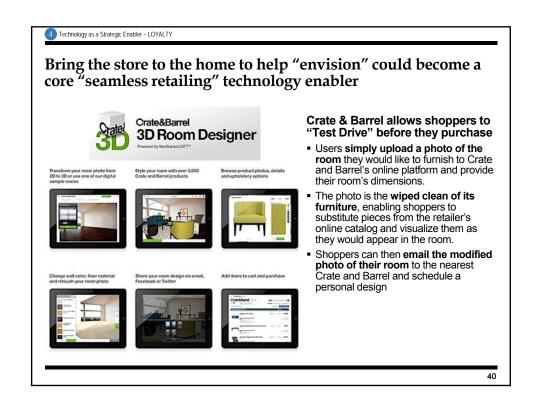


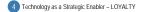
4 Technology as a Strategic Enabler – LOYALTY

Next generation loyalty programs are in fact delivering growth, primarily in current shopper bases – *revolution is coming*

| Coalition | Primary | Value | Household |
|---------------------------|---|--|-----------|
| Structure | Focus | Creation | Spend |
| Grocery/Gas | Current Shopper | 1.5% - 2.0% of | ~15% |
| Coalition | Base | annual sales | |
| Total Wallet Coalition | Current Shopper Rest of Market Shopper Base | 1.5% - 2.0% for current Increase in new shoppers of ~5% | ~50% |







A number of traditional grocery items will be home manufactured through 3D printing – including foods



MAKERBOT – 3D Printing becomes affordable in the home

- The MakerBot Store in New York City is the first full MakerBot retail experience in the world.
- Visitors can watch the MakerBot Replicator 2 Desktop 3D Printer working live to create new objects, attend interesting classes and workshops, and buy the coolest gifts in New York City.
- Browse here to see everything currently available to see, experience, and buy at the MakerBot Store.
- Next generation "inks" could be food, flavor, and color additives

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4 Technology as a Strategic Enabler – IN-STORE SOLUTIONS In-store technologies are destined to deliver a "responsive store" environment for shoppers Technologies that Will Drive the Shopping Experience Transformation N = 18 CTO Interviews **Implications** What will next generation in-store technology achieve - Designed to "inspire" shopping - Discover new products 73 - Instant "just in time" incentives Connect shoppers to their preferences of all of the things they love Shoppers will expect "relevant" suggestions automatically Three technology differentiators · Personalized Immersive • Helpful Supports the shopper as well as it supports the retailer 42 Source: CEO & CTO Interviews with NCR Technology, IBM Retail Group, and HP Retail Group; Booz & Company Analysis



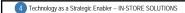
Recently a major retailer has implemented technology to revamp check out times driving improved customer service



QueVision – technology that counts individual store traffic and determines wait times

- Overhead individual sensors that count customers – installed in all 2400+ stores
- Analyzed shopping traffic by time of day to better staff registers
- Results indicate both transactions and basket levels increased
- Cost to serve from a staffing perspective stayed the same while customer satisfaction rose

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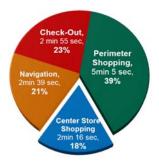
Several retailers have implemented camera technologies from Videomining to alter radically merchandising capabilities





Used by leading retailers to discover and act upon:

- Path to Purchase
- Moment of Truth
- Shopper Centric Productivity



4 Technology as a Strategic Enabler – IN-STORE SOLUTIONS

Shelf labeling systems are about to undergo a significant shift in both technology and leverage with the shopper



Next generation "shelf communication" capability in development

- Integrates shelf labels and lights
- Eliminates labor costs for both label changes as well as talkers and promotional tags
- Very low cost and high reliability
- Application will be as follows:
 - Shelf labels will be day part specific including highlighting what products are most "tuned" to the day part shopping experience (change lighting colors and intensity)
- Promotions are instantly highlighted with lighting colors (green for savings)
- Lighting options are limitless intensity, colors, frequency, blinking, brand, etc.
- Strategy is to intensify the shopping experience at the shelf in real time
- Will be linked with the Smartphone to personalize the shelf for the shopper

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RFID applied to "telling the product story" to the consumer/shopper





Burberry Opens First Digitally Integrated Store – London

- Full-length screens wrap the store, transitioning between audio-visual content displays, live-streaming hubs and mirrors.
- Perhaps the coolest bit of technology is Burberry's use of radio-frequency identification (RFID) chips.
 - Chips have been attached to certain clothes and accessories so that when a customer approaches one of the screens in the common areas or in a fitting room, specific content — say, information about a bag's stitching and craftsmanship, or a video showing how a skirt was worn on the catwalk — will appear.



In-store handheld devices take the guess work out of "highly personalized/intensified" customer service



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- Image takes 1.8 seconds to capture
- Produces 27 photographs in black and white using 8 different visible LED bands and 1 ultraviolet band
- Grid of 100x100 pixels across skin sample which then becomes one color composite
- New method of color measurement, including texture and surface sample variables, allowing for the most accurate color positioning

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In-store robotic technology will drive a significant change in the cost of store operations





AndyVision -- In-store robots replace humans in stocking shelves

- AndyVision's main job is inventory management.
- With the help of a video camera and an onboard computer that combines image-processing with machine learning algorithms, it patrols the aisles counting stock and scanning for misplaced items.
- Kinect sensors keep it from running into things in the store, and wireless technology keeps a line of communication with the store's human staff.
- The data from the inventory scans are all sent to a large touchscreen, where customers can browse through what's available in the store

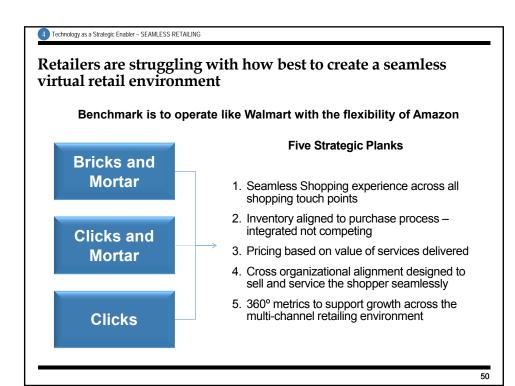


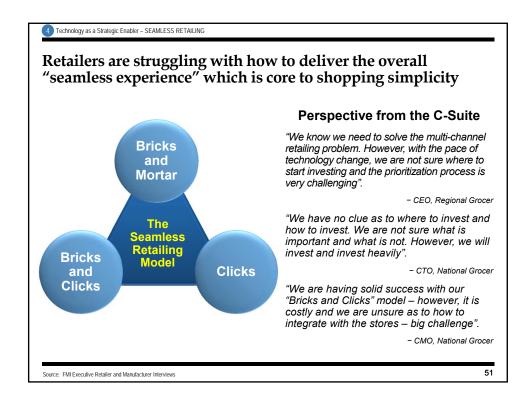
Retailer technology groups are investigating and planning for in-store mobile payment capabilities

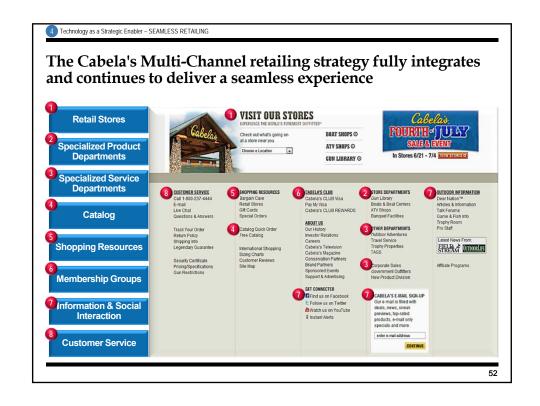


When strategically thinking about mobile payment capabilities, several ROI metrics are core to investment thinking:

- Definite ease of use for shoppers during the checkout process
- Increased ability to improve identity verification, fraud prevention, and authorization
- Clear potential for faster transaction times, which leads to higher sales turnover
- Shorter lines at the cashier, including multiple, automated checkout lines
- Real cost savings on credit card fees and bank charges including interchange fees









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- The Challenges of Capacity and Demand
- Consumer Trends That Will Reshape the Industry
- Merchandising/Marketing Capabilities Driving Growth
- Technology as a Differentiator
- Guide to Investing in Technology
- Capabilities Needed to Win in Tomorrow's Market



Guide to Investing in Technology

With all of the technology options available to the technology groups, how are go forward strategies developed

Key Industry Questions

- "With the increasingly rapid pace of technology innovation, how do we understand what technologies are critical to explore or not?"
- "Shortening technology lifecycles are becoming a reality. How do we develop an effective understanding of ROI' cycles and thresholds?
- "Is there a new organizational and operational model that will drive increasing leverage from the IT organization?"



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5 Guide to Investing in Technology

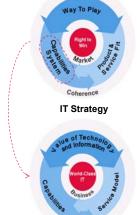
Effective evaluation and governance of IT investments requires clarity and discipline around IT strategies/operating models

- We see many of our clients struggle to effectively evaluate, prioritize and manage the portfolio of IT programs
- Key challenges include:
 - Misunderstanding the priorities of the business
 - Lack of clear linkage between those business priorities and an overall IT strategy
 - Lack of an effective IT operating model within which to evaluate opportunities
 - Lack of an investment portfolio plan which aligns specific programs with overall investment objectives
 - Lack of discipline around the execution of program business case development and a stage/gate evaluation process
- In our view, three foundational components are needed
 - An IT strategy which is hard linked to the business priorities and supports both near term and long term objectives
 - An IT operating model and processes which define how IT is governed and demand for IT capabilities is managed
 - An investment plan which defines the relative spend parameters for different classes of investment

5 Guide to Investing in Technology

The IT mission is to ensure assisting the business deliver on its essential capabilities

Corporate Strategy



- Booz & Company believes that the business strategy does more than define the boundaries of the playing field — It also defines:
 - How to play
- The 3-6 key capabilities that allow the company to succeed over time in the marketplace
- Moreover, we believe that IT must both develop and successfully deliver those capabilities in a fashion that supports the overall business strategy's coherence
- Many IT investment portfolios are fragmented across the full capabilities set, in an attempt to appease everyone with a "peanut butter" approach

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5 Guide to Investing in Technology

A holistic IT strategy and Operating Model, paired with a clear plan for investments, can lead to world class outcomes

Aligned and Holistic IT Strategies and Operating Models

Alignment t Strategy Sustainable Value IT Operating Model IT Governance World-class Levels of Value Delivery IT Demand Management IT Supply Management Strong, Central IT Services Delivery IT Management Internal Capability Building IT Portfolio Plan Effective Teaming Culture of Continuous Strategic Importance

Key World-Class Outcomes

and day-to-day decision

Organization moving in lockstep and executing faster and with more force

Focus of

Management and Workforce

nd Quality

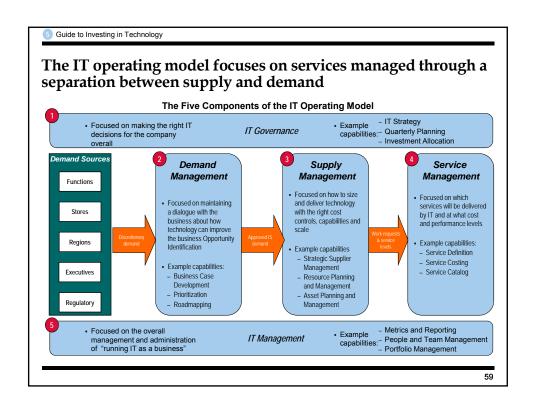
Cost

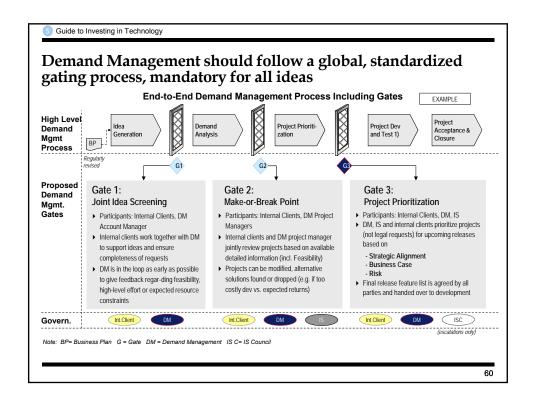
Optimization

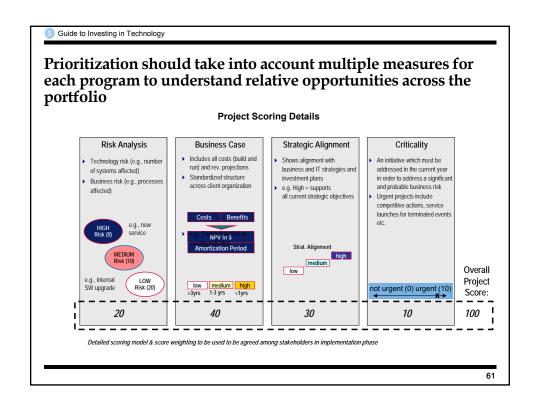
Talent attraction to organizations that clearly value what they do
 Direction of capital and attention to those opportunities that extend a capabilities

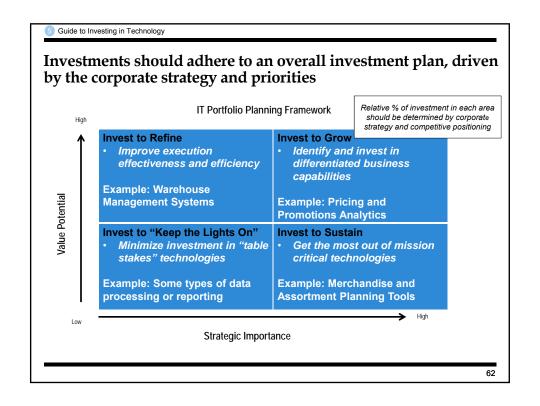
True alignment of strategic intent

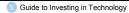
- High levels of employee satisfaction through maximizing time on strategic initiatives vs. "grunt" work
- High delivery quality
 - Ongoing improvement engine for the few capabilities that matter
- Barriers for competitors who are less coherent, with less effective capabilities
 Optimal spend-value balance
- Less spend on those capabilities that are non-differentiating
- Capability scale through focus and ability to deploy more broadly







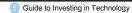




The plan should also account for large, periodic hardware refresh investments driven from a rigorous need and capacity analysis

- For hardware investments (e.g., servers, PCs, devices, etc.), there are rules of thumb around how often to refresh, typically every 3 to 5 years:
- Improved CPU speeds
- Improved power consumption
- Greater functionality
- For some companies, the timing of refresh investments are by default the depreciation schedules for the hardware the
 investment has become rote, leading to unnecessary spending and risks
- However, new trends are disrupting these traditional rules of thumb, for example:
 - More work is happening through employee owned devices
 - Server virtualization is lengthening refresh cycles
 - Some applications are moving to completely new hardware platforms, changing the demand profiles (e.g., mobile POS, self serve POS)
 - Cloud computing is bringing entirely new economics and investment patterns
- Hardware refresh investments should be the outcome of a clear investment roadmap and a rigorous capacity planning exercise:
 - Aligned with the business strategy and application roadmaps
 - Aligned with the business risk mitigation and continuity strategies
 - Accounting for business usage and technology trends
 - Taking advantage of virtualization and consolidation opportunities
- Addressing older, less reliable, and/or unsupported hardware

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With these components in place, every investment can be evaluated against standard set of diagnostic criteria

Example IT Investment Evaluation Questions

- Do we know what the business needs from IT to achieve priorities?
- Can we show how every dollar we spend in IT creates value for the business?
- Are we contributing to the capabilities that really matter for our company's strategy?
- Have we identified the biggest gaps between the current state of our IT and the value creation system that we're building?
- Are we developing our investment plan and road map jointly between business leaders and IT?
- Do we use this road map to determine capital and resource allocations?
- Do we have the governance mechanisms in place that we need to follow our road map?
- Do we understand how the evolution of technology may enable improvements in our distinctive capabilities?
- Do we consistently refresh the road map, update our IT architecture, and retire outdated systems as needed?

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Summarizing today's conversation

- Rapidly changing and volatile environment
- Deep structural issues (over capacity, new entrants etc.) combined with...
- ...unprecedented technological change
- Very challenging environment for the traditional supermarket industry
- Winners will:
 - -Successfully differentiate from the other formats and from like-formats
 - -Redefine the end-to-end shopping experience
 - -Embrace and lead with technology
 - -Participate in the **transition to online purchasing** (one way or another)

Three questions to reflect on AFTER today's conversation

A conversation with your peers...

- "Is our current strategy aligned with the major trends identified in this research?"
- "Is our organization FIT FOR GROWTH that is, are we placing the right investment bets and cost structure?"
- "Has our growth plan adequately accommodated technology to differentiate?"

