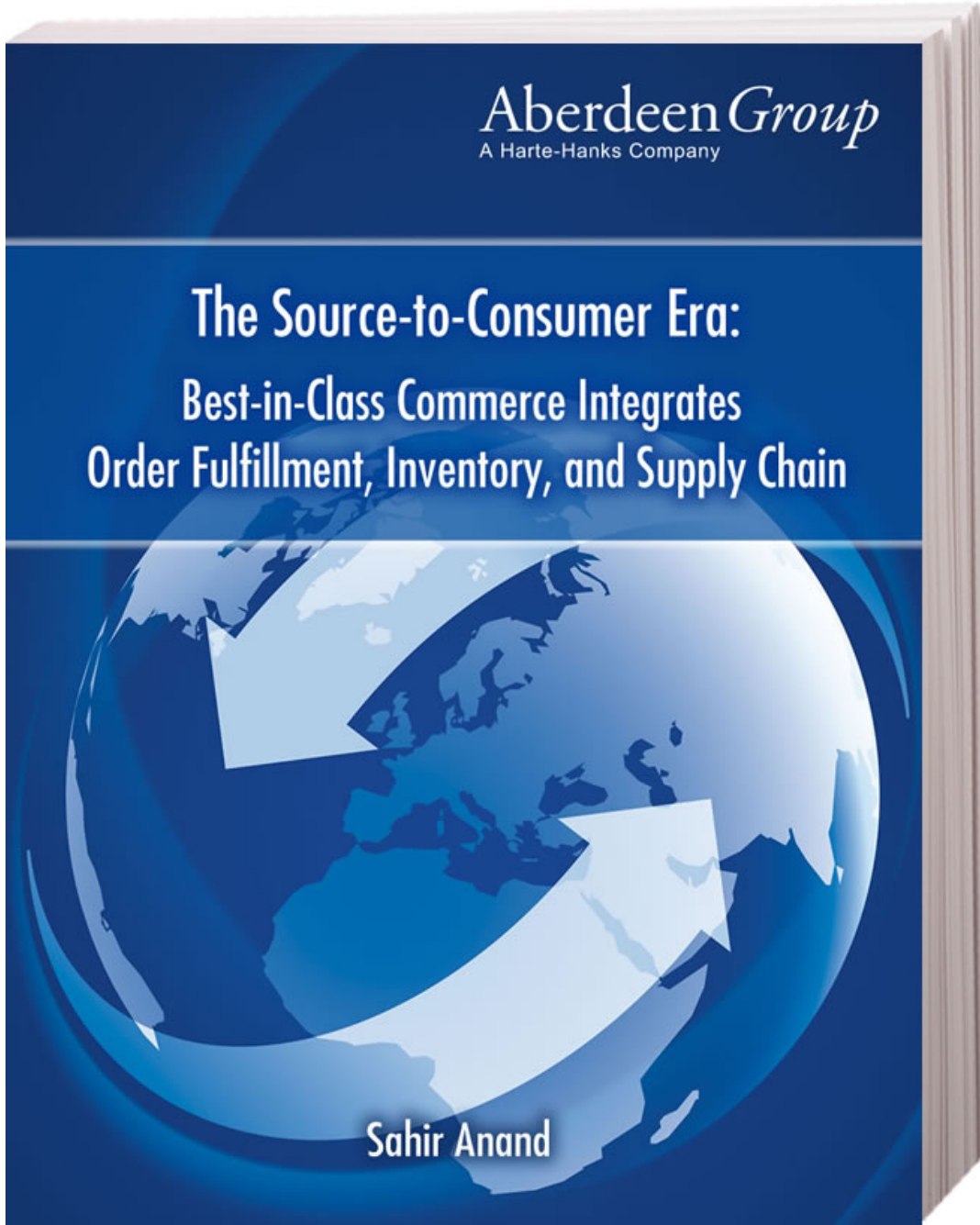


**The Source-to-Consumer Era:  
Best-in-Class Commerce Integrates  
Order Fulfillment, Inventory, and Supply Chain**

**Sahir Anand**

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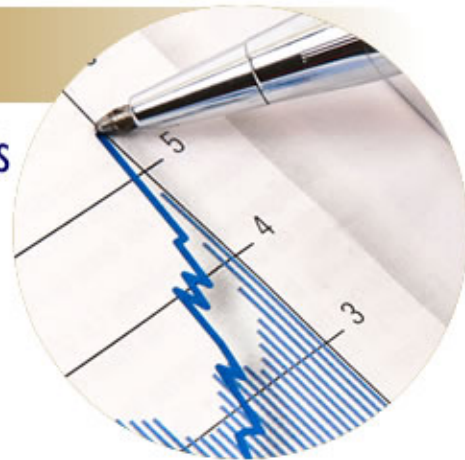
Sahir Anand

## The Source-to-Consumer Era: Best-in-Class Commerce Integrates Order Fulfillment, Inventory, and Supply Chain

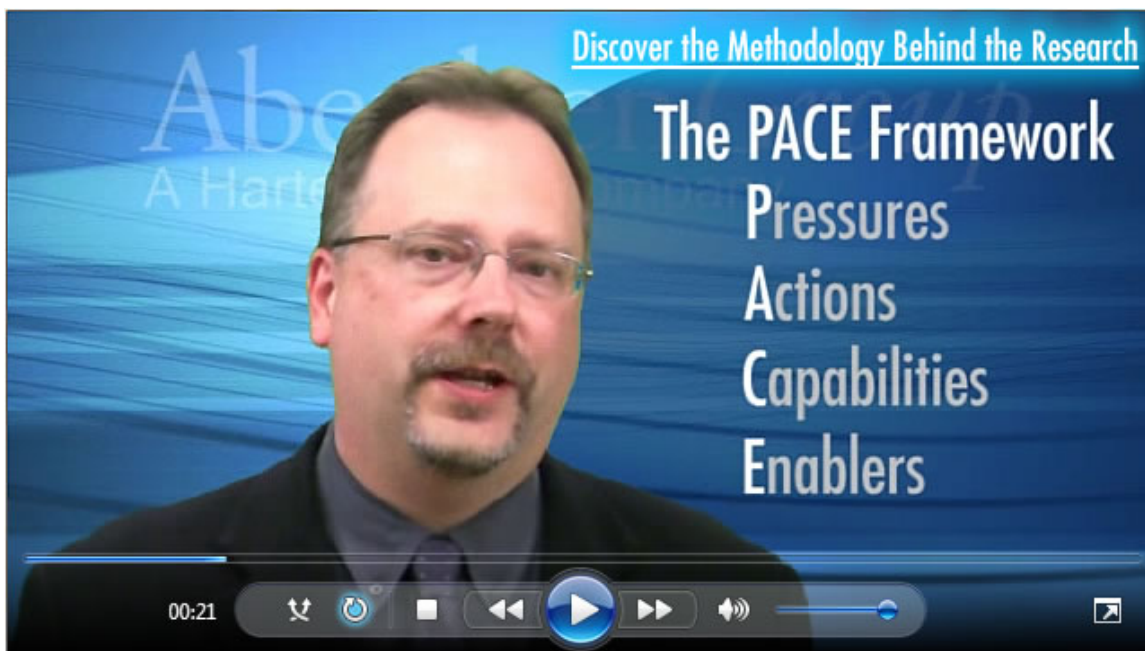
According to the January 2012 *Omni-Channel Retail Experience* report, 58% of consumer goods manufacturers and retail industry companies rank commerce or web-enabled order efficiency as a key strategic area that is vital for creating a 360-degree unified customer experience across all channels of sales and service. However, only 32% of companies share up-to-date order management and execution information across channels, and even fewer (27%) of companies possess processes for up-to-date fulfillment planning across all channels. One of the key reasons behind the aforementioned complexities is the lack of integrated front-end/customer facing systems (i.e. e-commerce and multi-channel enabled POS systems) with up-to-date order-fulfillment-delivery processes. This process and system-related disconnect leads to lost sales opportunity, lower GMROI, and lower customer satisfaction rates.

### Analyst Insight

Aberdeen's Insights provide the analyst's perspective on the research as drawn from an aggregated view of research surveys, interviews, and data analysis



This Analyst Insight highlights the best practices of leading manufacturers and retailers that care about the integrated view of commerce-enabled order management, customer fulfillment, unified inventory, and balanced supply chain. This Analyst Insight also provides strategic business process and technology recommendations so that industry followers can integrate all elements of commerce-enabled order-fulfillment and source-deliver processes. The prospects for greater market agility and lower Cost of Goods Sold (COGS) are predominant in the commerce-enabled supply chain.





## Demographics

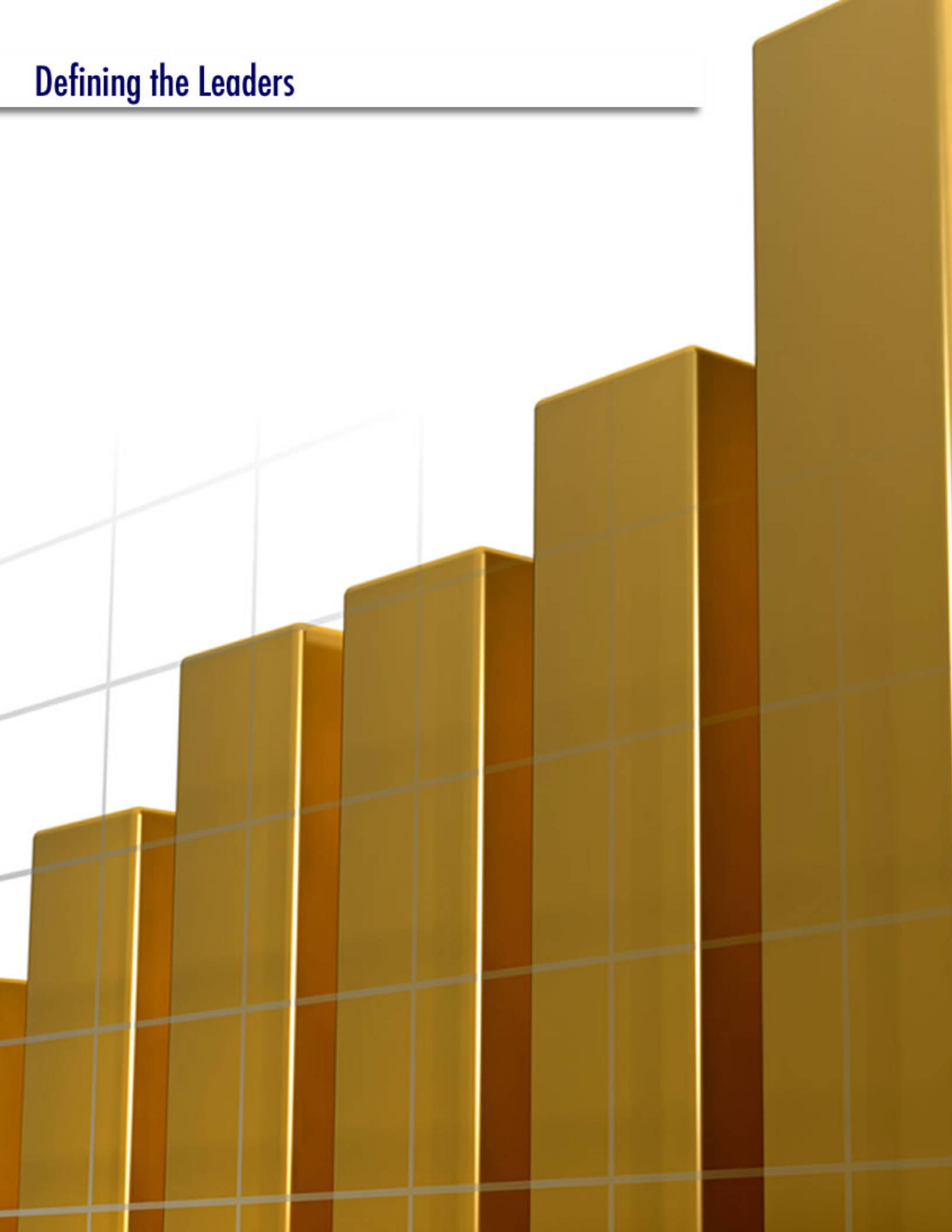
Of the 65 responding retail organizations, demographics include the following:



-  **Job title:** Senior Management (13%); EVP / SVP / VP (15%); Director (25%); Manager (32%); Consultant (9%); Other (6%)
-  **Department / function:** Logistics and Supply Chain (48%); Operations and Procurement (14%); Sales and Marketing (11%); IT (9%); Business Management (9%); Other (9%)
-  **Segment:** Apparel (20%); Consumer Products (33%); Specialty (20%); Consumer Electronics (7%); Other (20%)
-  **Geography:** North America (62%); APAC region (15%) and EMEA (23%)
-  **Company size:** Large enterprises (annual revenues above US \$1 billion)- 35%; midsize enterprises (annual revenues between \$50 million and \$1 billion)- 32%; and small businesses (annual revenues of \$50 million or less)- 33%

# Defining the Leaders

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## Defining the Leaders

Aberdeen used three key performance criteria from the January 2012, *State of Retail Supply Chain Execution* study to distinguish the leaders from the followers. These criteria include: change in year-over-year total landed cost, current on-time order delivery, and average out-of-stock rate. Aberdeen defines “leaders” as the top 30% of aggregate performance scorers using the criteria in Table I. “Followers” represent the remaining 70% of scorers. When looked at as a unified set of performance these Key Performance Indicators (KPIs) are a basis from which to understand how top performers are improving or enhancing cross-channel commerce.

**Table I: Top Performers Defined as Leaders**

Definition of Maturity Class	Mean Class Performance
<p><b>Leaders: Top 30%</b> of aggregate performance scorers</p>	<ul style="list-style-type: none"> <li>▪ Current on-time order delivery: 96.4%</li> <li>▪ Average out of stock rate: 2.9%</li> <li>▪ Change in year over year total landed costs: 4.3% increase</li> </ul>
<p><b>Followers: Remaining 70%</b> of aggregate performance scorers</p>	<ul style="list-style-type: none"> <li>▪ Current on-time order delivery: 91.2%</li> <li>▪ Average out of stock rate: 7.9%</li> <li>▪ Change in year over year total landed costs: 12.6% increase</li> </ul>

Source: Aberdeen Group, January 2012

# Top Business Pain-Points



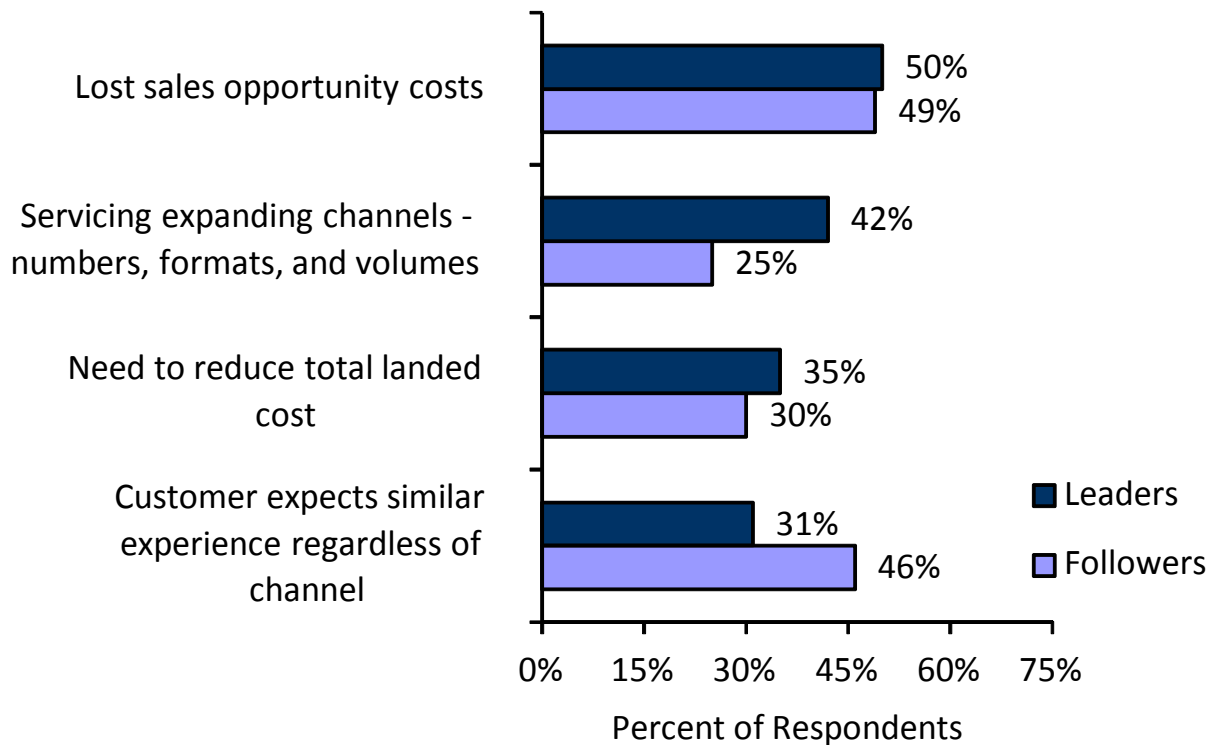


## Top Business Pain-Points

The advent of e-commerce, and e-fulfillment, on top of the traditional challenges of the brick-and-mortar retailer, has led to a rapidly transformational climate for direct-to-consumer commerce. Either directly or through alliance with their third party service providers, consumer goods manufacturers and retailers are increasing the variety and usage of cross channel order management and fulfillment models to address new shifting consumer needs, particularly the growing volumes of online or cross-channel retail demand.

In an expansive cross-channel climate, consumer goods manufacturers and retailers cite a variety of cross-channel pressures, most of which stem from lack of integrated channel strategy, specifically due to disconnected source-deliver, and source-consumer processes.

**Figure 1: Business Pressures**



Source: Aberdeen Group, January 2012

As shown in Figure 1, Industry leaders and followers are more or less equally impacted by current market pressures associated with high lost sales opportunity cost across all channels. High lost sales opportunity drains topline sales, gross margin, and customer satisfaction due to frequent out-of-stocks, high number of back-orders, and delayed customer shipments. High lost sales opportunity refers to the opportunity cost due to lost sales that a retailer or manufacturer incurs for merchandise or inventory that could otherwise be sold.

Lost sales opportunity cost is on the rise. According to our data, nearly half (45%) of companies contend that cross-channel customers expect the right information, the right product, at the right place, and at the right time, irrespective of channel. If customers do not find the desired buying experience from one company they will turn to another company that can fulfill the cross-channel experience of product availability, anytime, anywhere.

*“Customers simply want cross-channel commerce now. The product must be available, shipping or pick up easy, and payment must be a non-event. To us this is a top-line issue. Price compression in consumer electronics means you have to get every sale. Making sure your customer can get what they want when they want is paramount to growing your business.”*



*~ Vice President of Supply Chain Operations,  
Large Consumer Electronics Manufacturer*

For consumer goods manufacturers, distributors, and retailers, high lost sales opportunity cost, related customer dissonance, and supply chain inefficiencies is due to a combination of reasons including:

- Higher than normal out-of-stock levels (i.e. less than 90% in-stock in any give product category during a particular period of time) in any channel
- Distribution center, direct drop shipments, and site-to-store direct-to-store, and direct-to-consumer deliveries not prioritized or optimized for growing channel needs
- Lack of visibility or integration towards available inventory for online, call center, in-store, catalog, and mobile channel teams
- Inability of customers to buy through any channel, and for the retailer or manufacturer to fulfill through any channel

The first pressure is related to the second pressure in more ways than one. Our data shows that leaders are almost twice as likely as followers to face the pressure of servicing expanding channels - numbers, formats, and volumes. Leaders find themselves in a quandary as better products, customer-orientation, and channel strategies lead to increasing channel sales and volume expansion. However they also need to prepare to deal with increased order, fulfillment, and supply chain pressures. Leaders need to keep finding ways to enhance and transform their front-end commerce and back-end supply chain responsiveness. This enables companies to fulfill the ever-growing needs of cross-channel merchandising, order management, and customer fulfillment.

The pressure to reduce total landed cost is the third highest pressures on average for at least a third of leaders and followers. Total landed cost is impacted by the need for servicing channel growth both domestically and internationally. Additionally, total landed cost per unit also escalates due to lack of transportation route optimization for direct- to-store and direct-to- consumer fulfillment. According to data from the [\*State of Retail Supply Chain Execution\*](#) study, both direct-to-consumer (41%), and direct-to-store (37%) shipments are cross-channel execution trends impacting manufacturers and retailers alike.

However, the reasons behind an increasing total landed cost scenario could be as fundamental as a rise in domestic and international fuel or energy, logistics, finance, and import-related costs. Either way, manufacturers, distributors, and

retailers need to keep a very close eye on this metric as high total landed cost can easily hamper cross-channel growth and positive Gross Margin Return on Inventory Investment (GMROI) efforts.

Lastly, almost half of followers (46%) and 31% of leaders still face a challenge around dissimilar customer experience across channels. Our data shows that overall 75% of companies struggle to maintain one brand and consistent cross-channel customer connectivity - from order information to order delivery. As a result, customers do not find a similar purchase, exchange, and return experience across all channels of sales and service.

More followers grapple with customer experience unification challenges as their channel organizations are disconnected and siloed (56% of followers vs. 25% of leaders). Followers also struggle the most when it comes to the execution of a common set of cross-channel sales, service, and order and fulfillment standards, such as buy online and pick up in the store, or ship from store. On average a fourth of followers have adopted these strategies compared to 50% of leaders.



# Top Strategic Actions

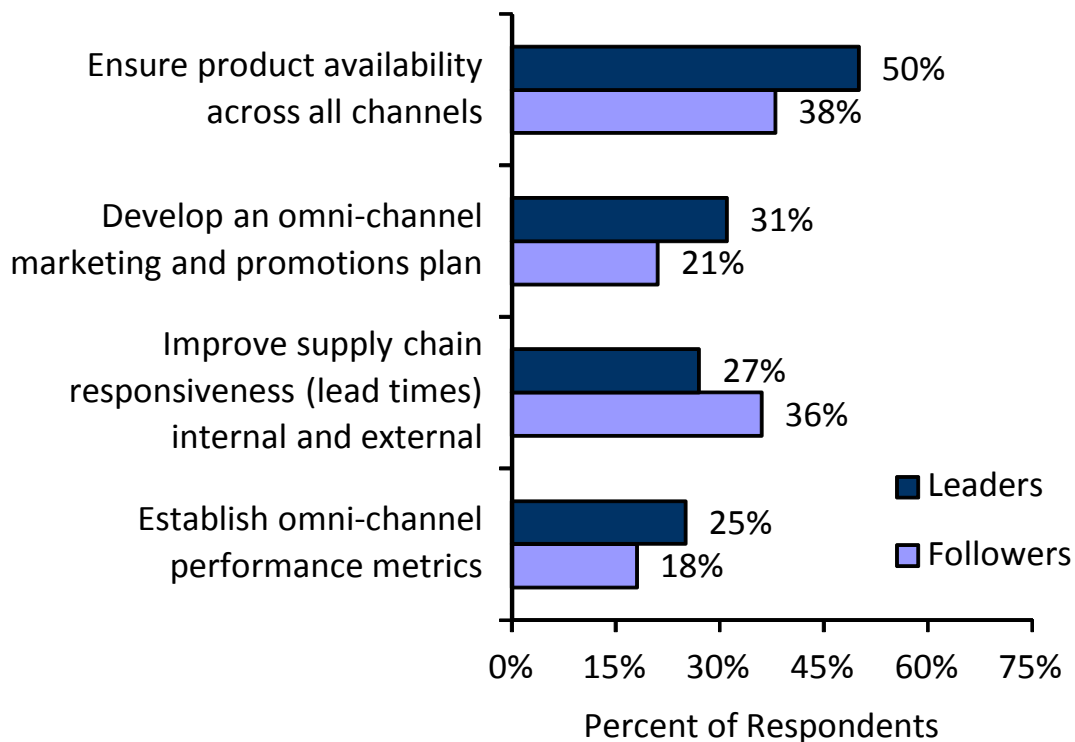


## Top Strategic Actions

As stated in Aberdeen's *Omni-Channel Retail Experience* report, leading companies have identified four key strategic actions in response to the pressures mentioned earlier. First, 50% of leaders, compared to 38% of followers, ensure product availability across all channels as a key step towards creating a cross-channel experience. By ensuring products are available to customers through their channel of choice, manufacturers and retailers are not alienating their single-channel customers.

Rather, they are expanding product availability, and allowing for up-sell and cross-sell opportunities as well as fulfilling customer needs in a single unified transaction. Cross-departmental collaboration is required to make this a reality, as order management and fulfillment strategies must be aligned for in-store, web, mobile, call center, and social orders. Product information updates must also be a key component to maintaining accurate product availability and pricing for all channels.

**Figure 2: Strategic Actions**



Source: Aberdeen Group, January 2012

*“Ensuring that the customer has a satisfactory experience regardless of channel will help the brand and the entire company.”*



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*~Director of Supply Chain,  
Large US Based Apparel Manufacturer and Retailer*

Thirty-one percent (31%) of leaders, compared to 21% of followers, are developing a cross-channel marketing and promotions plan. According to data from the 2011 [Cross-Channel Roadmap](#) report, all retailers, Best-in-Class included, were lagging behind in their channel unification processes for marketing and loyalty. It is not surprising that that leading consumer goods manufacturers and retailers have made this a core strategic item for 2012. A roadmap for creating a cross-channel promotions plan will alleviate the problems caused by inconsistent offers between various channels, and will help to stop customers from price shopping channel to channel as another competitive complexity.

As a third strategic action, even though 27% of leading consumer goods manufacturers and retailers are focused on enhancing supply chain lead times, it is the industry followers that need to give more attention to this action. Traditionally, followers are guilty of not being responsive to demand, and lead time attainment (48%), which leads to out-of-stock incidence. This is a chief reason why followers do not comply with perfect order delivery requirements as online or in-store customers that order online to pick-up in the store do not like to wait for delayed orders.

The last strategic action relates to integrating and communicating cross-channel performance metrics across the e-commerce, store operations, merchandising, marketing and supply chain teams. This is an area where both leaders and followers need to make a leap. According to our data, 64% of leaders and 32% of followers do measure metrics such as sales, margin, customer profitability, and satisfaction. However, they fail to localize and impact these customer/business metrics in a positive way due to a lack of visibility and collaborative metrics sharing amongst cross-channel employees.



# Capabilities



## Capabilities

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Organizational, process, and technology capabilities support cross-channel commerce in the source-consumer and digital commerce era. Data from the [\*State of Retail Supply Chain Execution\*](#) study shows that there are three pillars in the creation and sustenance of a holistic commerce-enabled supply chain that focuses on cross-channel order management and fulfillment models:

- 1. Inventory visibility across channels.** Visibility and responsiveness have become the necessary ingredients for success in today's multi-tiered demand-supply networks in retail and manufacturing. These companies are able to achieve the level of supply chain responsiveness needed to manage supply chain disruptions and risks. In order to ensure inventory availability across all channels and related order processes, currently only 22% of companies are developing unified inventory planning, allocation, and inventory data sharing across all channels. However, 58% of enterprises plan to execute more visible and demand-based inventory allocation across all channels. This ensures a more controlled and predictable in-stock situation. Customers can buy through any channel, and customers are fulfilled from any channel distribution center. Uniformly allocated inventory and a customer-centric order fulfillment strategy can deliver products on time. This is a key requirement for direct-to-consumer strategies today.
- 2. Tenants of flexible fulfillment.** When inventory is allocated to specific channels only, it creates a roadblock for the seamless on-time order delivery experience. As retailers are able to fulfill orders through any channel Distribution Center (DC), it eliminates this waiting game, and allows consumers to shop through the channel of their choice without worrying about delays in the fulfillment of their order. Inter-departmental order and fulfillment data integration between store, headquarters, and suppliers is a key step in the flexible fulfillment process. While new logistic formats and partnerships are growing, the goal is to ensure all players are involved in a unified manner to make certain that products reach the right place at the right time, whether it is the retailer's store, or flow-thru DC or 3PL, a direct-to-consumer online DC, or a traditional DC.

- 3. Integrate a balanced distribution network for online, in-store, and orders from other channels.** This network will address sourcing complexities, fulfillment shifts due to cross-channel expansion, and collaboration with suppliers, vendors, and carriers, retailers and manufacturers. As a result of successful execution, retailers can address three primary supply chain execution objectives: right product-right place-right time, lower transportation and fulfillment cost per unit handled, and deeper/direct integration with supplier community on orders/transactions/lead times.

*“Improving our retail logistics operation allows us to analyze our distribution network, evaluate existing freight policies, and design a logistics model for web / call center orders.”*



*~ Vice President of Supply Chain Operations,  
Small Specialty Retailer*

In order to create a truly cross-channel source-consumer inventory, order management, and fulfillment strategy, retailers are applying a combination of process, knowledge, and technology capabilities. These capabilities are summarized in Table 2.

Leaders are looking at capabilities very differently, unlike followers. Leading manufacturers and retailers of consumer goods and private label brands are breaking down the order and fulfillment workflow, and related process integration from a customer's perspective first, and then from the perspective of the end-user, whether it is a retailer, manufacturer, supplier or a distributor.

For example, leaders are twice as likely as followers to possess the ability to ship online orders from the store that reduce the supply chain burden and order

delays. Secondly, leaders are almost twice as likely as followers to possess the ability to ship/fulfill online orders the very same day after they are received in the system. This capability is crucial for keeping the same day or next day customer fulfillment promise. This capability has a direct impact on keeping up with customer satisfaction and fulfillment cost per unit goals.

Thirdly, leading manufacturers and retailers that have adopted cross-channel operations, are 1.5 times as likely to support shipping and fulfillment for online and call center orders using a direct-to-consumer / or store delivery model. Moreover, 51% of these companies support shipping and fulfillment for online and call center orders using a site-to-store concept with a direct replenishment and fulfillment-based strategic relationship with the suppliers.

However, despite advances made in the area of order-fulfillment-supply chain alignment, a key improvement area still remains for leaders and followers; companies must take the effort to introduce improved capabilities for performing B2B data syncing through online platforms / gateways as well as shared fulfillment planning and execution information across channels. This enhances order and fulfillment productivity, and enterprise-wide responsiveness towards order-fulfillment gaps in the online and offline worlds.

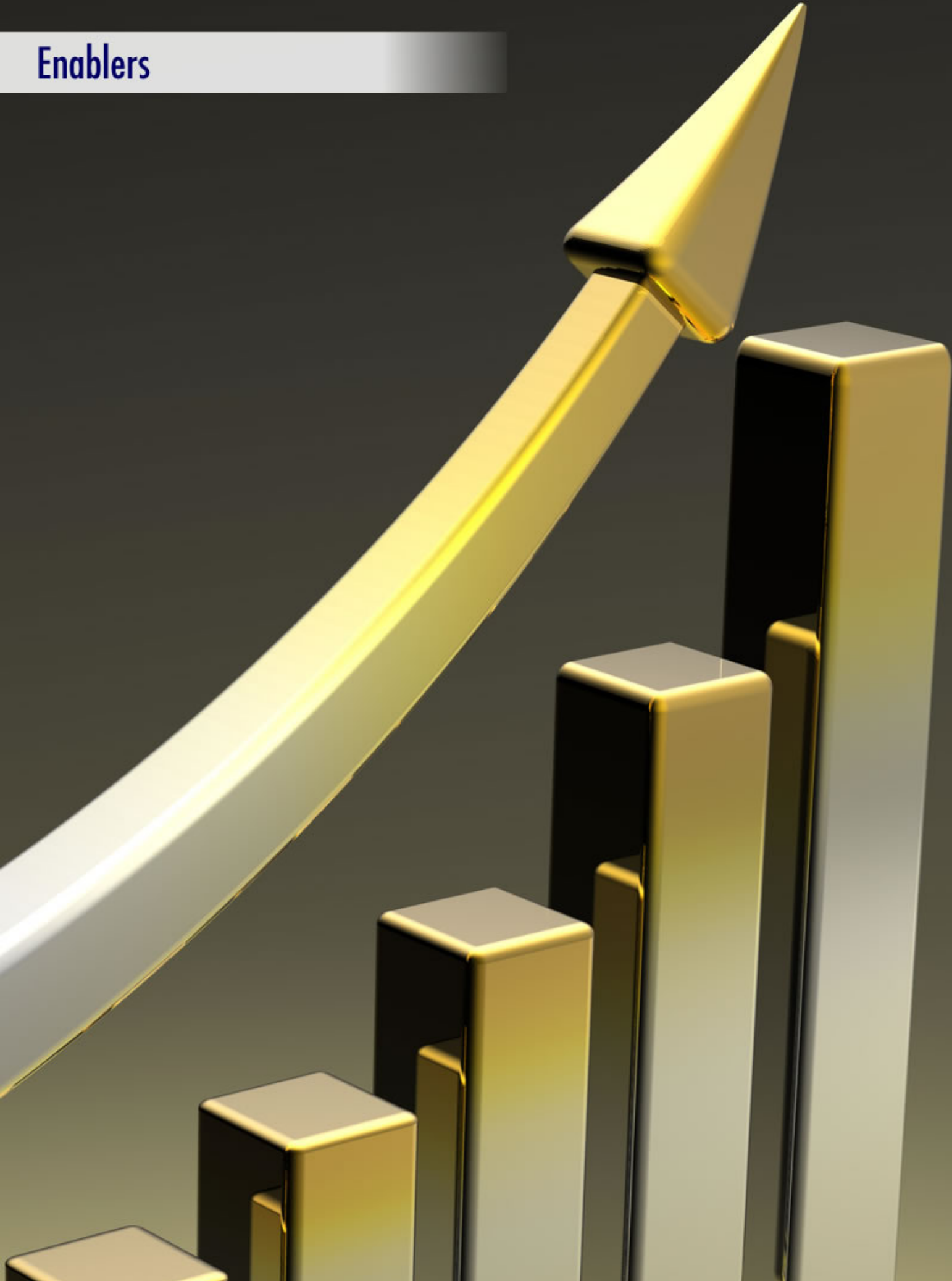


**Table 2: Capabilities**

Type of Capabilities	Leaders	Followers
Ability to support traditional distribution center shipments / fulfillment	84%	53%
Reporting structure in place to balance the needs of cross channel logistics / operations needs	61%	41%
Ability to ship online orders from the store	50%	24%
Ability to ship/fulfill online orders the very same day after they are received in the system	50%	29%
Ability to perform B2B data synching through online platforms / gateways	50%	27%
Ability to support shipping and fulfillment for online and call center orders using site-to-store concept	50%	31%
Ability to support shipping and fulfillment for online and call center orders using a direct-to-consumer / or store delivery model	50%	35%
Ability to respond to near real-time execution across multiple channels	46%	28%
Up-to-date fulfillment planning and execution information is shared across channels	43%	24%
Ability to execute a common sales / operations plan for supply chain / fulfillment across all channels	43%	24%

Source: Aberdeen Group, January 2012

Enablers



## Enablers

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The inventory, order, fulfillment, and supply chain management models are rapidly transforming to address the customer need for cross-channel purchase experience. Today's commerce-enabled supply chain is transforming to meet this cross channel challenge and, among other actions, the leaders are advancing their technologies and systems to support cross-channel synergies. This is being done directly or through a select group of third-party providers that assist manufacturers and retailers in creating an execution strategy for order management and fulfillment for online, call center, and in-store e-orders.

Leaders are more likely to utilize Warehouse Management Systems (WMS) for logistics and fulfillment, order management, inventory management modules, and Transportation Management Systems (TMS) for logistics and fulfillment. These four supply chain enablers allow the enterprise to retain control over the fulfillment of orders and merchandise in the cross-channel retail environment.

OMS provides complete order flow (customer order process from point of initiation at store online kiosk, online, call center or mobile device all the way to delivery), visibility, and fulfillment status. WMS is utilized to handle the movement of goods, including merchandise sent to stores and DC's as well as products that are returned or exchanged, within the retail supply chain. The inventory management module is utilized by companies for visibility into the on-hand supply and placement of merchandise. Finally, the TMS is required to manage the distribution of goods for the retailer from the manufacturer, distributor or supplier. These three technologies work together to ensure that customer orders can be seamlessly fulfilled through any channel. According to our data, 50% of companies that are using end-to-end OMS capabilities (from customer order origination to fulfillment/delivery), are experiencing higher than 90% customer satisfaction gains compared to 32% of non-users. Secondly, 41% of users have increased year-over-year Gross Margin Return of Inventory Investment (GMROI) compared to 19% of non-users. Clearly, there are customer, cost, and margin gains to be made when it comes to use of OMS across channels.

**Table 3: Enablers for Cross-Channel Order Management and Fulfillment Models**

Type of Enablers	Leaders	Followers
OMS - order management systems	88%	56%
Business Intelligence stack (i.e., analysis, reporting, dashboards)	86%	55%
E-commerce solution	79%	54%
WMS - warehouse management systems	74%	62%
TMS - transportation management systems (domestic)	67%	31%
Cross-channel order management-ready point-of-sale (POS) system	64%	34%
Customer fulfillment application	56%	40%
Inventory optimization application	50%	39%
Inventory virtualization application (web-based)	50%	8%
Predictive Analytics	50%	21%
TMS - transportation management systems (international with import, export and global trade functionality)	46%	20%

Source: Aberdeen Group, January 2012

- OMS (leaders - 88%; followers - 55%):** these systems are providing a single, unified view of the order including order capture, processing, and fulfillment from brick-and-mortar, online, catalog and call centers. OMS provides order process visibility at various points of the fulfillment and delivery process for companies when combined with intelligent order tracking capabilities. This in-turn assists in fulfilling the on-time delivery promise to customers as well as reducing inventory holding costs. The challenge that retailers and manufacturers need to address with OMS is the lack of deep integration

between OMS and different channels (such as online commerce) which causes back orders, lead time complexities and shipment errors.

- **WMS (leaders - 74%; followers - 62%):** the WMS is the backbone required for automating storage, picking, labeling, returns handling, among other functions. WMS is at its best when combined with order management, labor efficiencies and inventory allocation, and interweaving them with order level and item level picking and shipping requirements. Several solution providers bundle these capabilities into their WMS software. Enterprises need to ensure deeper integration of these capabilities to improve delivery times and order shipment accuracy.
- **TMS (leaders - 46%; followers - 20%):** these systems are enabling optimized route scheduling, direct-to-consumer, site-to-brick-and-mortar, and direct-to-brick-and-mortar deliveries. The main challenge that retailers must address related to TMS is the lack of integration and automation associated with warehouse processes, order management, and automated inventory identification (i.e. RFID in apparel) as well as real-time data capture. By addressing these areas manufacturers and retailers can reduce out-of-stock rates, increase replenishment agility, and enhance shipping data accuracy. These companies can then improve coordination between transportation, distribution centers, brick-and-mortars, and channel teams.
- **Inventory optimization systems (leaders - 50%; followers - 39%):** these systems are becoming essential for shelf-level inventory planning and execution. Inventory forecasting, order management systems, consumer-driven replenishment, and reporting tools all need to work in an integrated fashion. This ensures that basic cross-channel inventory optimization tools such as forecasting, planning, demand-driven replenishment, inventory data analysis and reporting can work effectively alongside supply chain planning and execution.



# Top Organizational and IT Challenges

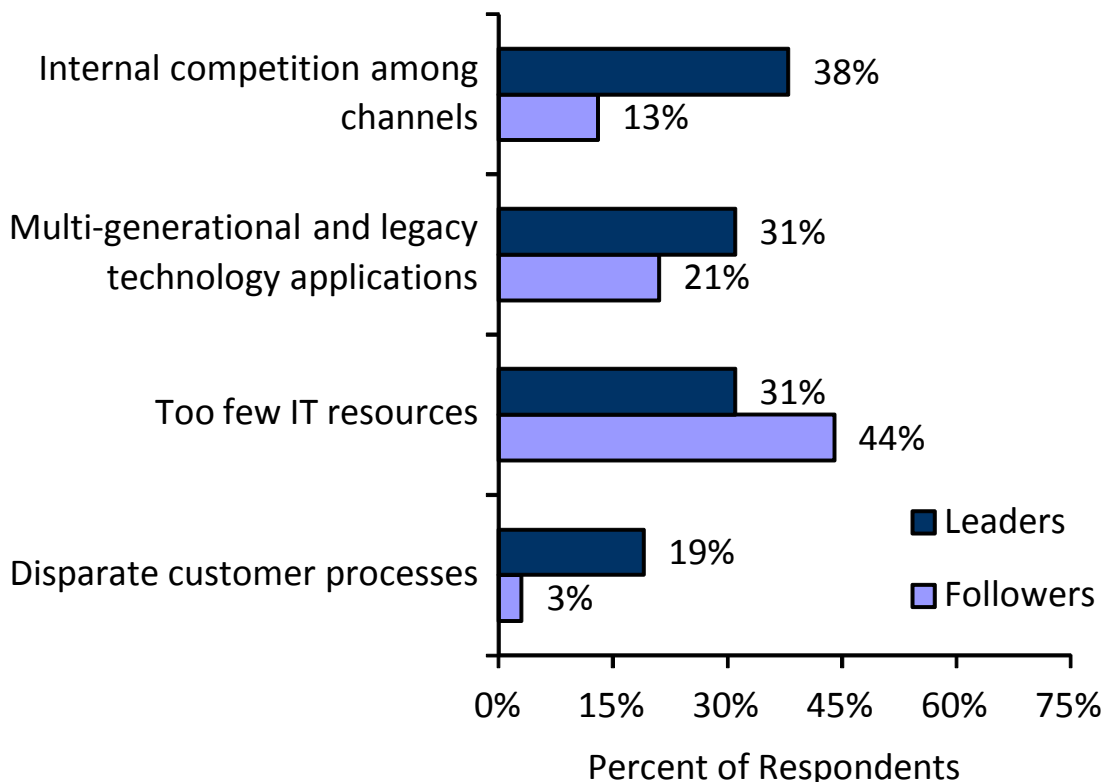


## Top Organizational and IT Challenges

In order to realize the impact of the strategic actions described in the previous section, Figure 3 sums up the internal channel discord and business-aligned IT challenges that manufacturers and retailers are facing today in creating a cross-channel order, fulfillment, and supply chain model.

The top challenge is internal competition among channels for sales credit, customer growth, marketing, merchandising, and technology budgets. Leaders face this complexity at a higher level compared to followers, as 42% of these companies are experiencing expanding channels, and related sales, service, supply chain, and volume-related issues.

**Figure 3: Top Challenges**



Source: Aberdeen Group, January 2012

Secondly, multi-generational and legacy IT is a challenge that retailers have attempted to address during every stage of their cross-channel business lifecycle. Retailers strive hard to integrate their Enterprise Resource Planning (ERP) system with web order-ready Point-of-Sale (POS), cross-channel customer, marketing, inventory, order, fulfillment, and supply chain management.

However, these companies typically struggle to integrate the multiple commerce applications with standard ERP-based approaches due to legacy enterprise-level meta-data approaches, incongruent user modules, and outdated functionality for cross-channel source-to-consumer processes. Moreover, ERP-based order management more often than not fails to address multi-channel, multi-tier and multi-point order process visibility at various points of the fulfillment and delivery processes. Only, 28% of retailers are currently applying ERP-based order management improvements to fit their cross-channel source-consumer requirements as it is time-consuming and cumbersome.

Lastly, IT resources are never sufficient for any company. However, industry followers are particularly impacted as they are often guilty of slow response time and unpredictable delivery to match the needs of cross-channel demand. When it comes to the need for optimized management of cross-channel infrastructure and application operations, followers need improved capacity management and forward-looking predictive business-aligned IT planning.



# Recommendations



## Recommendations

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Either directly or through an alliance with their third-party service providers, consumer goods manufacturers and retailers are increasing the variety and usage of cross channel order management and fulfillment models to address new shifting consumer needs, particularly the growing volumes of online or cross-channel retail demand. The following are recommendations for end-users considering cross channel order management and fulfillment models:

- Balance cross-channel and store-based logistics operations needs by reviewing and upgrading DC models, in-bound and out-bound transportation processes, direct-to-store or consumer, and cross-docking processes. These retailers can then potentially reduce cost per unit or order handled, increased same-day shipping rate, reduce labor cost to sales, and overall improvement in fulfillment rates.
- Implement "buy anywhere, fulfill anywhere" methodologies for uniform customer fulfillment. Uniform order management and order visibility from order capture, processing, and delivery is the unique connector that is the bridge between when a customer purchases or orders a product through the store, online, catalog, and call center and its final customer pick-up or delivery.
- Companies must align customer touch-points (online, call center, in-store etc.) with customer order and fulfillment processes. Service-oriented architecture, open architecture, and other standards-based integration techniques must be applied to reduce the lack of connectivity between customer-facing and back-end retail functions within two channels or more.
- For implementing cross-channel customer fulfillment systems, companies must overcome the problems of divisional ERP and legacy order management and fulfillment systems that fail to provide a single view of inventory and customer orders.
- As the network of suppliers and channel partners continues to expand, it is imperative that companies re-align their applications and architecture towards multi-tier and multi-party fulfillment to improve order response time.



For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com).

Related Research	
<a href="#"><i><u>The 2011 State of Retail Supply Chain Collaboration, Visibility and Integration;</u></i></a> March 2011	<a href="#"><i><u>State of Retail Logistics: Strengthening Cross-Channel Supply Chain Execution;</u></i></a> March 2010
<a href="#"><i><u>Supply Chain Visibility: Fostering Security, Resiliency, and Efficiency;</u></i></a> February 2011	<a href="#"><i><u>Supply Chain Visibility Excellence: Reduce Pipeline Inventory and Landed Cost;</u></i></a> December, 2009
Author: Sahir Anand, Vice President and Research Group Director, Retail & Consumer Markets ( <a href="mailto:sahir.anand@aberdeen.com">sahir.anand@aberdeen.com</a> )	

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