RETAIL INDUSTRY DIGITAL ADOPTION SURVEY 2018 REPORT

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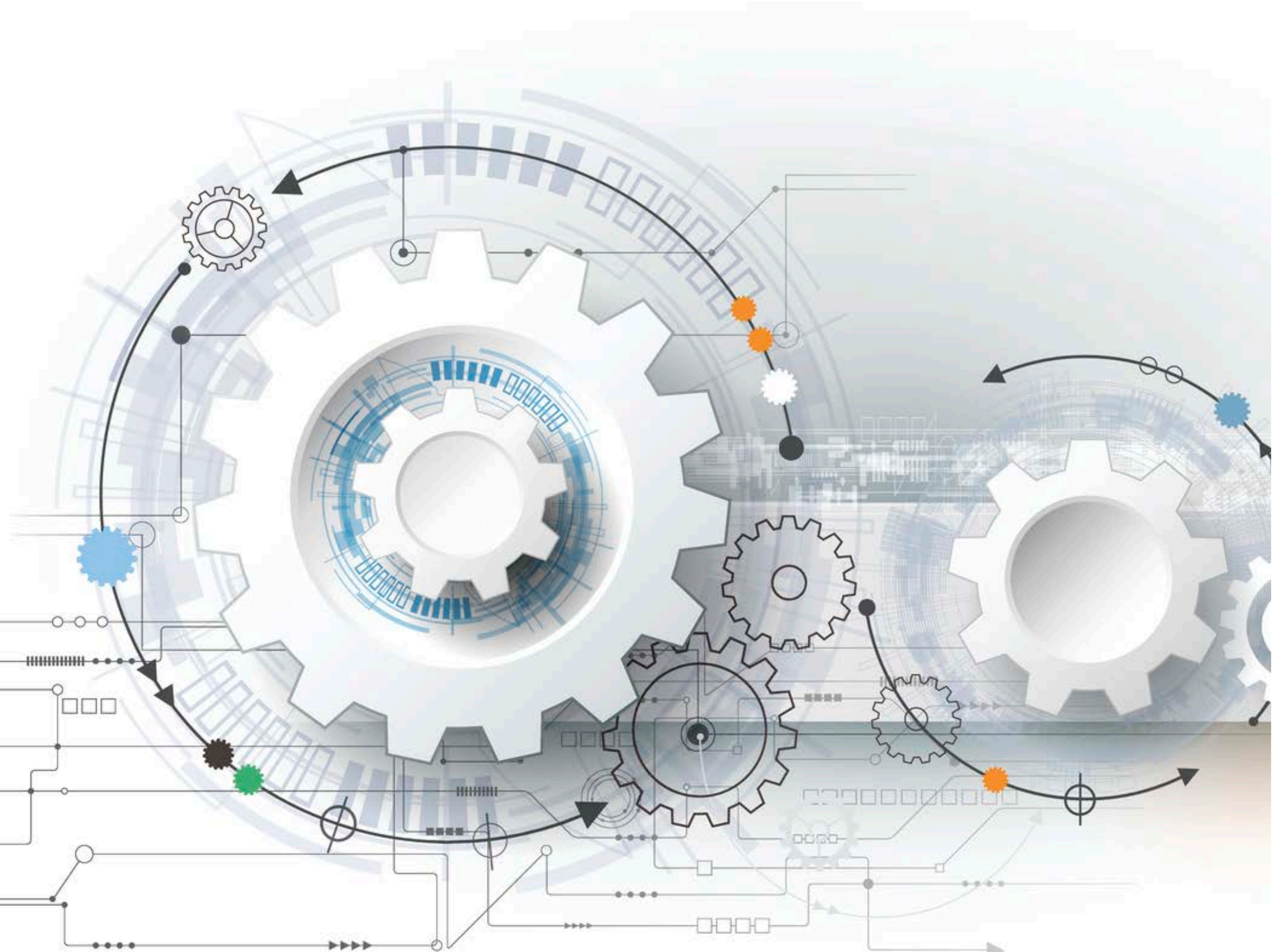

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EXECUTIVE SUMMARY

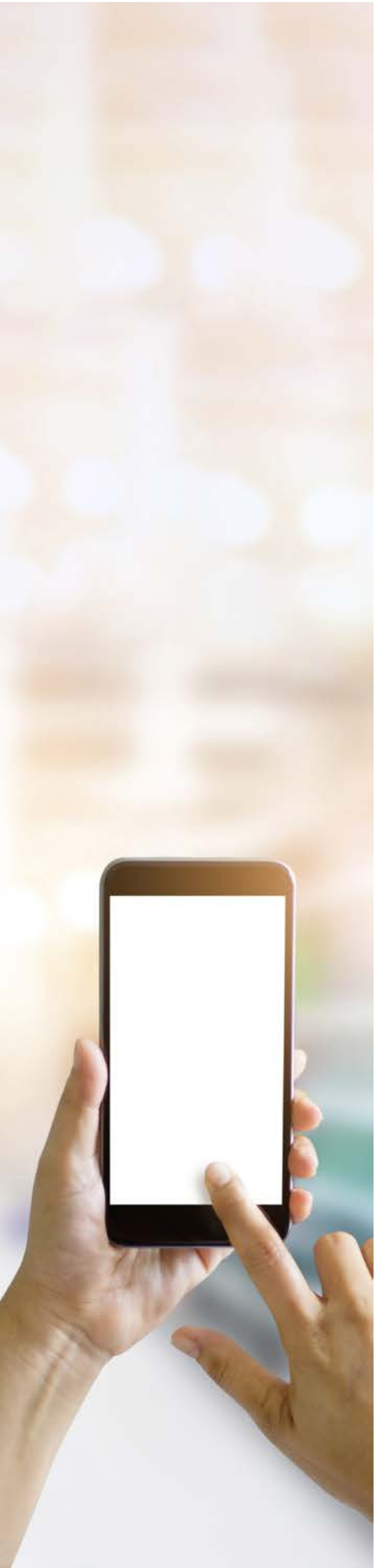
The retail industry is still in the early stages of adopting digital technologies. Many retailers are still formulating plans for how to introduce more advanced digital technologies and processes into their organization.

As a whole, retailers are slowly building digital competencies at the board and senior leadership levels. In addition, retailers are working to establish the appropriate leadership messaging to drive more advanced digital transformation.

However, there is evidence that the speed of adoption is increasing. Every respondent noted significant benefits that are achievable with the adoption of digital technologies. Many cited efforts planned and underway to try to capture these benefits.

Many of the retailers that have active digital technology efforts have encountered some form of schedule delay and cost overrun. Most of these delays were due to incomplete or vague requirements, underscoring the need for clear vision and messaging from leadership.

Despite the challenges faced by retailers, a group of “Digital Leaders” has emerged that is already reaping benefits from improved customer engagement and operational efficiencies born from digital adoption. In addition to outperforming their peers, the Digital Leaders are establishing digital platforms to enable them to capitalize on changing trends and customer patterns inherent in a digital age.



THE STATE OF RETAIL DIGITAL ADOPTION

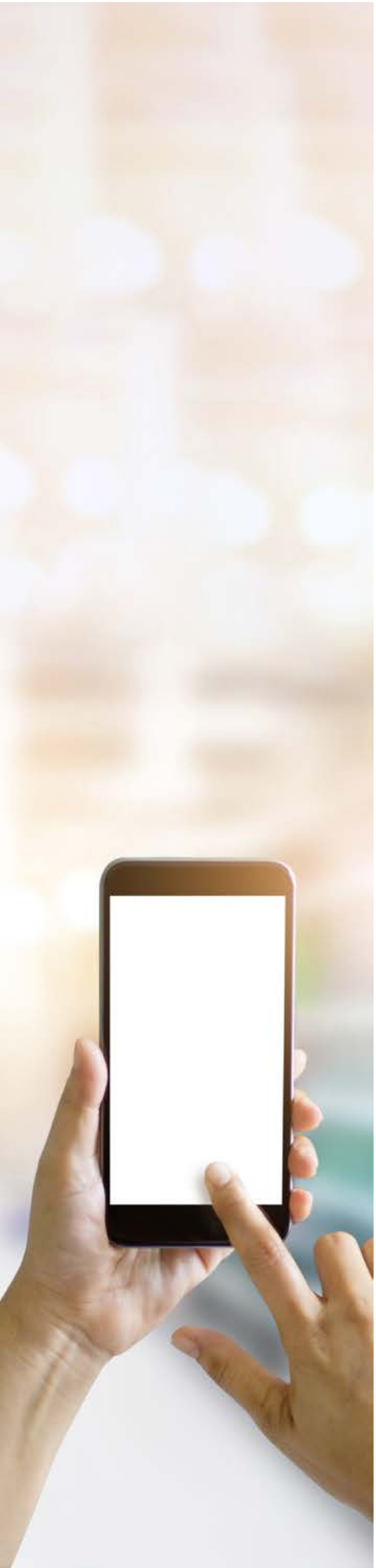
The wave of digital transformation that is sweeping across many industries is just beginning to lap up on the shores of retail.

Less than half of the respondents to the survey stated they were receiving business benefits from their investments in digital technologies. In fact, 38% of respondents reported they have not yet started on a broader scale implementation of digital technologies.

Retail Boards are only wading into the digital discussion at this juncture. Only 25% of respondents stated their board was actively sponsoring their digital initiatives. A lack of technical talent on the board exasperates the lack of digital sponsorship. In our survey, only 6% of board members possessed technical expertise.

As we reviewed the survey results, two distinct groups began to emerge. Digital Leaders represent those companies that are much more active in applying digital technologies to business problems. Digital Explorers are those companies that are exploring digital but have not fully committed to broad implementation.

Reviewing the financial performance of the publically traded companies in these groups, we found Digital Leaders enjoyed a 6% CAGR in revenues the past three years. Digital Explorers revenue growth was relatively flat over the same period. In addition, the average price-to-earnings ratio for a Digital Leader was 22.32 versus 12.22 for Digital Explorers.



The board of directors for Digital Leaders have more technical expertise and are much more active in the digital discussion. The CEO's for Digital Leaders have formally endorsed digital transformation as a strategy. The senior leadership of these companies provides a strong, unified digital message to their respective organizations. More importantly, Digital Leaders altered their corporate culture to provide support for the adoption of digital technologies.

Digital Leaders are ahead of their peers regarding Big Data and Advanced Analytics. In fact, all Digital Leaders were pursuing a Data Lake Strategy. Digital Leaders are actively deploying digital technologies into their supply chain to enable added speed and agility. Finally, the IT organizations for Digital Leaders are pursuing the creation of digital platforms through the leverage of Agile and Devops principles.

As a collective, many retailers are addressing digital technologies largely in the same manner as other technology projects; on a project-by-project basis.

All respondents are enhancing their e-commerce offering, and over 80% either have or are developing a mobile loyalty application. Other popular digital customer experience solutions include personalized promotions, more comprehensive payment processing, and enhanced store information (via mobile or kiosk).

81% of respondents indicated they are either piloting or considering some form of Internet of Things (IoT) deployment. In-store observation cameras and traffic counters are the most prevalent IoT solution. Half of the respondents are considering in-store beacons and sensors.

Big Data and Advanced analytics efforts are underway for many retailers. 31% of respondents have already implemented a Big Data environment to enhance business insights. 44% are in the process of implementing their Big Data environment. 38% of respondents indicated they are actively using advanced analytics. An additional 44% reported their advanced analytics deployment is in process.

Blockchain is just beginning to appear on retailers radar. Only one respondent had implemented a Blockchain-based solution. An additional 19% of respondents are planning some form of Blockchain effort.

For digital technology projects as a whole, 75% of respondents stated they had experienced some delays and cost overruns. The primary reason noted by 50% of respondents was lack of complete or well-understood requirements. An additional 19% indicated lack of expertise was the root cause of delays.

Regarding digital talent, only 25% of respondents noted they had the majority of skills needed to deploy digital technologies already on board. Of those without the required skills, the majority planned to augment via external labor, while some planned to leverage managed services or outsourcing as a means to move forward with their digital efforts.

The table below illustrates the percentage of respondents currently deploying or planning to deploy digital technologies in the specified business area.

Business Area	Respondents %
Marketing & Customer Engagement	**100%**
E-Commerce & Omni-channel	**100%**
Supply Chain & Replenishment	**94%**
Store Operations & Labor Management	**81%**
Merchandising & Assortment Planning	**81%**
Real Estate & Store Construction	**62%**

Respondents were also extremely optimistic about potential benefits from deploying digital technologies. All expected to receive benefits in Marketing/Customer Engagement and E-Commerce/Omni-Channel. 94% expected to receive benefits in Store Operations/Labor Management and Merchandising/Assortment Planning. However, 44% expect digital to create benefits for Real Estate and Store Construction.

Retail IT organizations are working hard to prepare for the deployment and support of the new digital technologies. 75% of respondents expect digital technologies to drive increases their annual budget for 2019.   IT organizations are adopting new tools and techniques to help increase throughput and improve responsiveness. These include service-oriented architectures (SOA), application programming interface (API) management, and cloud development platforms. Also, IT is expanding its search for skills. 75% of organizations responding to the survey indicate they source technical talent from multiple countries.

IT will be in a race against time as 75% indicated they expect moderate to significant reductions in their typical batch processing cycles in the next three years. With 87% of respondents having a mixed environment of applications, this will be a significant undertaking.

2018 RESPONDENT PROFILES

The 2018 Retail Industry Digital Adoption Survey obtained a wide variety of respondents.

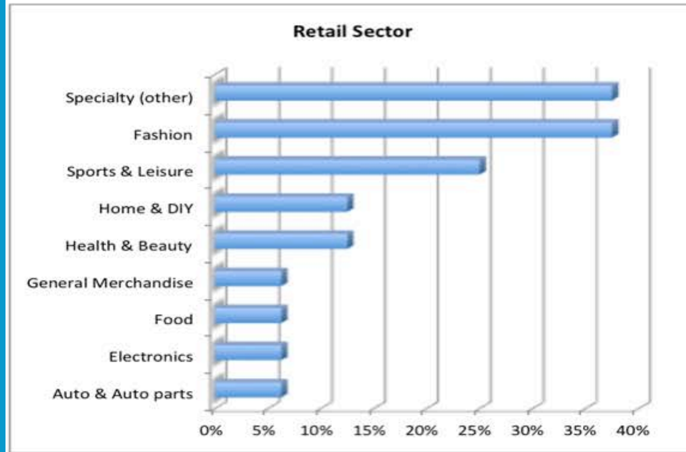
63% of respondents were publically traded retailers, while 37% were private. Nine different retail sectors are represented in the survey.

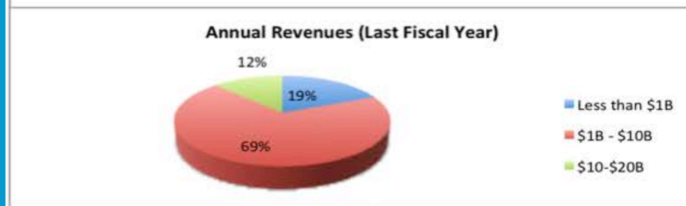
80% of the survey respondents had annual revenues in excess of $1B (USD). However, the percentage of revenue generated by e-commerce varied significantly across the respondents.

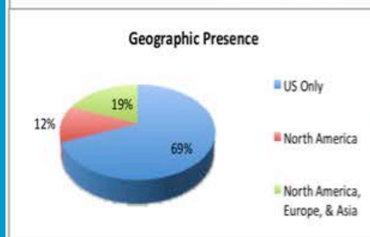
Similarly, the number of employees for each respondent had significant variability.

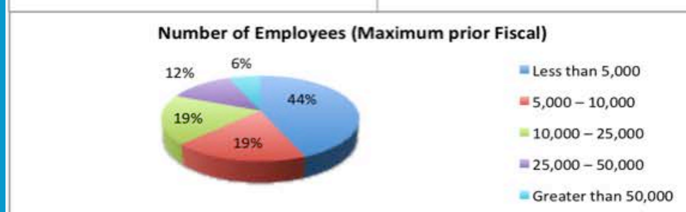
The vast majority of respondents (69%) operate only in the United States. In terms of store
count, the respondents were split, with 56% operating less than 200 stores and 38% operating over 1,000 stores. One respondent was an e-commerce pure play (no stores)

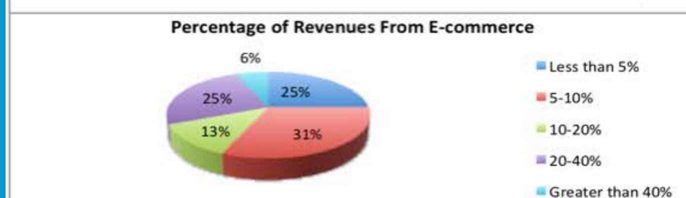
Buy on-line return in store (BORIS) and Store out of Stock (Buy Online in Store and ship to home) were, by far, the most common omni-channel capabilities currently being provided.

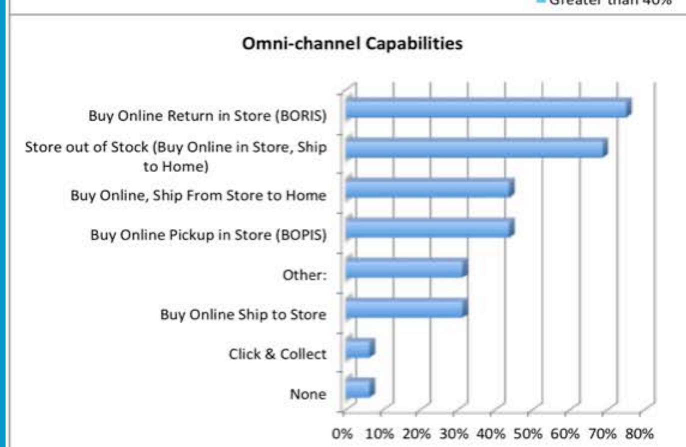


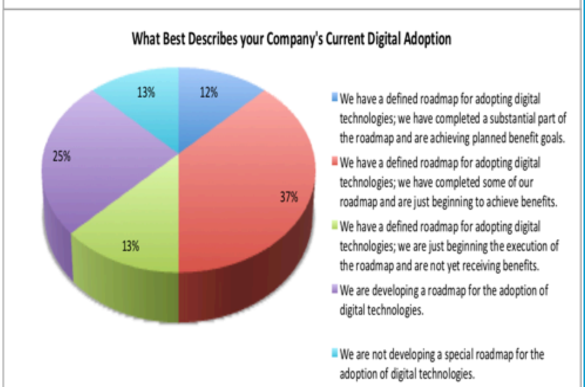


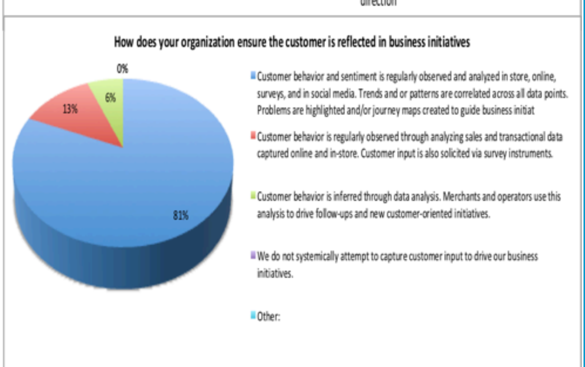












DIGITAL STRATEGY

Interestingly, there was little consensus among survey respondents on the creation of an enterprise digital strategy. Only 19% of respondents had a defined enterprise digital strategy. An additional 25% had components of a digital strategy embedded in their enterprise business strategy. Combining these two groups, we arrive at 44% of respondents with an enterprise digital strategy. More than 80% of Digital Leaders have an enterprise digital strategy.

Organizations with an enterprise digital strategy were generally further along in their digital journey. Over 71% of these companies were either achieving benefit goals or just beginning to receive benefits from digital deployments. In addition, nearly 90% of these organizations were broadly communicating the strategy to the enterprise.

Nearly all of the respondents to the survey were very focused on gaining a deeper understanding of their customer. Over 80% cited comprehensive analysis that correlated customer behavior across various interaction points with quantitative data to better understand customer trends and patterns. The respondents put this information to use as 81% noted they had changed their customer engagement model in the past two years.

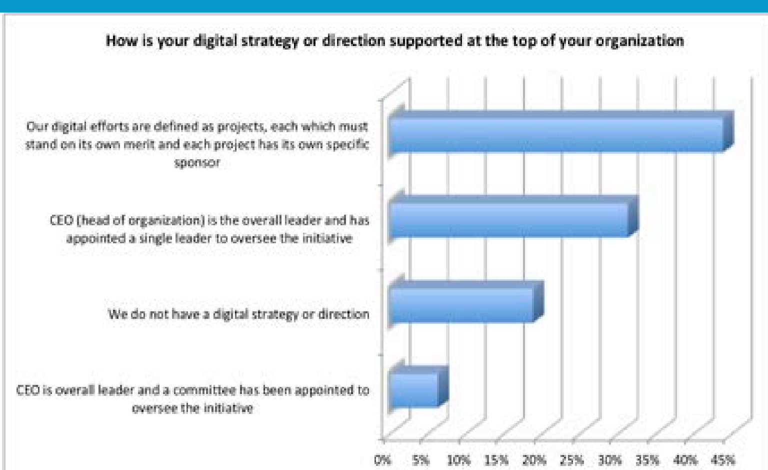
Structured innovation programs are becoming more prevalent in retail. 44% of survey respondents indicated they had some form of formalized innovation and experimentation process in place. Not surprising, over 70% of the organizations with a formalized innovation process also had an enterprise digital strategy.

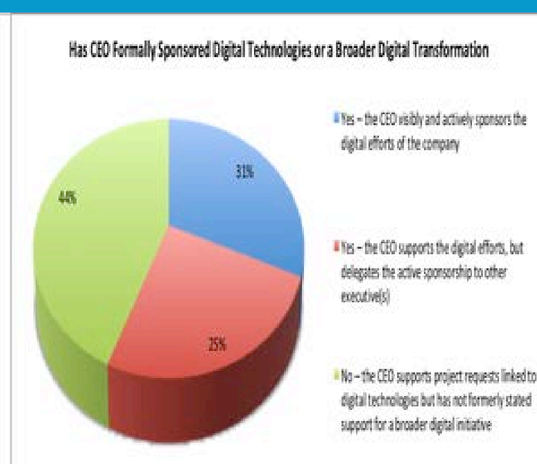
DIGITAL GOVERNANCE

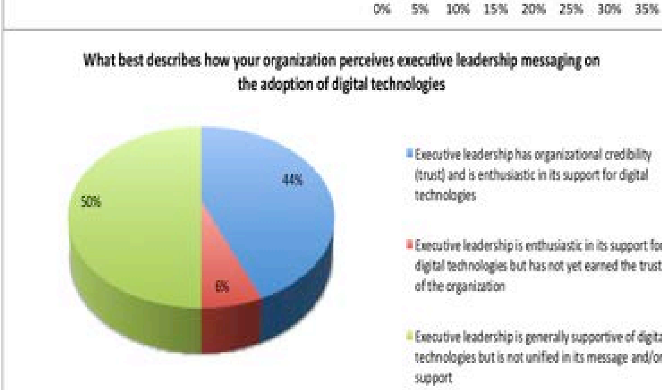
Retailers are still evolving their governance models to adapt to the pace of digital change. Organizations that are more advanced in their digital deployments are leveraging special programs/initiatives or aggregate reporting to better understand their enterprise-level performance and progress. Not surprising, 80% of Digital Leaders have defined this form of governance model.

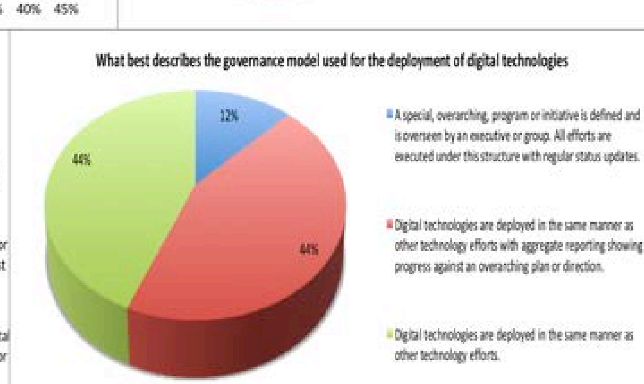
Executive level sponsorship is quite varied. 56% of CEO's have provided some form of formal sponsorship for digital technologies. All of the Digital Leaders benefitted from CEO sponsorship. In addition to the CEO, executive leadership plays a vital role in establishing the tone at the top of the organization for digital innovation. Enthusiastic and credible executive messaging was a key enabler for the Digital Leaders.

63% of survey respondents noted the existence of some form of aggregated goals and objectives for digital efforts. However, only 38% of respondents indicated they had a single digital governing body or individual responsible for digital efforts. In the majority of cases, digital efforts are following a path similar to all other technology projects and initiatives.



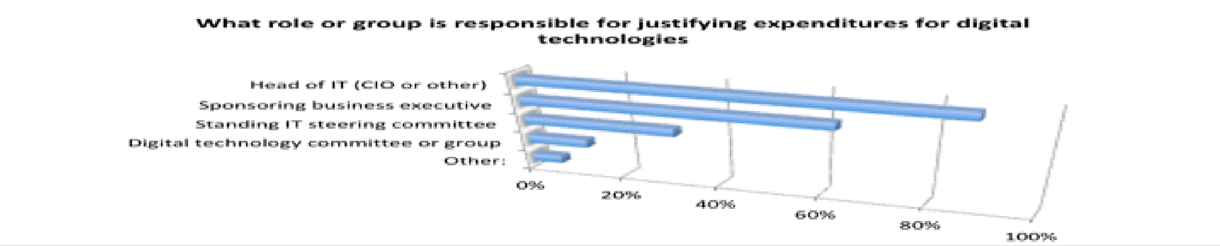


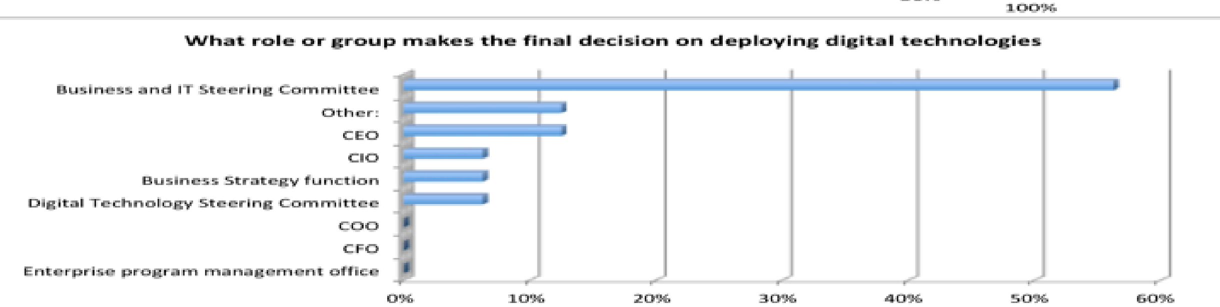


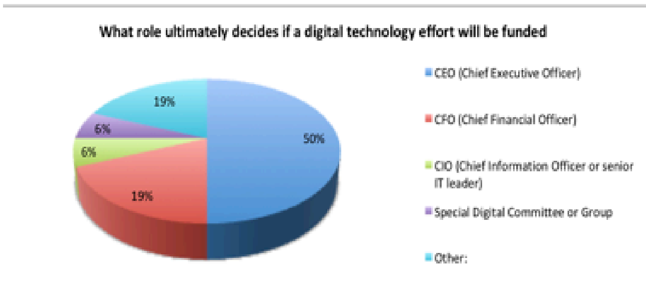


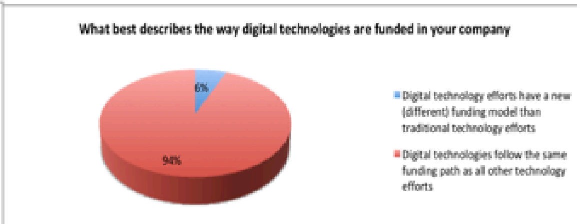
DIGITAL GOVERNANCE

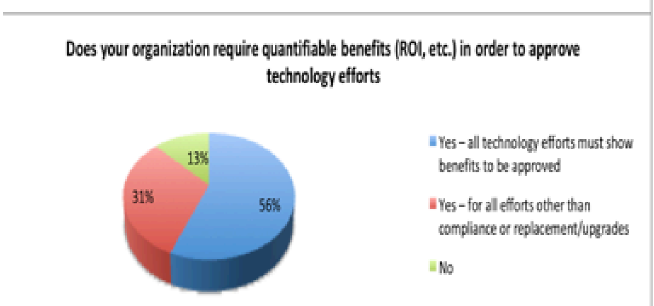
Justification and funding for digital initiatives are also following a familiar path for most retailers. 94% of respondents indicated they use the same funding mechanisms for digital as they do for all other technology efforts. Nearly 70% of respondents report the CEO and CFO are the primary decision-makers for funding digital technologies. In most other cases, this decision falls to either an IT or special digital committee. Ultimately, the responsibility for lobbying for digital technology efforts still incorporates the CIO 88% of the time. However, when it comes to deployment, a form of steering committee predominantly makes the final call.

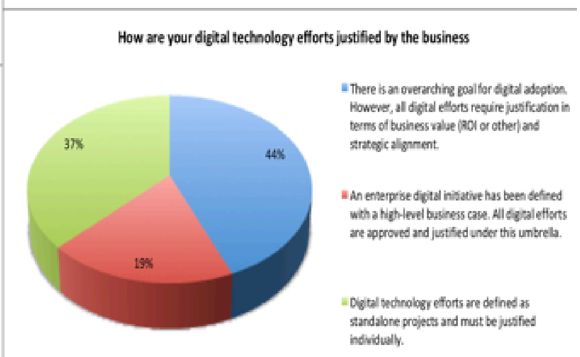






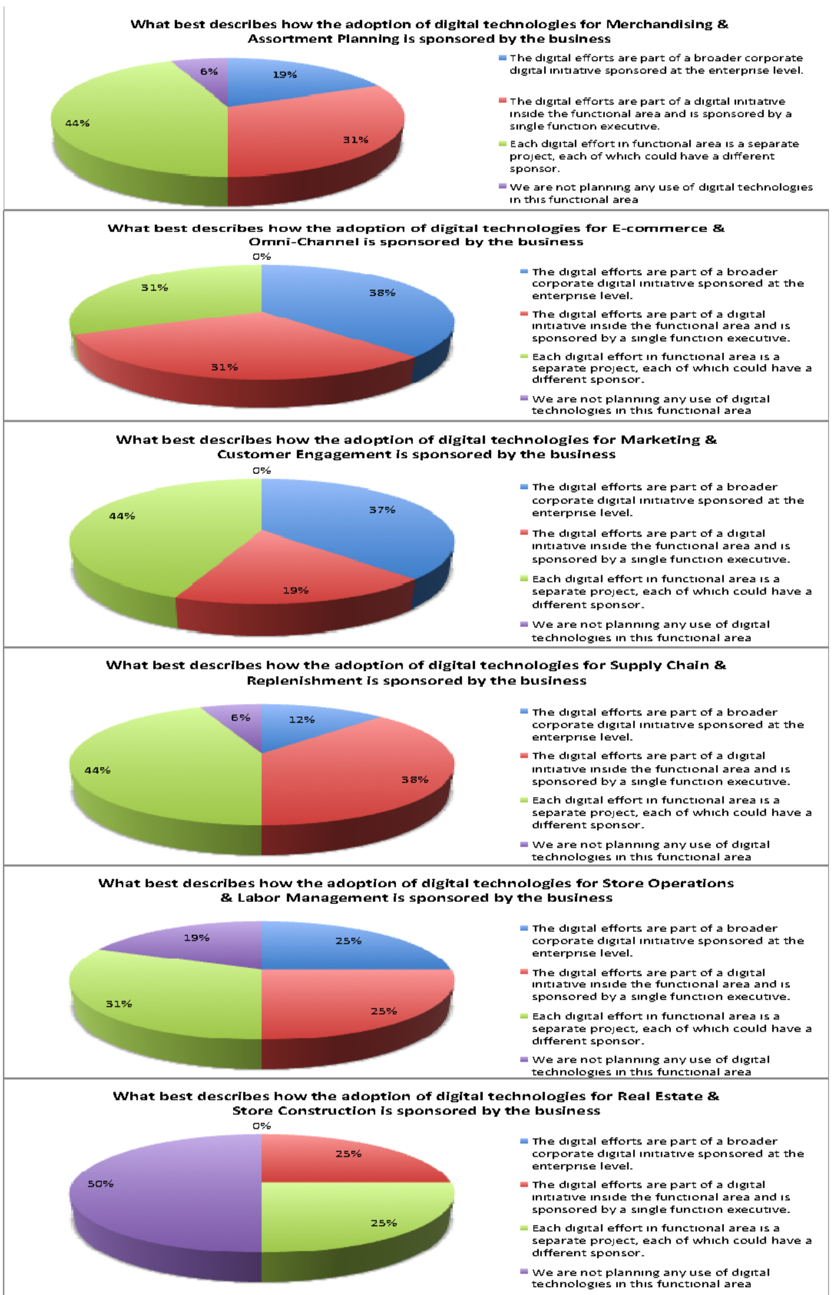






DIGITAL GOVERNANCE

In terms of governing various digital initiatives, there are discrepancies in how organizations oversee efforts based on business area. Marketing and e-commerce efforts were much more likely to part of a broader function or enterprise level digital initiative.

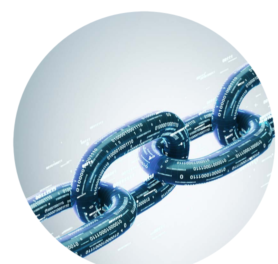


RETAIL DIGITAL
DEPLOYMENTS

INTERNET OF THINGS (IOT)

CUSTOMER EXPERIENCE

BIG DATA & ADVANCED ANALYTICS



BLOCKCHAIN

DIGITAL DEPLOYMENT SUMMARY

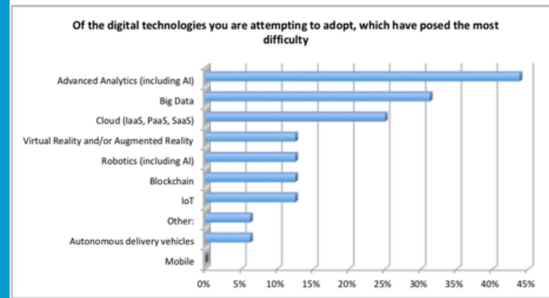
88% of respondents have started some form of digital technology project. Of those organizations that have started a digital technology project, 86% have experienced delays or cost overruns on at least a portion of their efforts.

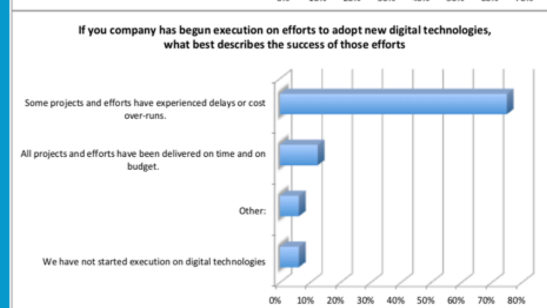
By far, the number one reason for setbacks on digital technology projects has been lack of complete or well-understood requirements. 62% of respondents noted digital technology is a stated business direction. Given this high percentage, we would expect to see increasing focus from business executives which should help alleviate the lack of clarity in requirements.

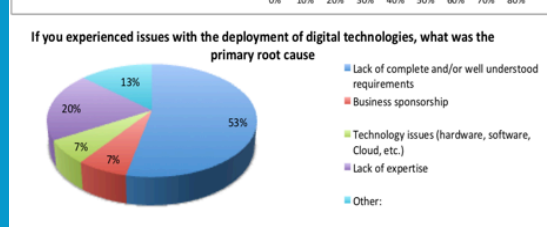
Specific digital technology deployments varied across the respondents. 87% of respondents with physical stores were deploying or considering deploying a variant of Internet of Things (IoT) technology. Not surprising, 100% of respondents had efforts underway to improve customer experience. 81% of respondents were active with or preparing for, a big data deployment. 94% were active with or planning for, deployment of advanced analytics. Interestingly, advanced analytics was also noted as the most difficult digital technology to adopt by 44% of respondents. Only 6% of respondents indicated they were actively deploying blockchain, while another 19% had plans to begin work on blockchain.

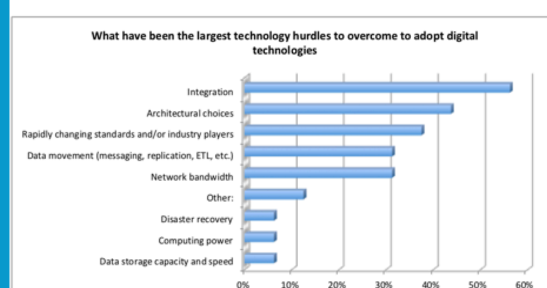
Respondents noted that integration was their most challenging technology hurdle to overcome to deploy digital technologies successfully. Architectural choices and rapidly changing standards and industry players followed closely behind integration in terms of technology challenges.

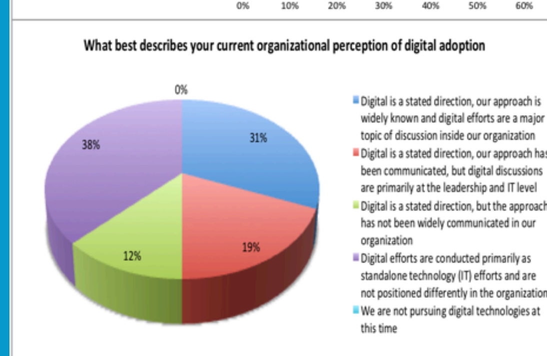
To overcome these challenges, retailers are leveraging cloud platforms and implementing integration layers. In many cases, retailers are taking the additional step to build extensible digital platforms that offer easy extensibility and mitigate the impact of technological change.

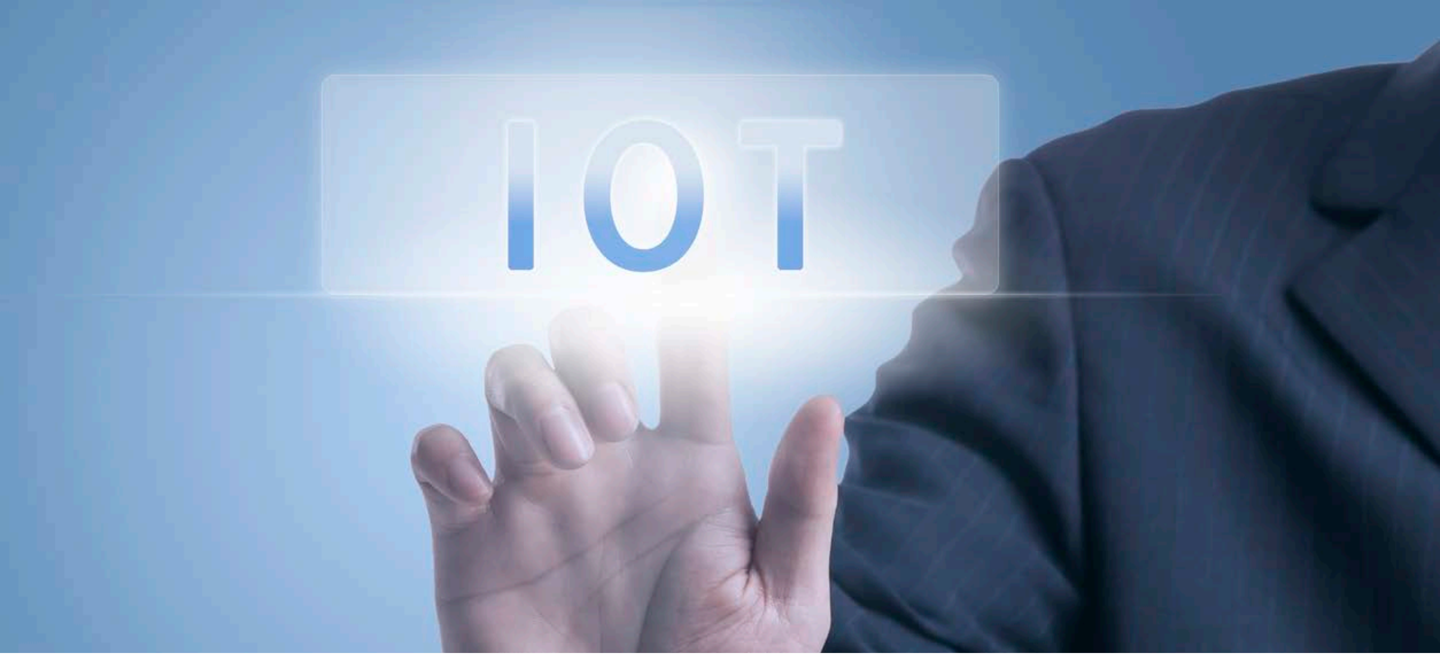








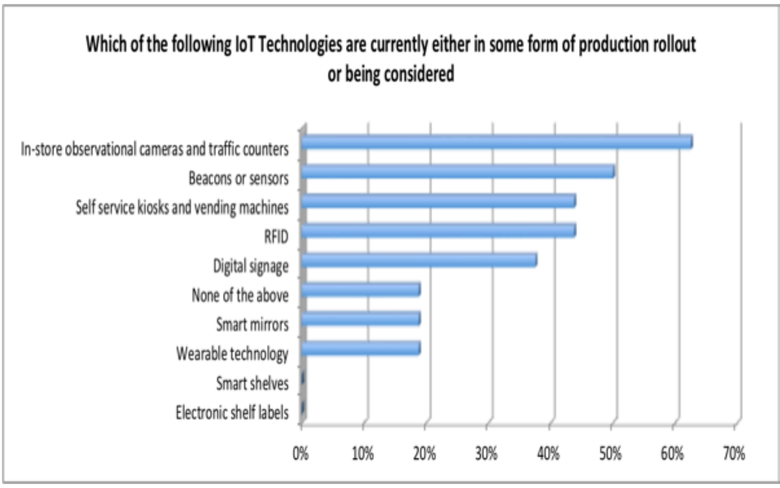


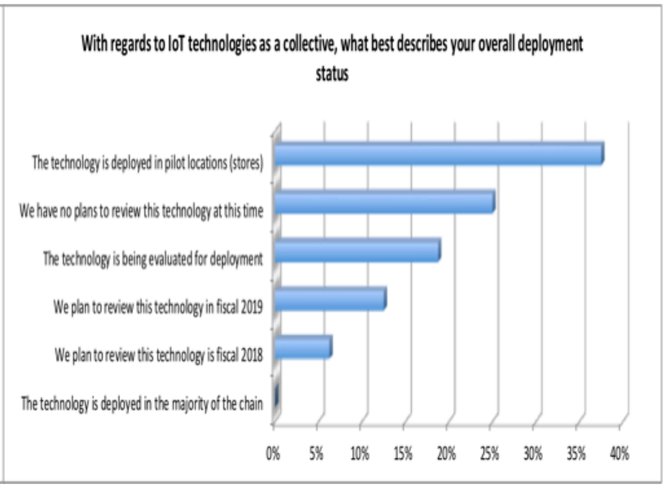


Survey respondents are still early in their deployment of IoT technology. While 87% of retailers with physical stores are planning IOT initiatives, none were fully deployed. Most respondents indicated they are in pilot mode or exploring some form of rollout.

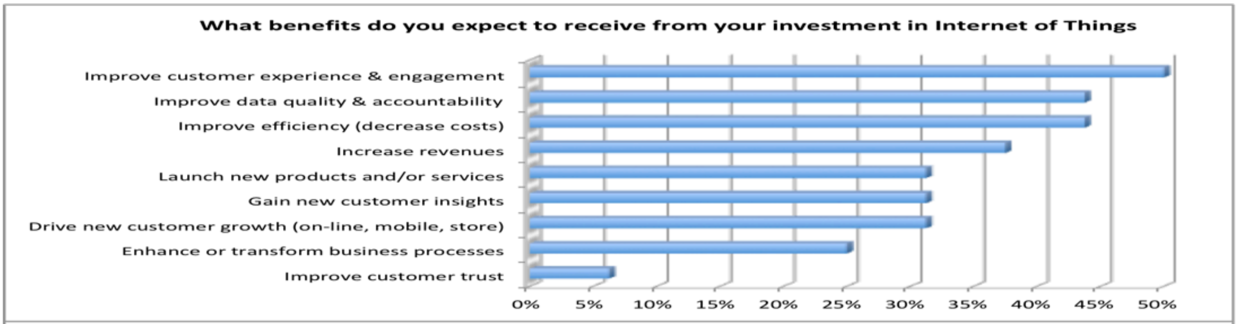
80% of Digital Leaders are pursuing beacons/sensors and self-service kiosks/vending machines. 60% are pursuing digital signage. However, for the most part, Digital Leader's tendencies in IoT are in step with other survey respondents.

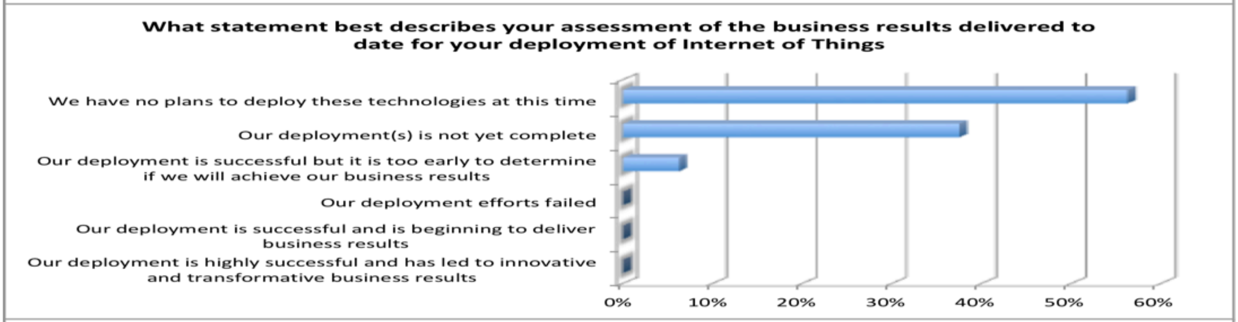
The primary inhibitor for IoT deployment is business prioritization. IoT is not yet viewed as a critical enabler by the business. Poor or unclear business value is cited as the second largest inhibitor. IoT technologies are more expensive to deploy due to their distributed nature. To justify these costs, retailers will need a strong business case.   As indicated by survey results, business case definition is still an issue for many retailers. However, it should be noted; none of the respondents cited cost as the primary inhibitor to IoT deployment.

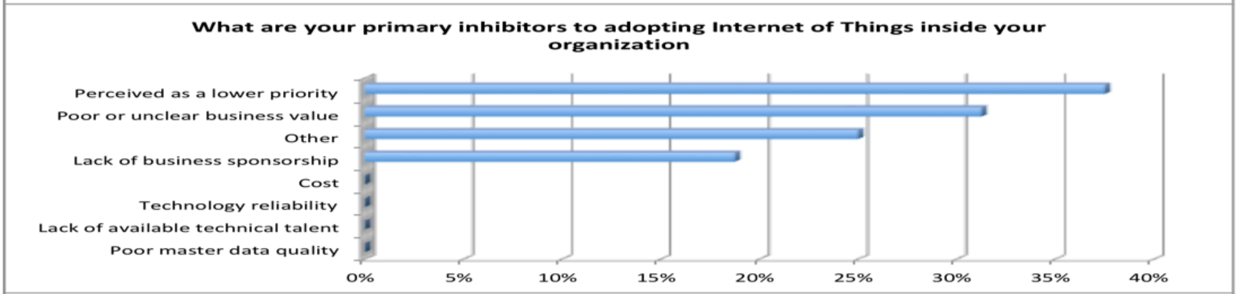


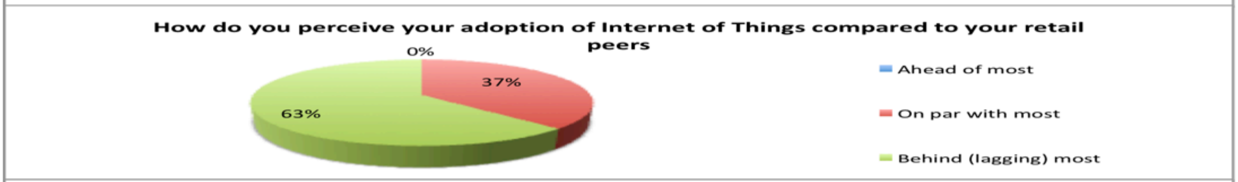


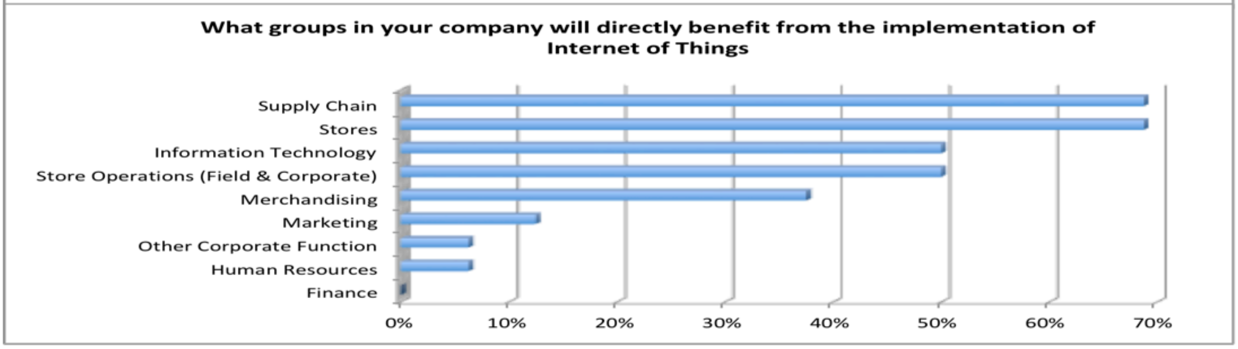

IOT


What benefits do you expect to receive from your investment in Internet of Things
Improve customer experience & engagement
Improve data quality & accountability
Improve efficiency (decrease costs)
Increase revenues
Launch new products and/or services
Gain new customer insights
Drive new customer growth (on-line, mobile, store)
Enhance or transform business processes
Improve customer trust
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%


What statement best describes your assessment of the business results delivered to date for your deployment of Internet of Things
We have no plans to deploy these technologies at this time
Our deployment(s) is not yet complete
Our deployment is successful but it is too early to determine if we will achieve our business results
Our deployment efforts failed
Our deployment is successful and is beginning to deliver business results
Our deployment is highly successful and has led to innovative and transformative business results
0%
10%
20%
30%
40%
50%
60%


What are your primary inhibitors to adopting Internet of Things inside your organization
Perceived as a lower priority
Poor or unclear business value
Other
Lack of business sponsorship
Cost
Technology reliability
Lack of available technical talent
Poor master data quality
0%
5%
10%
15%
20%
25%
30%
35%
40%


How do you perceive your adoption of Internet of Things compared to your retail peers
0%
37%
63%
Ahead of most
On par with most
Behind (lagging) most


What groups in your company will directly benefit from the implementation of Internet of Things
Supply Chain
Stores
Information Technology
Store Operations (Field & Corporate)
Merchandising
Marketing
Other Corporate Function
Human Resources
Finance
0%
10%
20%
30%
40%
50%
60%
70%

CUSTOMER EXPERIENCE

Customer Experience(CX) represents a broad spectrum of digital technologies. Numerous surveys conducted previously on CX have noted it to be the primary focus area for many retailers. Our survey results were consistent with these previous findings. Despite heavy emphasis over the past two years, retailers continue to increase their efforts to modernize and improve elements of their CX. 94% of survey respondents expect to increase CX efforts in 2019. These efforts will focus on the gamut of e-commerce, mobile, and stores.

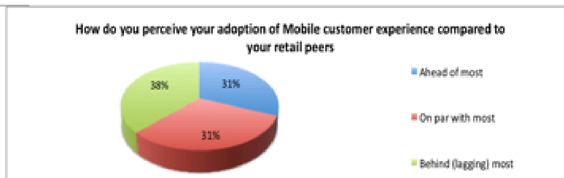
Survey results indicate respondents have placed significant emphasis on e-commerce initiatives over the past two years. 75% of respondents believe their e-commerce CX was on-par or ahead of their peers versus 62% for mobile CX and 67% for in-store. There are a wide variety of CX initiatives pursued by retailers. Survey respondents referenced 14 different CX initiatives. More than 50% of respondents referenced six of these 14 initiatives.

CX was the area of digital adoption that was providing the most benefits to retailers. 57% of respondents noted their CX initiatives were already delivering results. 80% of the Digital Leaders already see benefits from their CX initiatives.

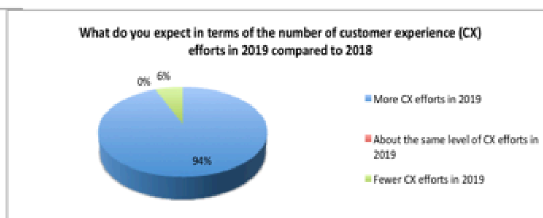
Also, to improve the overall experience, many retailers were adopting new associate-facing tools to improve customer engagement. Store communication portals and Mobile POS were the two most popular associate-facing tools, followed closely by Mobile information tools (enhanced information on products, inventory, pricing, promotions, among others). The primary inhibitors to CX success are cost and poor master data quality. Due to the distributed nature of retail, cost is not a surprise. Neither was master data quality, as retailers continue to work with portfolios full of custom and best-of-breed applications.

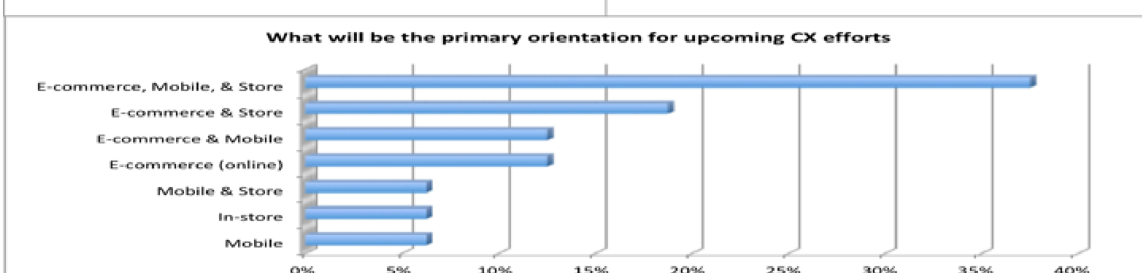

Which of the following Customer Experience efforts are currently either in some form of production rollout or being considered
Enhanced e-commerce capabilities
Mobile customer loyalty application
Personalized promotions
Enhanced or new store information via mobile app or kiosk
Payment processing (Mobile, Contactless, Paypal, Venmo,
Mobile alerts and notifications
Digital signage
Personalized product options
Online frictionless checkout
Smart Mirrors or Connected Fitting Room
In-store frictionless checkout
Augmented reality
Interactive signage
Virtual reality
None of the above
Mobile shopping application
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


How do you perceive your adoption of E-commerce customer experience compared to your retail peers
44%
31%
25%
Ahead of most
On par with most
Behind (lagging) most

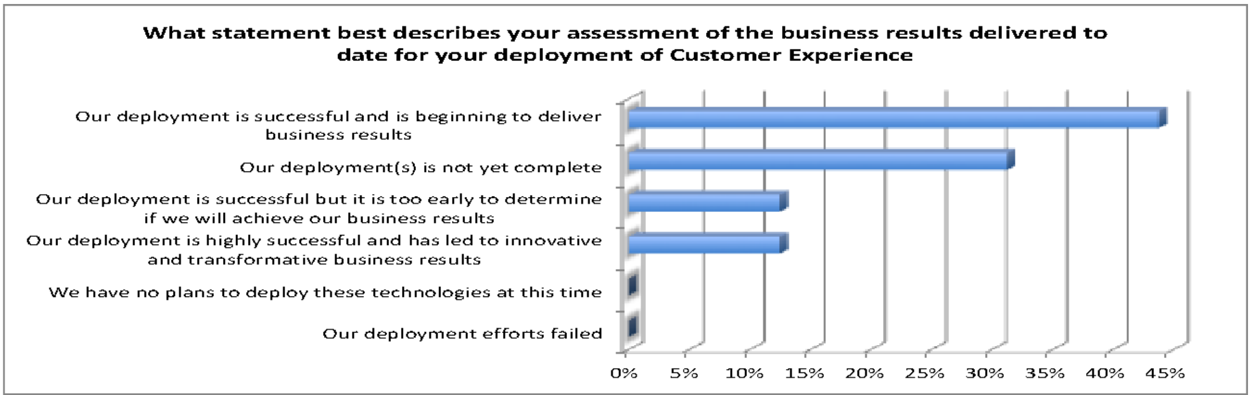

How do you perceive your adoption of Mobile customer experience compared to your retail peers
31%
31%
38%
Ahead of most
On par with most
Behind (lagging) most

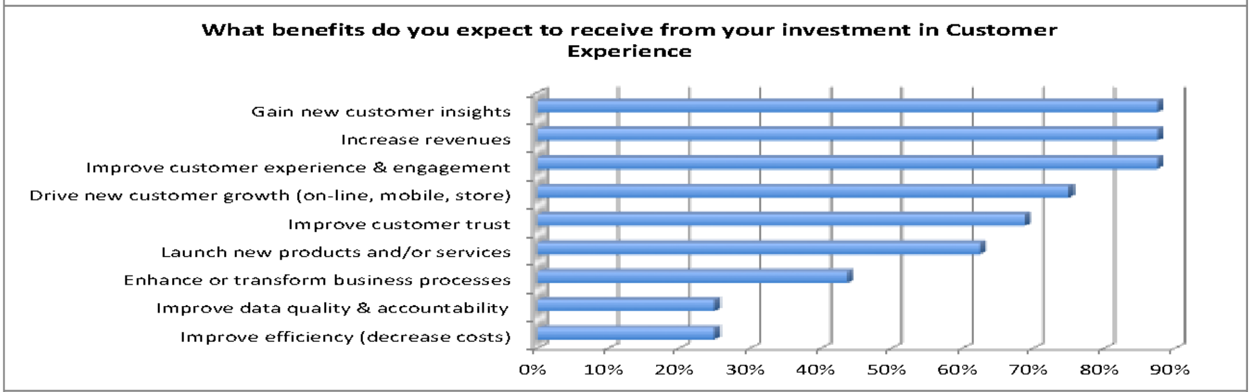

How do you perceive your adoption of In-store customer experience compared to your retail peers
27%
40%
33%
Ahead of most
On par with most
Behind (lagging) most

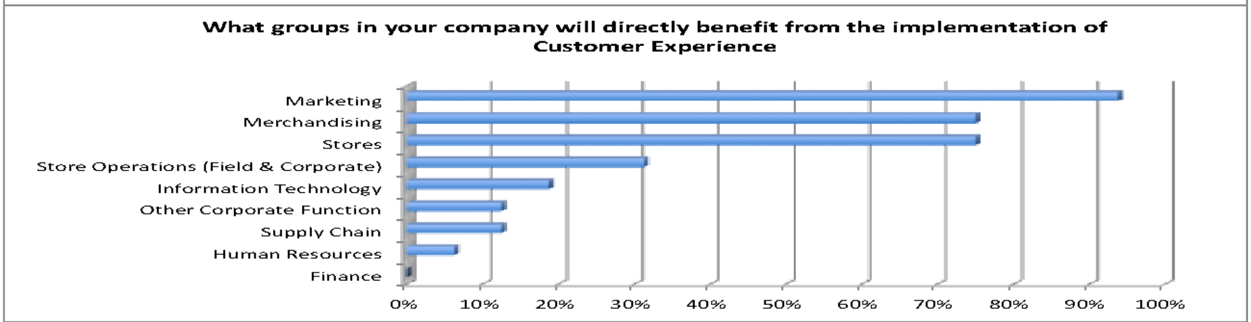

What do you expect in terms of the number of customer experience (CX) efforts in 2019 compared to 2018
0%
6%
94%
More CX efforts in 2019
About the same level of CX efforts in 2019
Fewer CX efforts in 2019

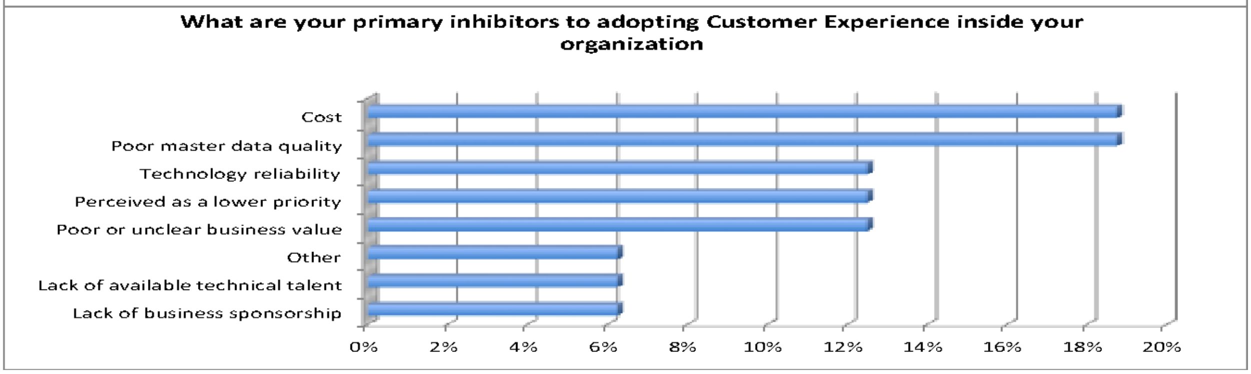

What will be the primary orientation for upcoming CX efforts
E-commerce, Mobile, & Store
E-commerce & Store
E-commerce & Mobile
E-commerce (online)
Mobile & Store
In-store
Mobile
0% 5% 10% 15% 20% 25% 30% 35% 40%


Are you providing any of the following tools/solutions to store associates to improve customer experience
Store communication portal (on store devices or available on employee devices)
Mobile POS
Mobile information tools (enhanced product information, inventory visibility, pricing, promotions, product locators, etc.)
Digital training
Clientelling
Other:
0% 10% 20% 30% 40% 50% 60% 70%


What statement best describes your assessment of the business results delivered to date for your deployment of Customer Experience
Our deployment is successful and is beginning to deliver business results
Our deployment(s) is not yet complete
Our deployment is successful but it is too early to determine if we will achieve our business results
Our deployment is highly successful and has led to innovative and transformative business results
We have no plans to deploy these technologies at this time
Our deployment efforts failed
0% 5% 10% 15% 20% 25% 30% 35% 40% 45%


What benefits do you expect to receive from your investment in Customer Experience
Gain new customer insights
Increase revenues
Improve customer experience & engagement
Drive new customer growth (on-line, mobile, store)
Improve customer trust
Launch new products and/or services
Enhance or transform business processes
Improve data quality & accountability
Improve efficiency (decrease costs)
0% 10% 20% 30% 40% 50% 60% 70% 80% 90%


What groups in your company will directly benefit from the implementation of Customer Experience
Marketing
Merchandising
Stores
Store Operations (Field & Corporate)
Information Technology
Other Corporate Function
Supply Chain
Human Resources
Finance
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


What are your primary inhibitors to adopting Customer Experience inside your organization
Cost
Poor master data quality
Technology reliability
Perceived as a lower priority
Poor or unclear business value
Other
Lack of available technical talent
Lack of business sponsorship
0% 2% 4% 6% 8% 10% 12% 14% 16% 18% 20%

BIG DATA & ADVANCED ANALYTICS

Big Data and Advanced Analytics are other digital technologies garnering significant interest from retailers. 76% of respondents indicated their Big Data efforts were either completed or in progress. 82% of respondents reported their Advanced Analytics efforts were in the same state.

56% of respondents indicated they were using some form of cloud or third-party service to facilitate their big data environments. 32% of respondents cited some type of on-premise solution (Hadoop or relational). The Data Lake was the most popular architectural pattern for Big Data, mentioned by over 50% of respondents. Predictive analytics was the predominant form of advanced analytics referenced by respondents. Artificial Intelligence (including Machine Learning and Cognitive Computing) followed closely at 63%. Interestingly, 80% of digital leaders are pursuing Artificial Intelligence initiatives.

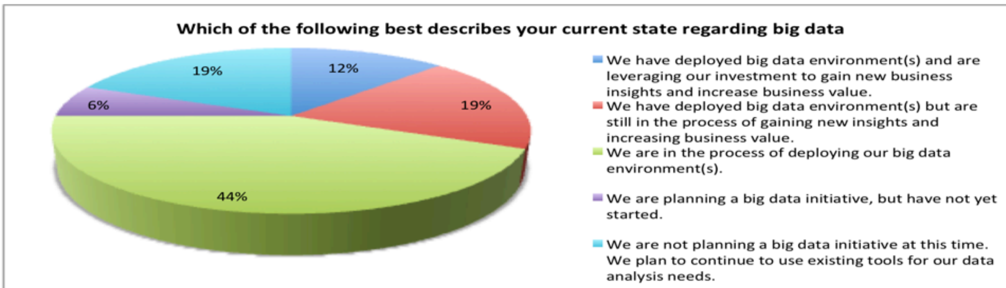
Retailers are targeting a variety of use cases for advanced analytics, with customer marketing and promotions the highest at 88% of respondents. Product assortment optimization and customer product recommendations followed, with both cited by over 50% of respondents.

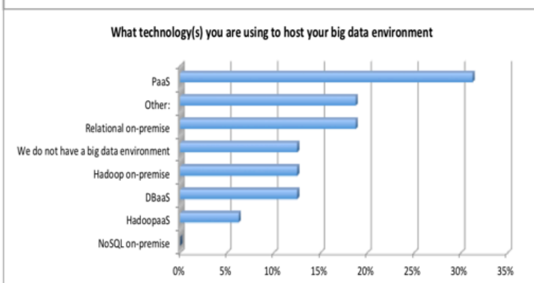
While half of respondents felt they were on par with their peers regarding Big Data, 56% believe they are behind their peers in the adoption of Advanced Analytics.

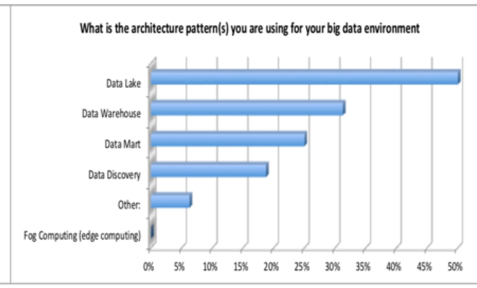
38% of respondents had completed at least a portion of their Big Data and Advanced Analytics deployment. This percentage contrasts sharply with 80% of Digital Leaders at the same state of deployment.

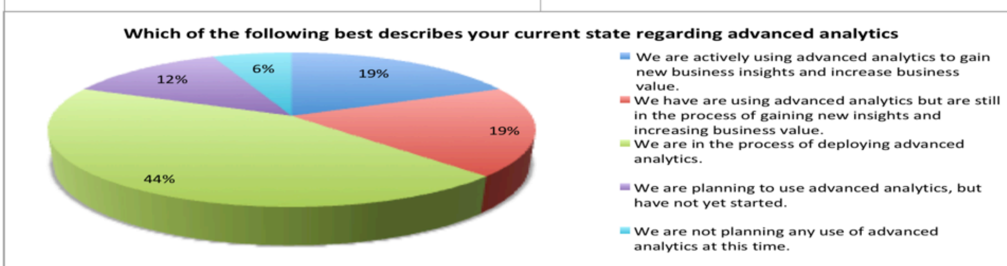
As with CX initiatives, cost was the most frequently cited inhibitor. Survey respondents cited master data quality and availability of technical talent as the next biggest inhibitors. The skill noted by respondents as hardest to find (and fill) was Data Scientists and analysts.

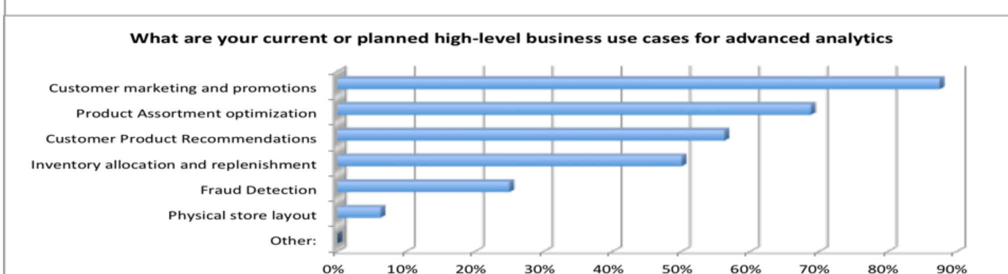
BIG DATA &
ADVANCED ANALYTICS

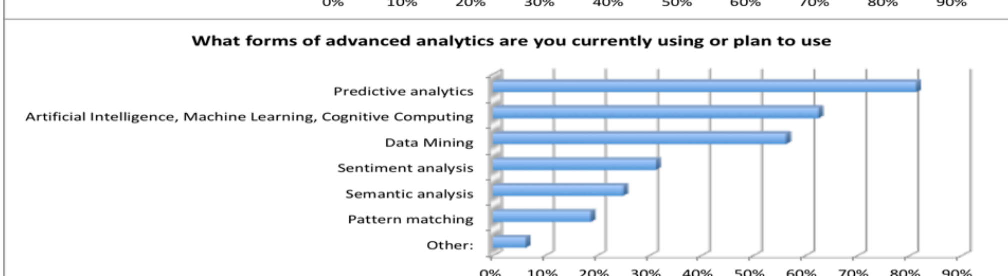


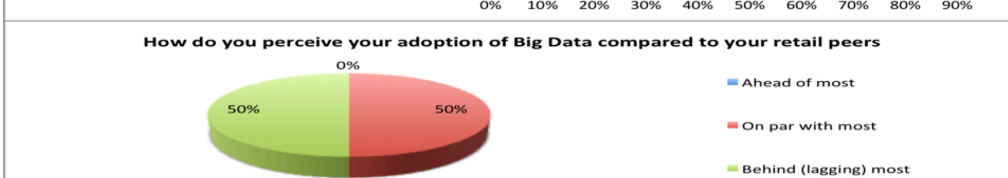




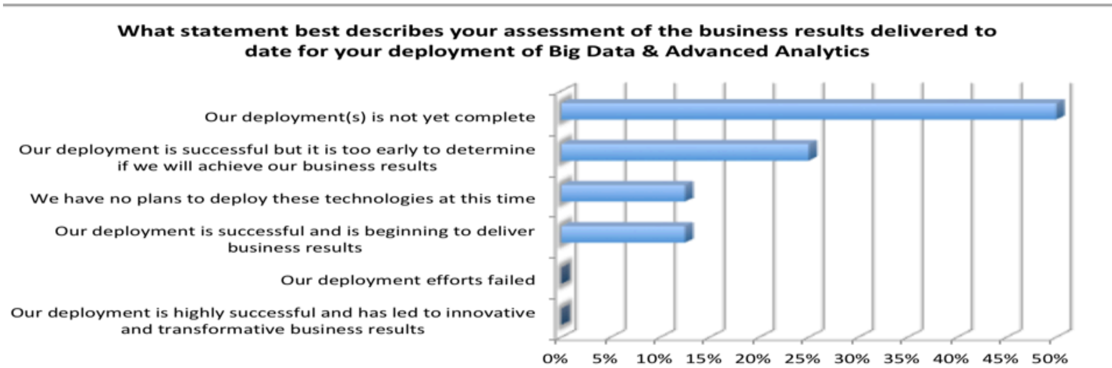


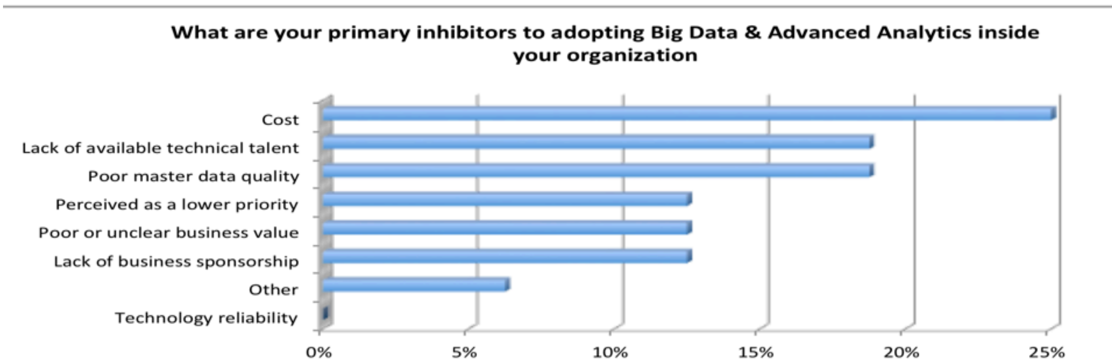


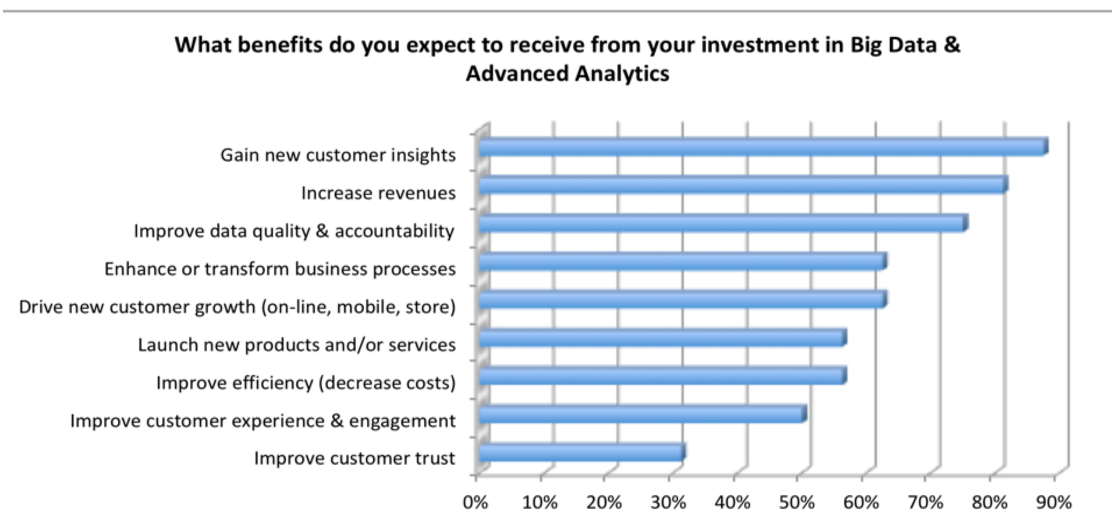


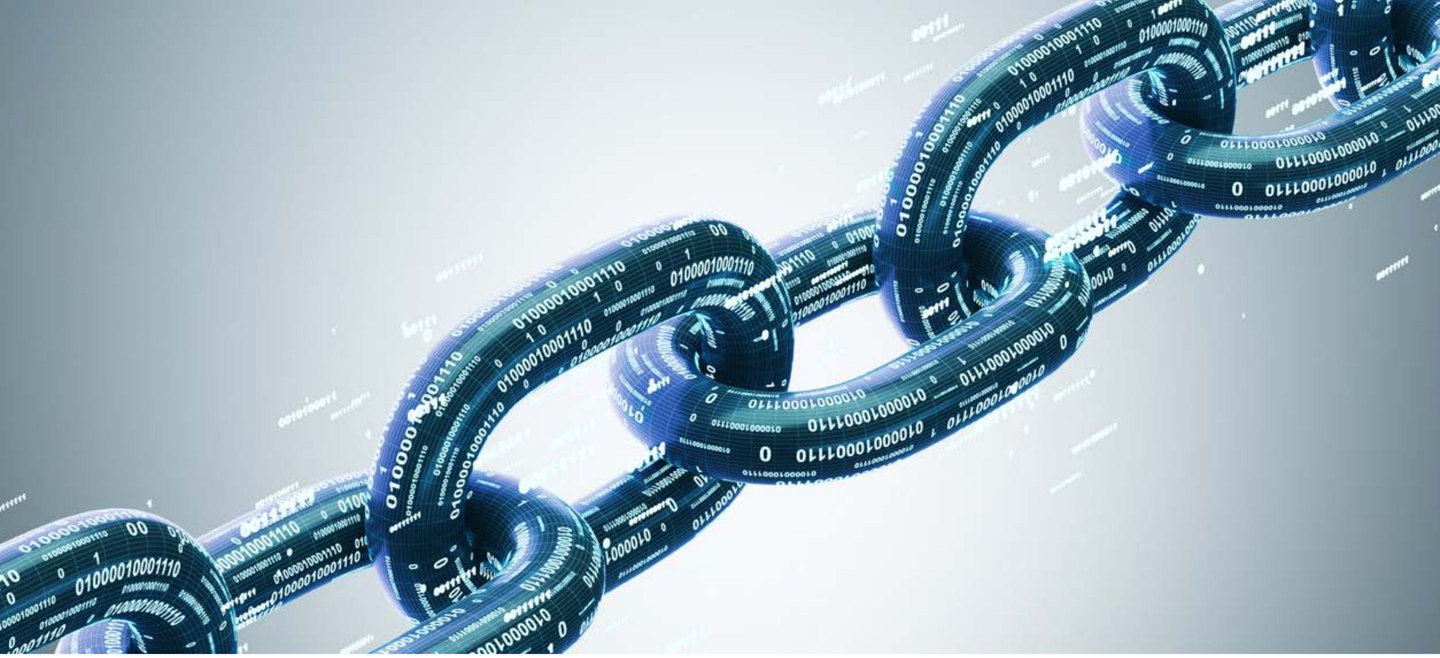


BIG DATA & ADVANCED ANALYTICS







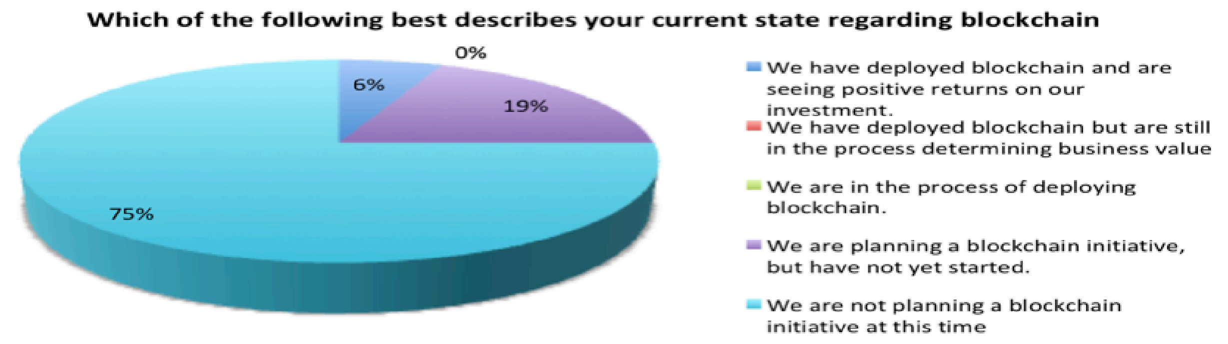


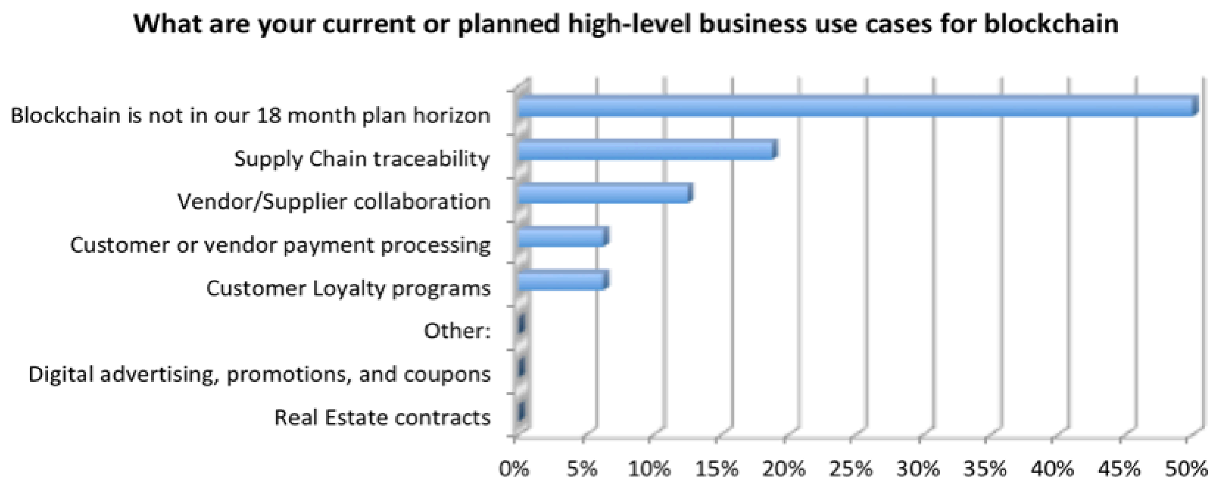
BLOCKCHAIN

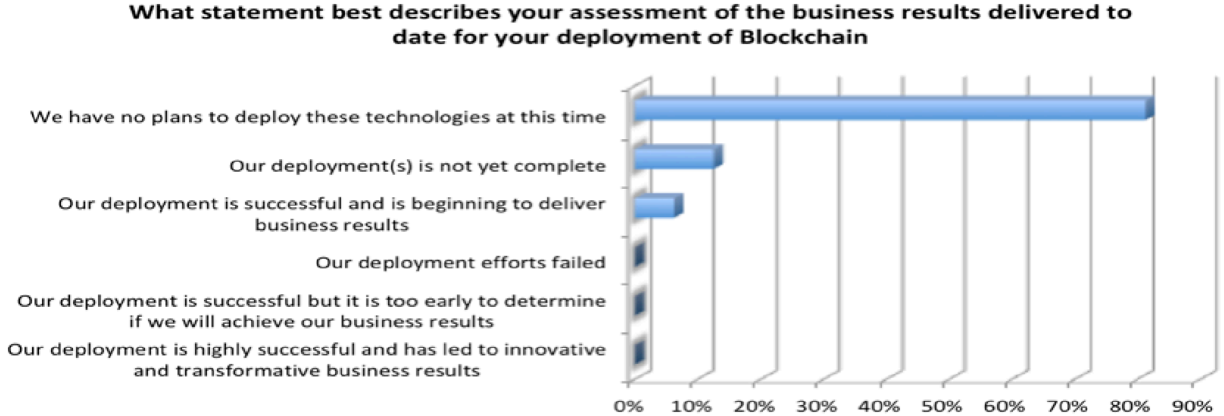
Blockchain received the least attention of any of the digital technologies in the survey. 75% of respondents noted that they are not planning a Blockchain initiative at this time. In addition, 50% of respondents did not weigh in on high-level business use cases as Blockchain was not in their 18-month planning horizon.

As Blockchain is a newer, more unproven technology in retail applications, there is a lack of clarity in the business value, resulting in the business perceiving it as a lower priority.

The business cases most cited by respondents focused on supply chain activities, which is consistent with other retail research. Surprisingly, there was little interest shown in applications of Blockchain that could potentially impact the customer experience (loyalty, promotions, or other).

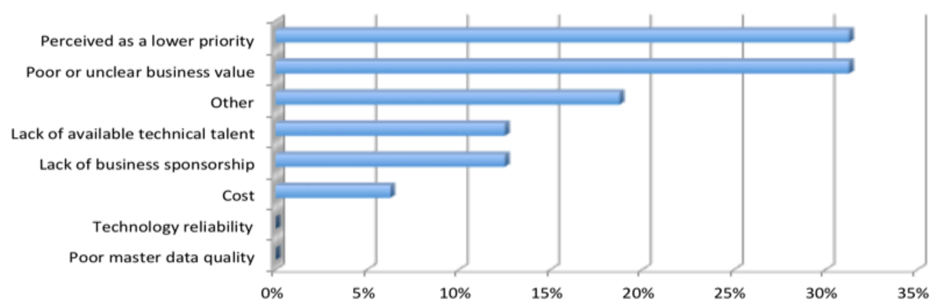

Which of the following best describes your current state regarding blockchain
0%
6%
19%
75%
We have deployed blockchain and are seeing positive returns on our investment.
We have deployed blockchain but are still in the process determining business value
We are in the process of deploying blockchain.
We are planning a blockchain initiative, but have not yet started.
We are not planning a blockchain initiative at this time


What are your current or planned high-level business use cases for blockchain
Blockchain is not in our 18 month plan horizon
Supply Chain traceability
Vendor/Supplier collaboration
Customer or vendor payment processing
Customer Loyalty programs
Other:
Digital advertising, promotions, and coupons
Real Estate contracts
0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%

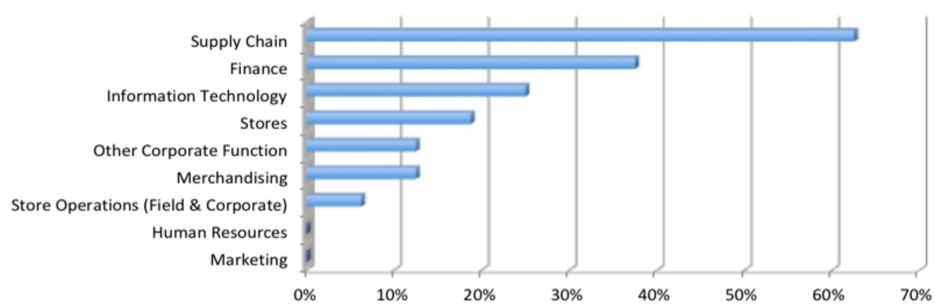

What statement best describes your assessment of the business results delivered to date for your deployment of Blockchain
We have no plans to deploy these technologies at this time
Our deployment(s) is not yet complete
Our deployment is successful and is beginning to deliver business results
Our deployment efforts failed
Our deployment is successful but it is too early to determine if we will achieve our business results
Our deployment is highly successful and has led to innovative and transformative business results
0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

How do you perceive your adoption of Blockchain compared to your retail peers

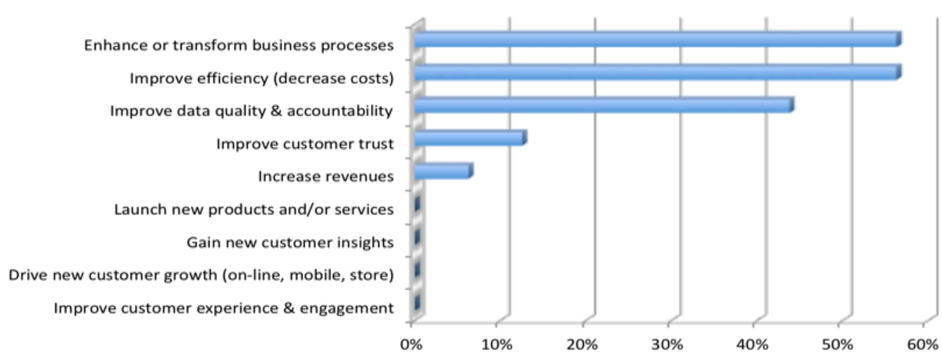
What are your primary inhibitors to adopting Blockchain inside your organization



What groups in your company will directly benefit from the implementation of Big Blockchain



What benefits do you expect to receive from your investment in Blockchain



Retail Business Impacts and Benefits

Survey respondents are actively pursuing digital technologies across a variety of retail business areas. While increasing revenue is the predominant goal, other goals such as increasing speed, decreasing costs, and improving customer engagement were high on respondents lists.

Digital Leaders were especially active. 100% of Digital Leaders were either active with or planning digital initiatives in every major business area, except for Real Estate & Store Construction.

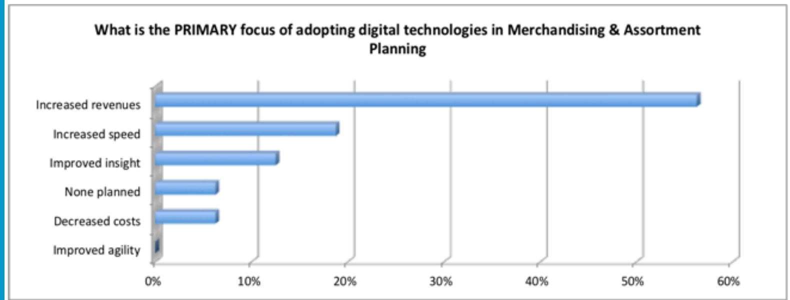
MERCHANDISING & ASSORTMENT PLANNING

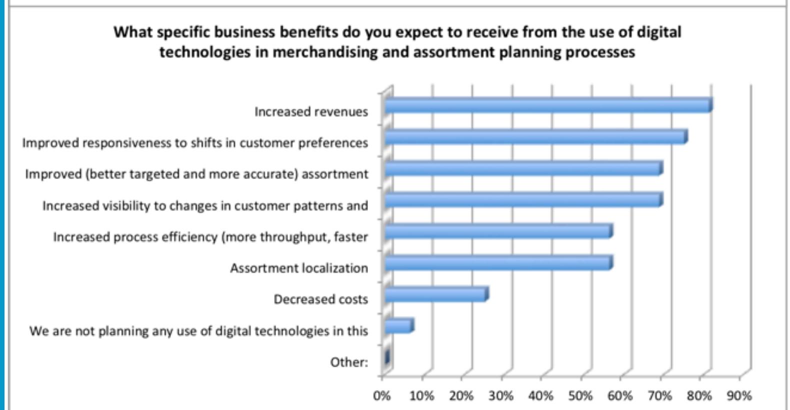
82% of survey respondents are active or plan to be active in the deployment of digital technologies to enhance the Merchandising & Assortment Planning functions.

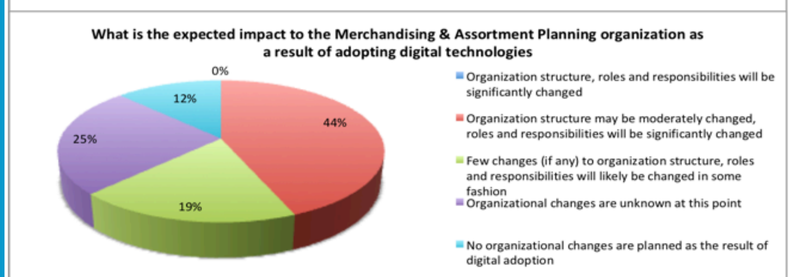
The primary focus for digital technologies in Merchandising & Assortment Planning is to increase revenues. However, business benefits were not limited to revenues. Five other benefits received more than 50% of respondents votes.

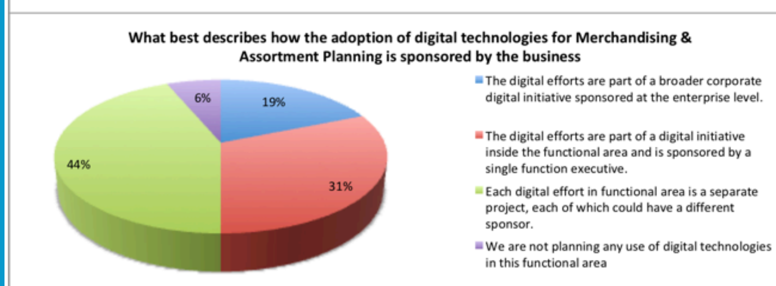
All of the Digital Leaders were active in the Merchandising & Assortment Planning functions. Digital Leaders focus was slanted towards analytics versus Cloud for the Digital Explorers. 100% of responding Digital Leaders referenced the pursuit of some form of Big Data or Advanced Analytics effort in this business area.

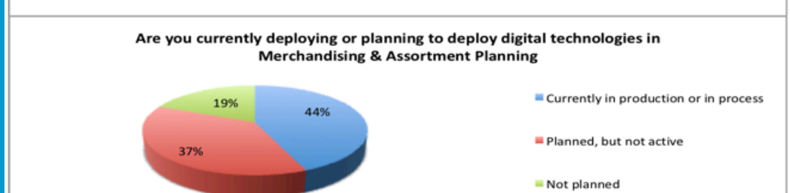
Most Digital Leaders expected some structural changes and significant responsibility changes as part of their deployment in Merchandising & Assortment Planning.

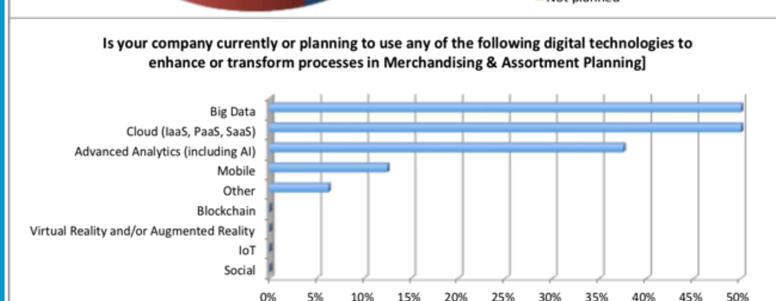


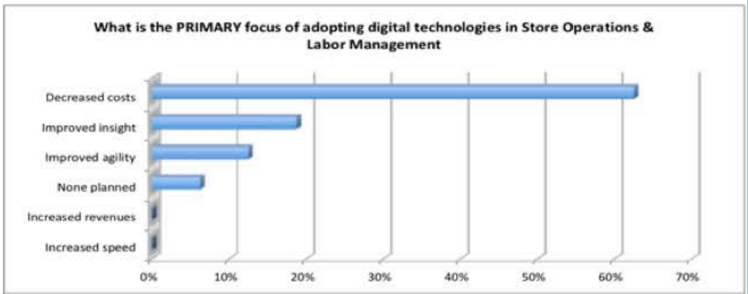


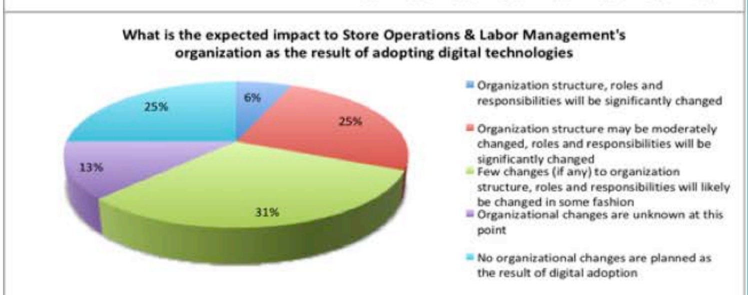


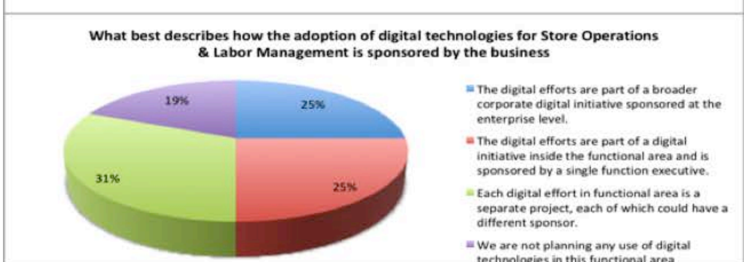












STORE OPERATIONS & LABOR MANAGEMENT

87% of survey respondents are active or preparing for the deployment of digital technologies to enhance the Store Operations and Labor Management functions.

The primary focus for digital technologies in Store Operations and Labor Management is to decrease costs. 100% of Digital Leaders cited decreasing costs, versus 45% of Digital Explorers.

Seven other benefits received mention from over 50% of respondents, indicating a broad area of focus for retailers.

Digital Leaders were very focused on the use of Cloud, Big Data, and Advanced Analytics in this space. Digital Explorers favored Mobile and Cloud efforts, with few mentioning Big Data or Advanced Analytics.

Digital Leaders expect Store Operations & Labor Management roles and responsibilities to change, accompanied by minor to moderate structural change. Digital Explorers varied between no impacts to significant impacts.

E-COMMERCE
& OMNI-CHANNEL

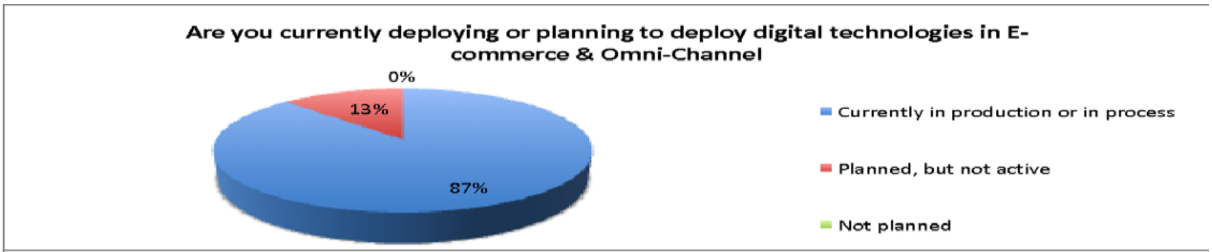
100% of survey respondents are active or plan to be active in the deployment of digital technologies to enhance E-commerce & Omnichannel functions.

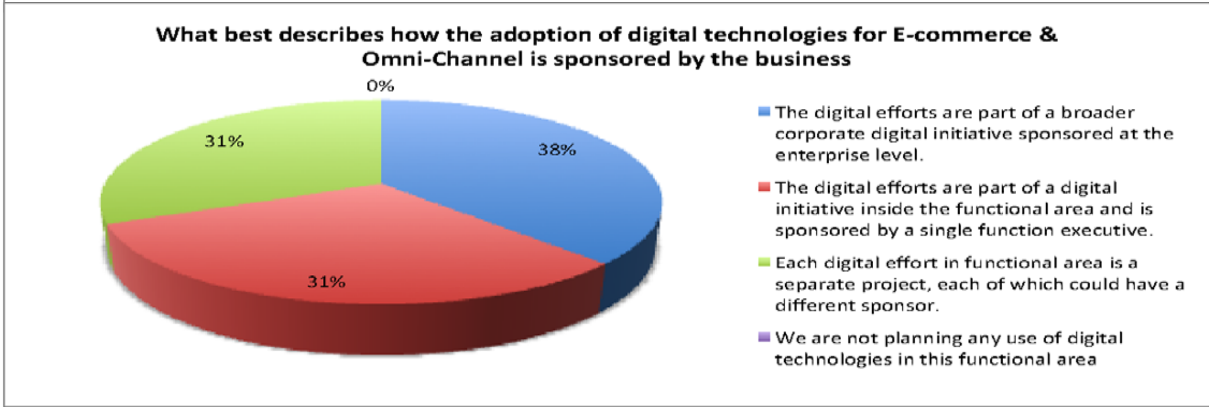
The primary focus for digital technologies in E-commerce & Omnichannel is, as expected, to increase revenues. Six other benefits received mention from 70% of respondents as retailers continue to prioritize efforts in this area.

Like all respondents, Digital Leaders were very focused on the use of Cloud and Mobile in this space. 80% of Digital Leaders reported the use of Big Data and Advanced Analytics compared to 55% of Digital Explorers.

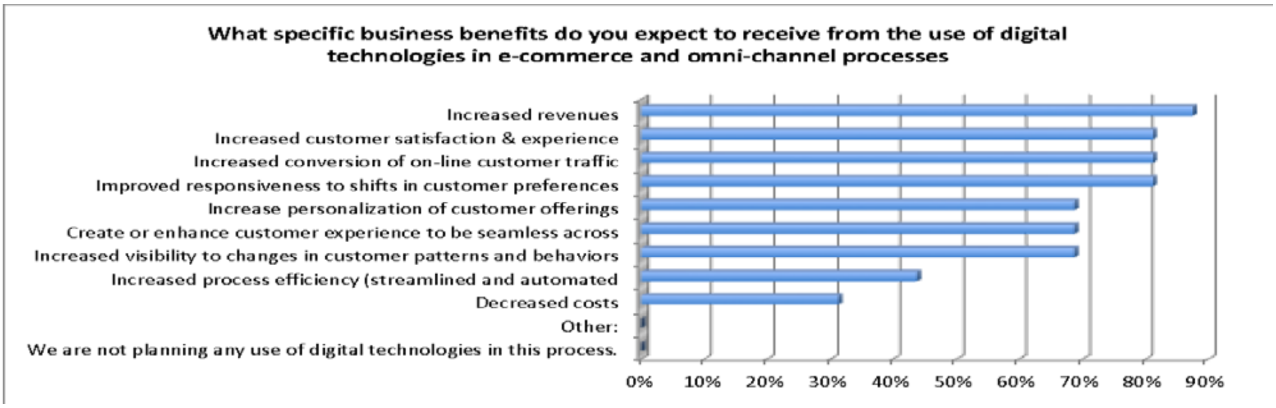
Digital Leaders had a broader focus on benefits in this space. 100% of Digital Leaders cited improved responsiveness to shifts in customer preferences, increased customer satisfaction & experience, and increasing revenues as primary benefits. Digital Explorers cited increasing revenues (82%) and increasing conversion of on-line traffic (82%) as their primary benefits.

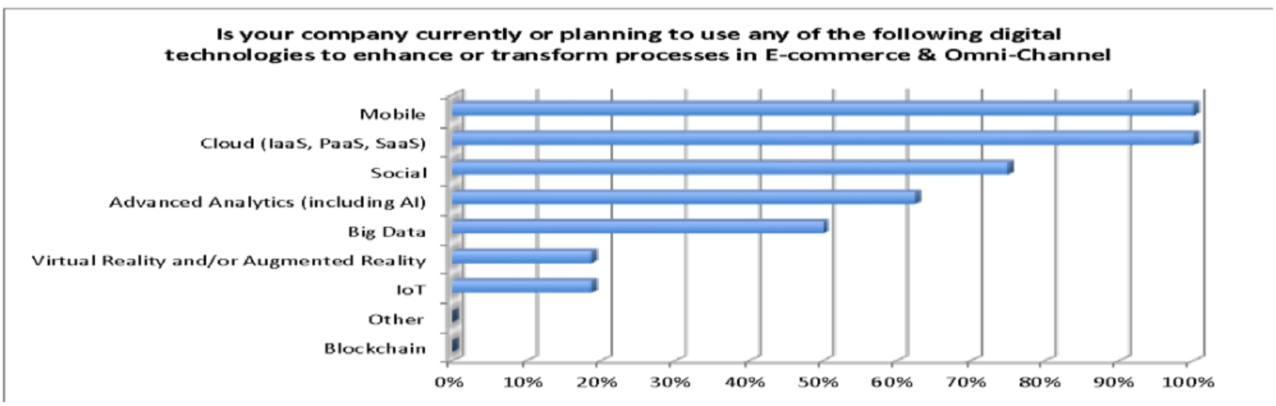
Over 80% of Digital Leaders expect moderate structural changes and significant role and responsibility changes for E-commerce and Omnichannel functions. 46% of Digital Explorers expected minor to no changes, 27% expected moderate to significant change, while 27% were not yet clear on changes that will occur.

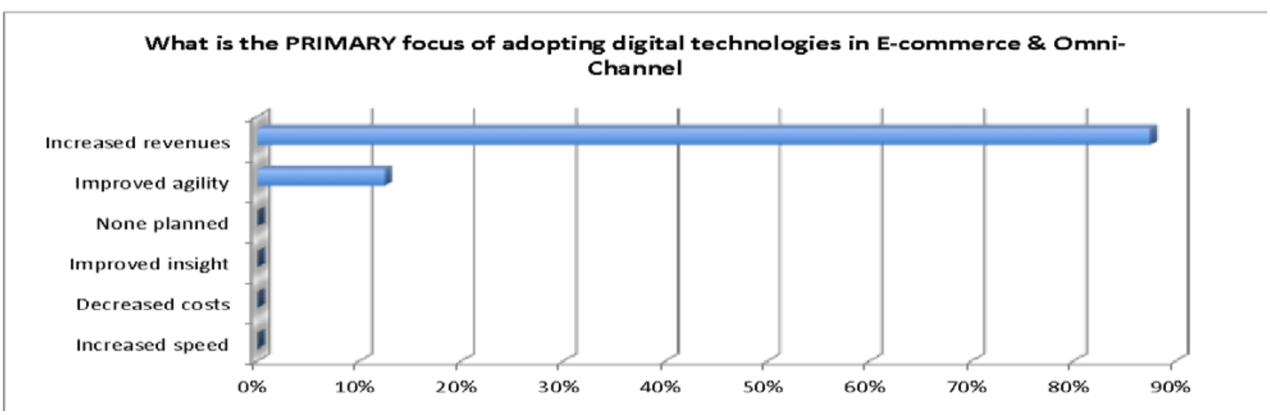


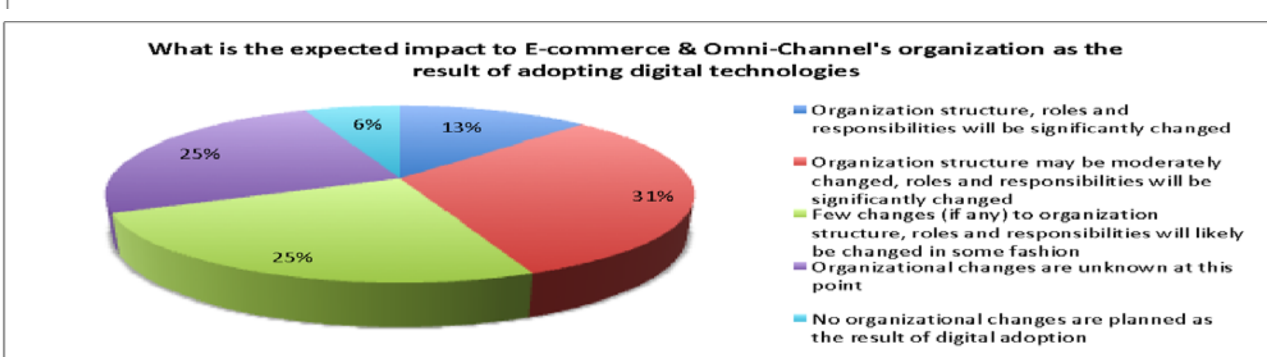


E-COMMERCE &
OMNI-CHANNEL





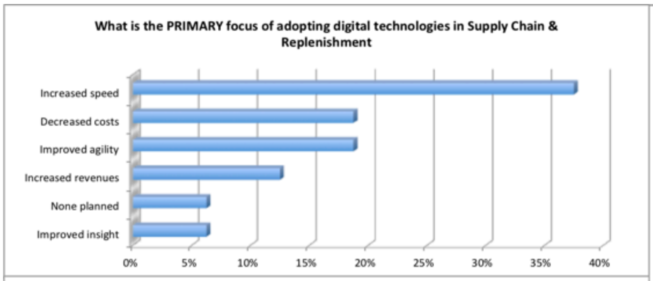


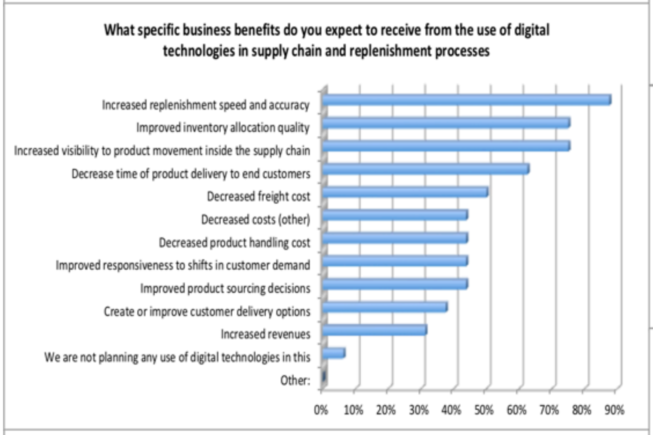


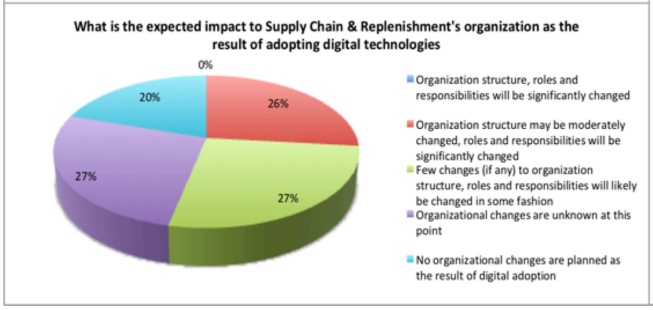
SUPPLY CHAIN
& REPLENISHMENT

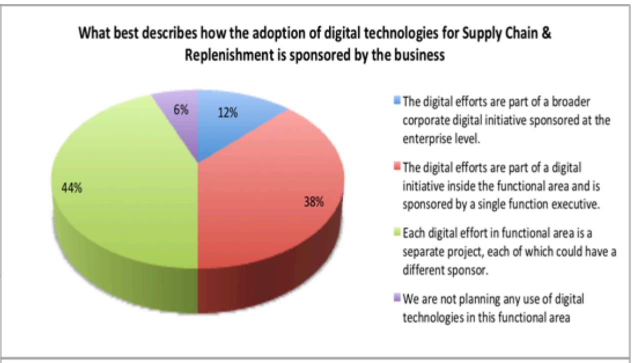
93% of survey respondents are active or plan to be active in the deployment of digital technologies to enhance supply Chain & Replenishment functions. The primary focus for digital technologies in Chain & Replenishment is improved speed. However, there was much less concurrence among survey respondents on this topic. 11 potential benefits were reference by 30% or more of respondents. The variance of supply chain functionality across retail segments is the likely reason for this widespread in anticipated benefits.

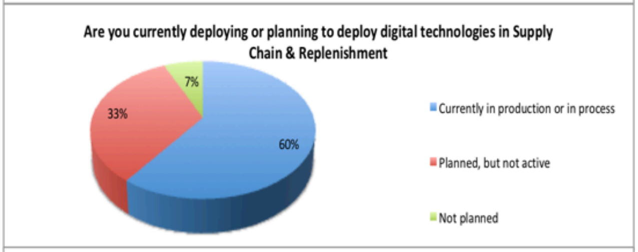
100% of Digital Leaders focus on Big Data and Advanced Analytics for their Supply Chain and Replenishment functions, compared to 55% of Digital Explorers. There was also little consensus on the organizational impact of adopting digital technologies in Supply Chain & Replenishment. Survey respondents split across moderate change, minor change, no change, and changes unknown.

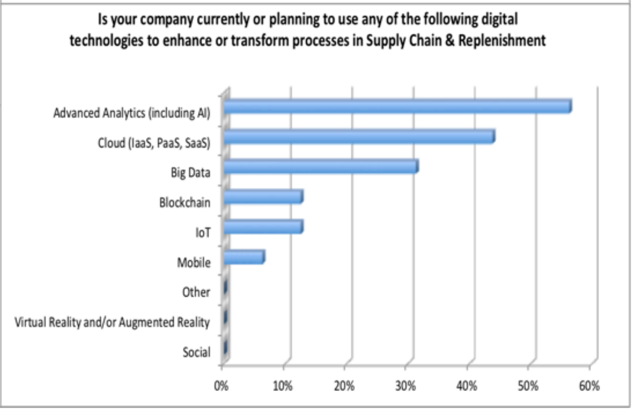












MARKETING & CUSTOMER EXPERIENCE

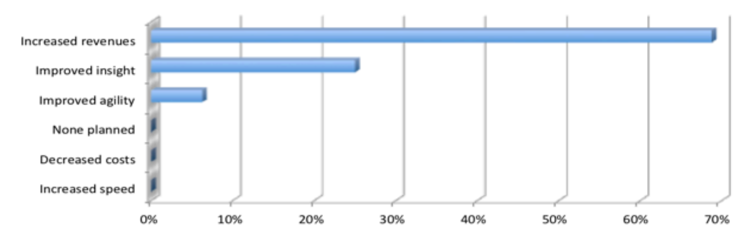
94% of survey respondents are active or plan to be active in the deployment of digital technologies to enhance the Marketing & Customer Experience functions.

The primary focus for digital technologies in Marketing & Customer Experience is increasing revenues.
Ten potential benefits were referenced by 30% or more of respondents, with six of these benefits receiving mention by 75% or more of respondents.

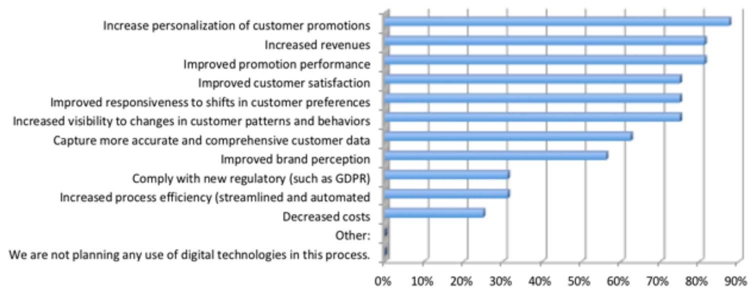
100% of Digital Leaders leverage Big Data, and Advanced Analytics in this space. 82% of Digital Explorers leverage Advanced Analytics but only 36% planned to use Big Data.

There was a wide variety of responses on the potential organizational impact on adopting digital technologies in Marketing & Customer Engagement. 69% expected some form of change. Of those expecting change, 64% expected moderate to significant change.

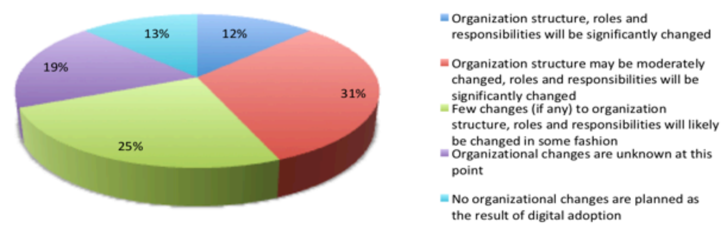
What is the PRIMARY focus of adopting digital technologies in Marketing & Customer Engagement



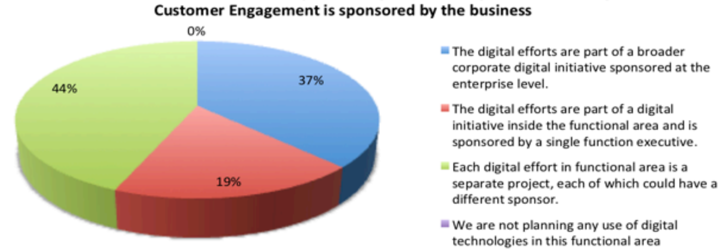
What specific business benefits do you expect to receive from the use of digital technologies in marketing and customer engagement processes



What is the expected impact to Marketing & Customer Engagement's organization as the result of adopting digital technologies

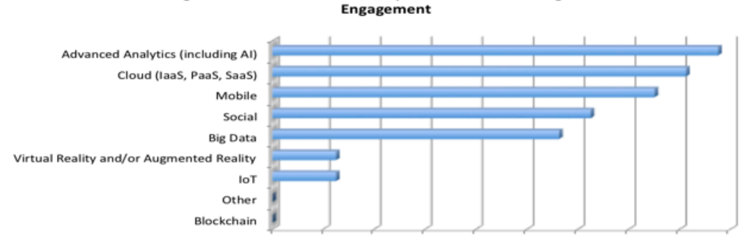


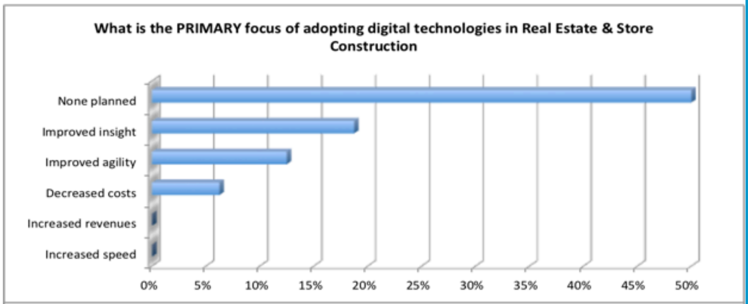
What best describes how the adoption of digital technologies for Marketing & Customer Engagement is sponsored by the business

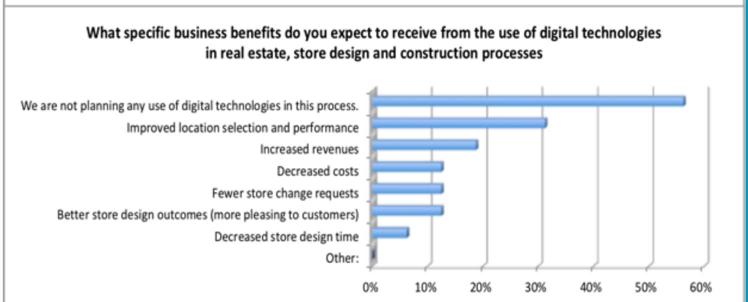


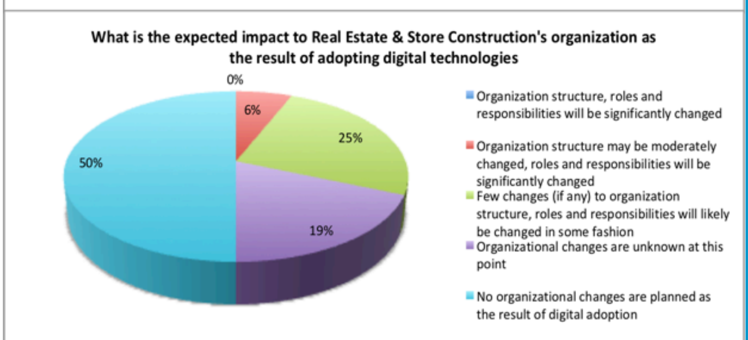
Are you currently deploying or planning to deploy digital technologies in Marketing & Customer Engagement

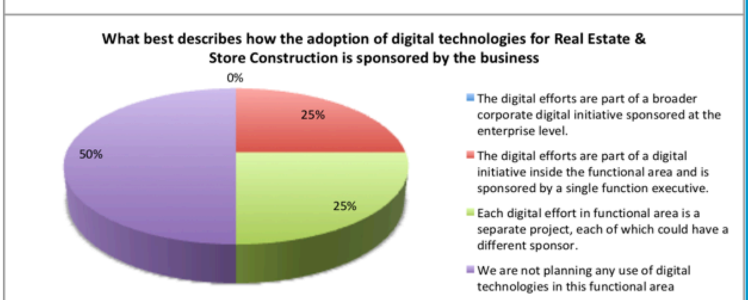
Is your company currently or planning to use any of the following digital technologies to enhance or transform processes in Marketing & Customer Engagement

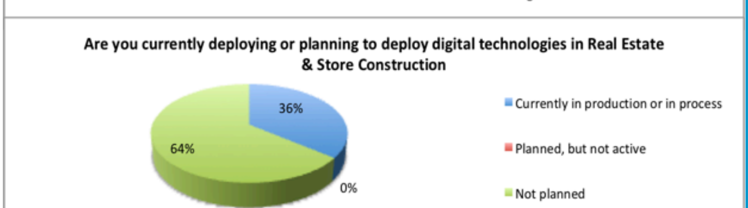


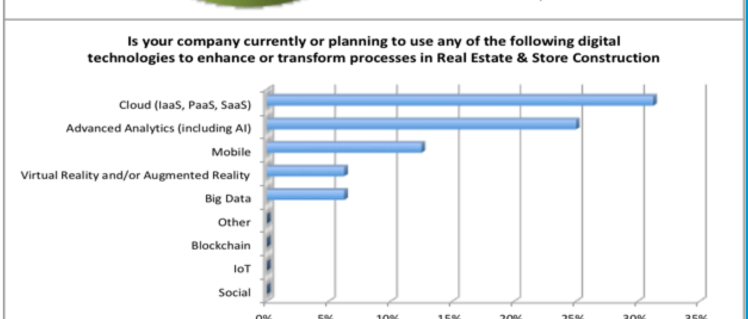












REAL ESTATE & STORE CONSTRUCTION

Only 36% of survey respondents are active or plan to be active in the deployment of digital technologies to enhance the Real Estate & Store Construction functions. Given an increased focus on e-commerce and a general slowdown in retail construction, this isn't necessarily a surprise.

The primary focus for those organizations pursuing digital technologies in Real Estate & Store Construction is to increase insights, followed closely by improved agility. The other key benefit noted by respondents was better location selection & performance.

Cloud and Advanced Analytics were the technologies respondents cited most often to provide new capabilities to Real Estate & Store Construction.

As most respondents were not pursuing initiatives in this business area, there was little expected organizational impact. The majority of those implementing digital technologies in this space indicated there would be only minor changes .

INFORMATION TECHNOLOGY

As the retail business rapidly evolves, more pressure is shifted to the IT organization to deliver at pace and scale to enable new desired digital capabilities. The Retail Digital Adoption survey seeks to understand the tactics retail IT organizations are taking to accelerate delivery and develop agility needed to enable rapidly evolving business models.

We examined IT governance (demand management, talent management, oversight, and sourcing decisions). We also examined tools, techniques, and methods being leveraged to drive successful digital technology deployments.

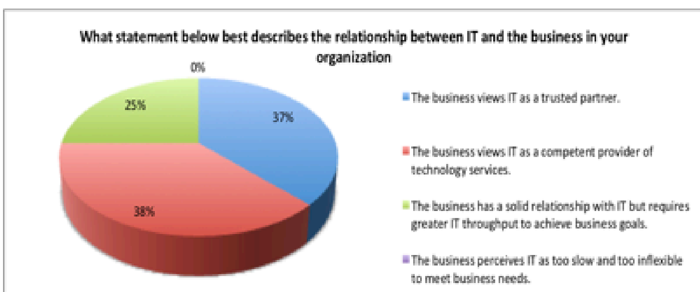
As with other parts of the survey, we dug deeper to understand if there were differences between the Digital Leader organizations and the Digital Explorers.

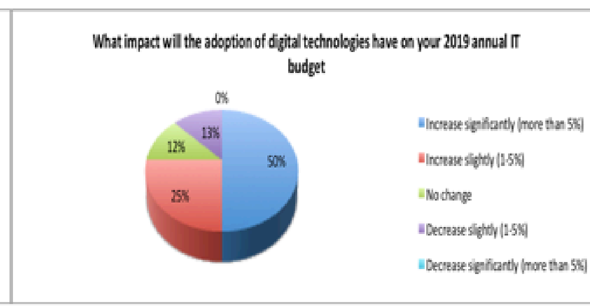
For the most part, there was little differentiation between Digital Leaders and Digital Explorers in how the IT organization governance. However, when it came to IT tools, techniques, and methods, there was a stark contrast between the approach of the Digital Leaders versus that of the Digital Explorers.

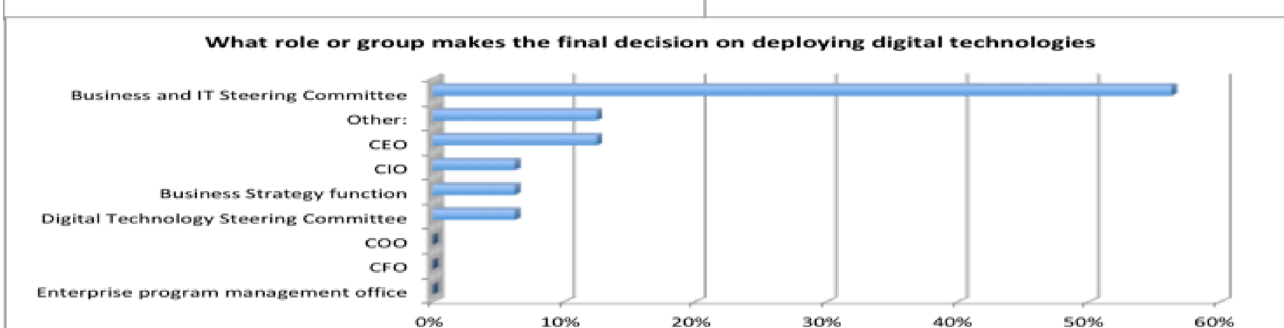
INFORMATION TECHNOLOGY
TECHNIQUES, TOOLS, & PRACTICES

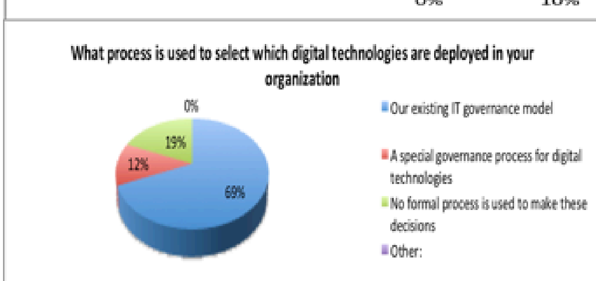
Regarding Governance & Talent, the two most significant points of differentiation between Digital Leaders and Digital Explorers centered on how the business viewed its relationship with IT and the capturing of resource demands. 60% of Digital Leaders stated their IT organization is regarded as a trusted provider versus 27% for Digital Explorers. Conversely, 40% of Digital Leaders noted their business was requiring greater throughput from IT versus 18% for Digital Explorers. 60% of Digital Leaders required the capture and analysis of resource demands for ALL efforts versus only 18% for Digital Explorers.

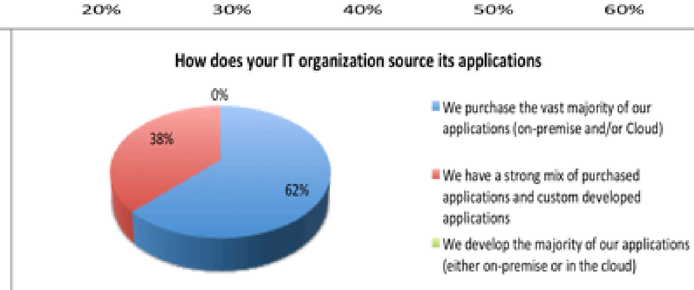
As a collective, retail organizations are seeing some increase (75%) in their budgets due to digital technologies. 76% of respondents source talent from multiple countries, digital deployment decisions are driven primarily by some form of a steering committee, and application still primarily provided by third parties (on-premise and cloud).







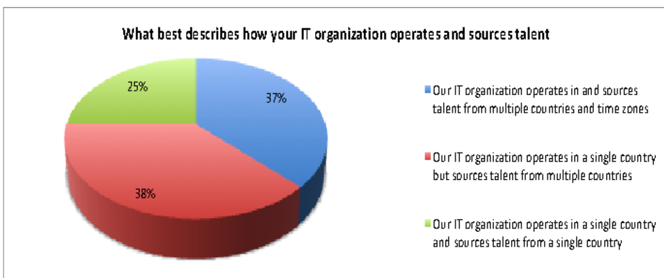


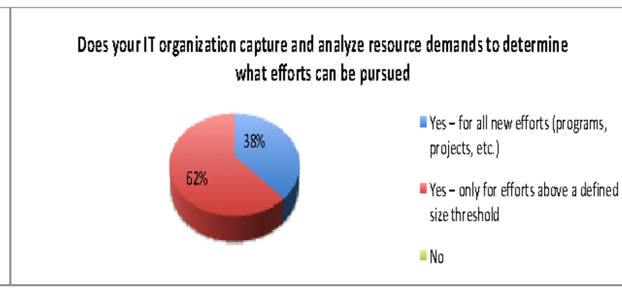


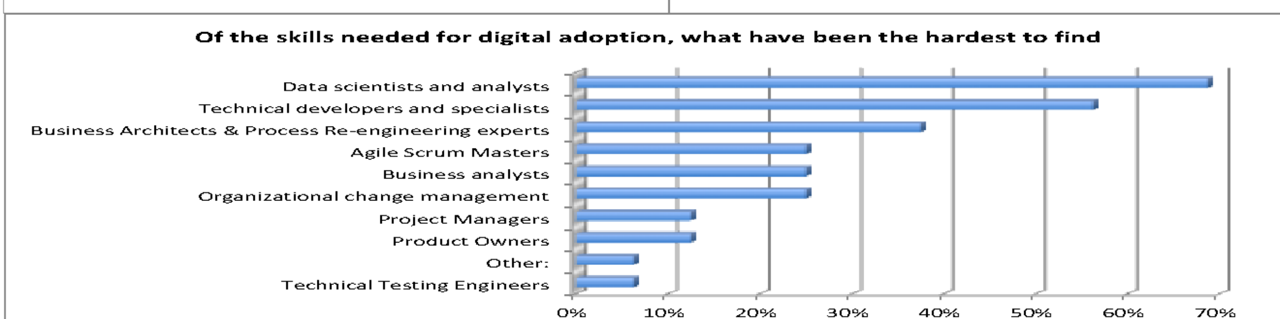
INFORMATION TECHNOLOGY TECHNIQUES, TOOLS, & PRACTICES

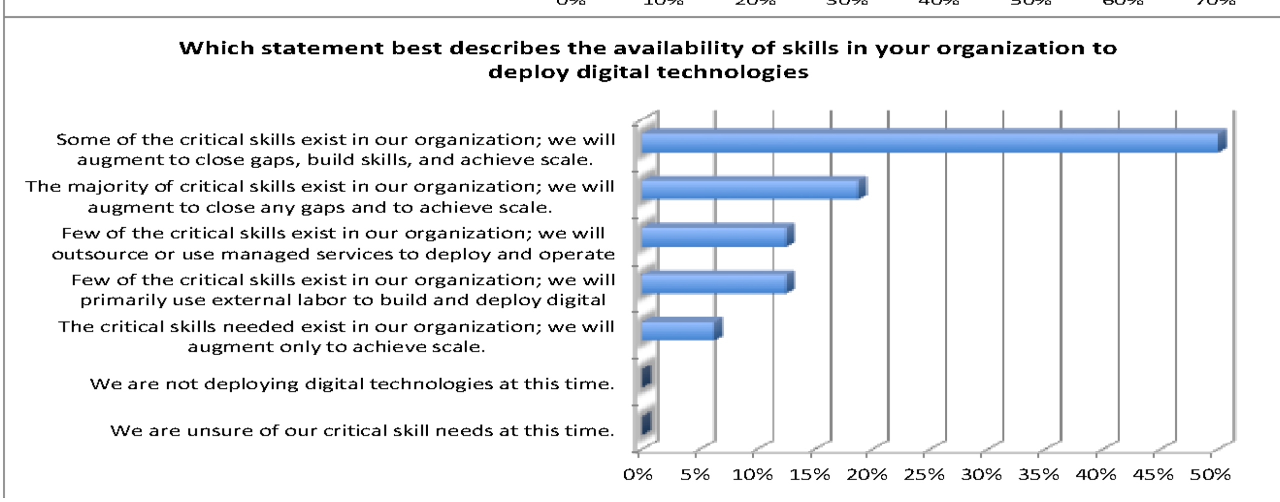
The search for talent is intensifying across retail as only 25% of respondents felt they had the majority of the skills they needed already on board. To combat this problem, 75% of respondents noted they currently source talent from multiple countries.

The Digital Leaders and Digital Explorers agreed on the top three most difficult to find skills: Data scientists & analysts, technical developers & specialists, and business architects & process re-engineering experts. 40% of Digital Leaders cited Product Owner as a difficult skill to fill, while none of Digital Explorers referenced this skill.









INFORMATION TECHNOLOGY
TECHNIQUES, TOOLS, & PRACTICES

As retailers work to adopt and deploy digital technologies, their respective IT organizations must determine if existing tools, techniques, and practices will be sufficient to support a much more dynamic ecosystem of technology and business process.

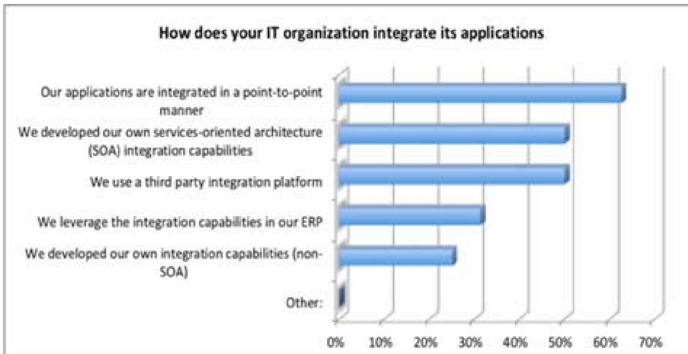
In analyzing the data, it became apparent that the IT organizations in the Digital Leaders were moving more quickly to enhance their capabilities versus the IT organizations in the Digital Explorers.

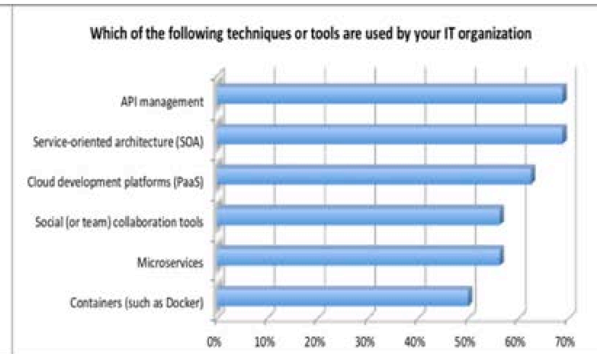
Digital Leaders were much more active in the adoption of service-oriented architectures and third-party integration platforms to insulate digital platforms from change, to increase extensibility, and to gain deployment speed. Also, tools such as API Management, cloud development platforms, and containers (such as Docker) were much more commonly used by Digital Leaders than by the Digital Explorers. 60% of Digital Leaders indicated they had completely changed their techniques, methods, and tools to support digital adoption. This percentage is in stark contrast to only 27% of Digital Explorers.

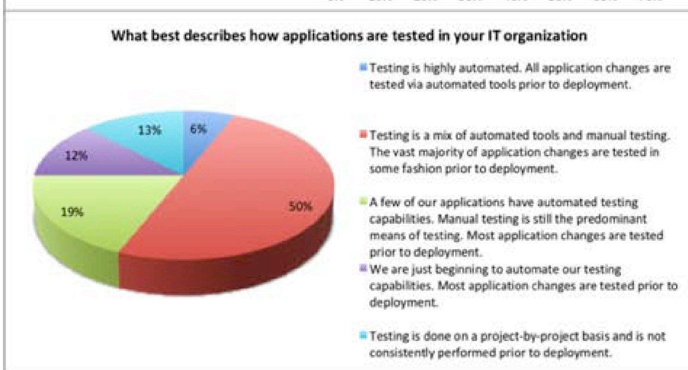
100% of Digital Leaders are using the Agile methodology in some capacity, while only 54% of Digital Explorers are actively using Agile. Related, 80% of Digital Leaders have adopted DevOps principles in at least a portion of their IT organization versus only 27% of Digital Explorers. Agile and Devops, combined, provide the opportunity to more rapidly build, integrate, test, and deploy applications. These results illustrate that Digital Leaders see the need to increase technology throughput to keep pace with rapidly changing business demands.

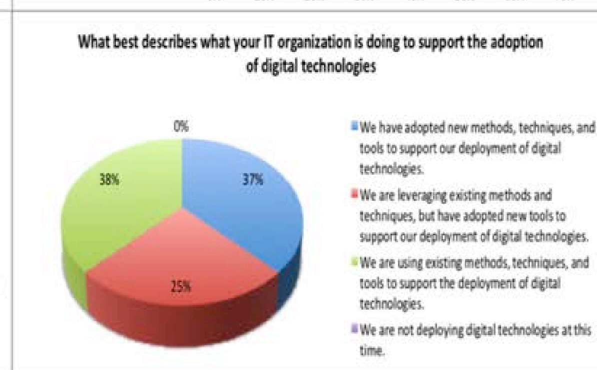
Finally, 100% of Digital Leaders see their existing retail batch cycle being moderately to significantly reduced versus 67% of Digital Explorers. In fact, 60% of Digital Leaders expect their batch cycle to be significantly reduced or eliminated in the next three years. Only 18% of Digital Explorers expect the same impact to their batch cycle.

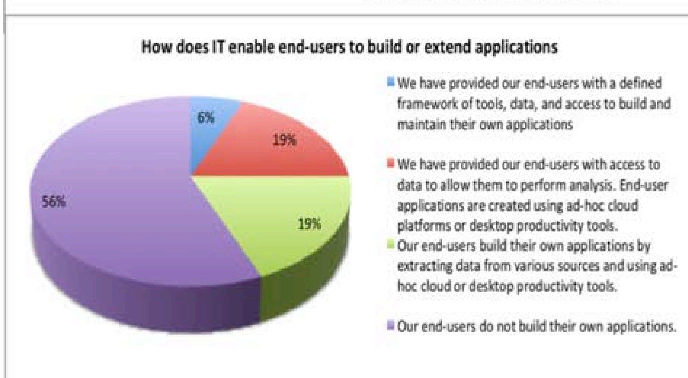
INFORMATION TECHNOLOGY TECHNIQUES, TOOLS, & PRACTICES

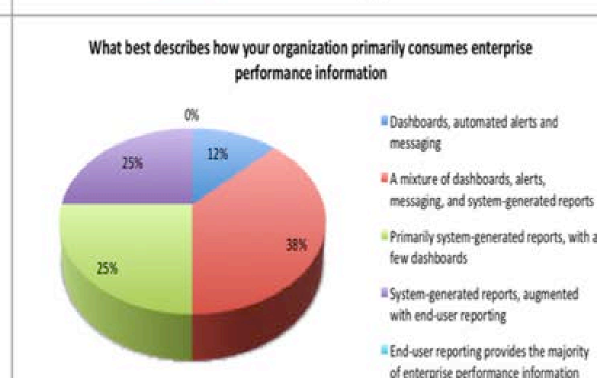


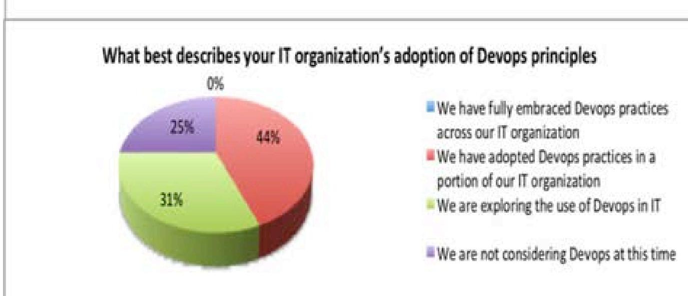


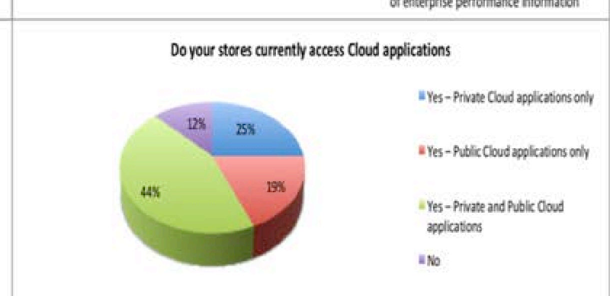












INFORMATION TECHNOLOGY
TECHNIQUES, TOOLS, & PRACTICES