



1H2020

Associate Enablement Perspectives

An introduction to ComCap

- ComCap is a premier boutique investment bank focused on the intersection of commerce and capital, with key focus on B2B SaaS, B2C e-commerce, payments, mobile commerce, marketplaces and B2B services for retail technologies (IT and marketing services, in-store, fulfillment, logistics, call center, analytics, personalization, location intelligence)
- Headquartered in San Francisco with European coverage from London & Moscow, and LATAM coverage from Sao Paulo. Our firm works with mid-cap public companies on buy-side initiatives and public and private growth companies on financing and strategic M&A
- In addition to being the only boutique focused on disruptive commerce models, we differentiate by:
 - Bringing bulge bracket techniques to emerging models;
 - A strong and uncommon buy-side/strategy practice;
 - Deep understanding of industry drivers and synergy analyses;
 - Deep relationships across the sector; and
 - Worldwide coverage with closed transactions in the United States, Japan, China, the ASEAN region, Western and Eastern Europe and Latin America
- Your global ComCap team:



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ComCap's perspectives on In-store Technology is shared with hundreds of financial and strategic investors

- ComCap's perspectives on various industries, including trends in In-store Technology, is being shared with our large network of strategic and financial investors globally
- This facilitates a better understanding of sweet spots for these investors; and ultimately helps to better position a mandated client with selected players
- Unique disruptors are gaining additional global coverage via ComCap's reach

In-store Associates: High Cost but Higher Value

Labor and associated costs are significant pain points for retailers

Total opex and estimated labor costs for TGT and WMT

(\$ in Billions)

\$104.2

In-store associates being the lynchpin of customer experience despite high costs

Federal minimum non-farm wage (USD/hr): 2008-2019

Workers in up to 22 states will receive higher minimum wages in 2019 with some states (like CA, OR and NY) raising rates up to \$12/hr

National Employment Law Project (through AFL-CIO)

In-store features that enrich customer experience and improves store performance

Feature	Description	Example company
Robotics	Associates are being supported by robots to both drive cost savings and enable the associates to focus on higher value add activities	Walmart
Operations and workforce management	Associates are being empowered with a software that helps them in in-store tasks as well as provide a collaborative environment between all employees	YODIC
Omni-channel as a Service platform		
Personalization platform		
Mobile-first unified commerce platform		
Cloud-managed wi-fi networks		
Associate enterprise application		
Clienteling solution		
In-store consumer mobility		

Enhancing in-store experiences can drive material value in productivity and customer engagement...

\$41B US companies that offer poor customer service are losing an estimated amount of \$41 billion yearly ¹	71% Shoppers use their mobile devices in-store, with that number increasing to 83% for 18-44 year old shoppers ²	\$3,328 It costs, on average, \$3,328 to find, hire and train a replacement for a \$10/hour retail employee ³	4.8B Globally, the number of users is expected to reach 4.8 billion, as it is the most effective channel for delivering real-time information to employees ⁴
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72%
72% of associates are more likely to stay with a retailer if given the right tools and technology⁴

25%
Worker productivity improves by 20-25% in organizations with connected employees⁵

"To stand out and sell by delivering a superior customer experience, retailers must now embrace technologies to empower their store associates and help them evolve. In-store innovations make the shopping experience more alluring and lucrative by helping store associates deliver frictionless, customer-centric service that inspires consumers to keep coming back."
- Retail Customer Experience, June 2018

Retail organizations are increasingly turning to innovative technology startups to help them solve complex problems posed by the modern retail environment

...Which has opened the door for innovation on two fronts

Technology-Enabled Staffing Platforms

Key Facts

- Online talent platforms have the potential to contribute \$2.7 billion to global GDP annually by 2025
- 90% of job-seekers have researched job information online and 79% of individuals ages 18-29 have applied for jobs online
- The gig economy is currently estimated to be 34% of the workforce and will only continue to grow

Traditional job overwhelming while largely ignored

In-store Productivity Enhancement

Key Facts

- The cost of seasonal and temporary labor has dramatically risen and continues to do so
- Traditional retailers are experiencing increased layoffs, store closings and "shadow closings" growing at unprecedented rates
- The "Amazon Effect" is real and likely here to stay as legacy players with outdated technologies and structures

Legacy retailers are combining technology and talent to produce a personalized cost-effective in-store experience

In-store technologies can help store associates solve common customer pain points faster, freeing up time to deliver a superior shopping experience by...

- Granting access to unavailable products, including items temporarily out-of-stock
- Complementing click and collect programs, allowing associates to help shoppers buy online
- Producing real-time updates on product inventory
- Selling items from any in-store location, rather than at checkout kiosks
- Avoiding the hassle of out-of-stocks by providing more ways to sell products

For comp

Omni-channel Opportunity: Personalization technology drives the consistency between online shopping and in-store experience

Retailers can combine online buying behavior with in-store shopping behavior data to serve customers with relevant information or offers right at the point of sale. Personalization helps cross-sell, up-sell and enhance customer experiences.

Personalization in retail

- Direct input from the customer is key to create compelling and relevant personalized retail experiences
- Retailers can use information from online buying behavior to serve customers at the point of sale based on the relevant input they require
- This closes the gap between online and offline shopping experiences that previously created headaches for retail brands
- Retailers are also increasingly delivering customized hyper-relevant online experiences through email and website personalization
- Quality customer experience is manifested by the three following key pillars:
 - Who you are - your people
 - What you do - your products and services
 - How you do it - your business processes, methodologies and service levels
- The goal of marketing leaders is to attract customers, build relationships and establish a greater sense of loyalty

Customer feedback and sentiment

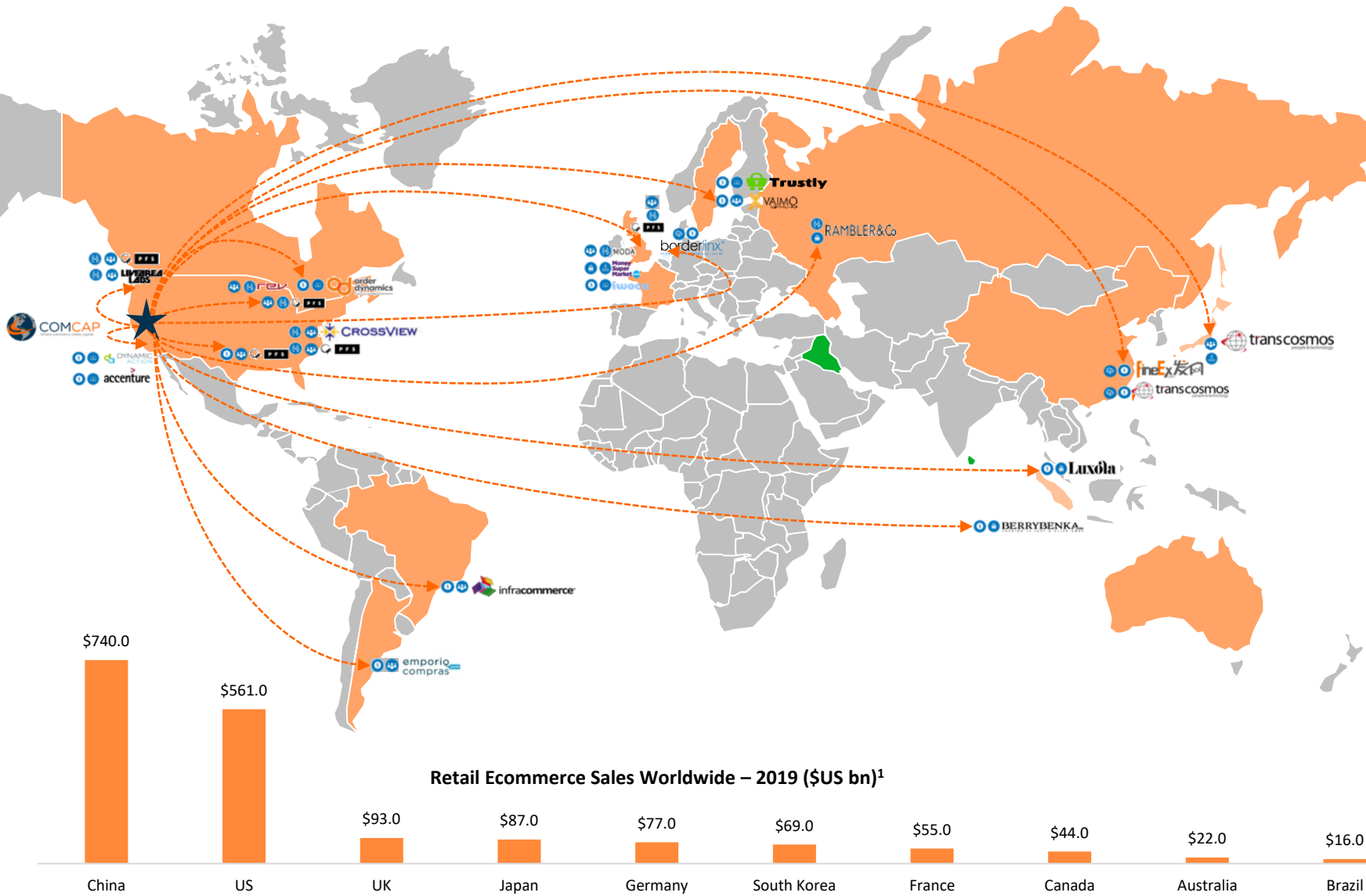
What you do

Who you are

How you do it

Positive or negative affinity over time

ComCap – Active in 14 countries, including 9 of the top 10 global ecommerce markets



¹Source: Shopify Plus Ecommerce Playbook

ComCap's current thematic focus areas


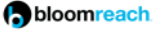






















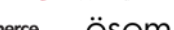






Theme	Description	Select companies
Analytics	Disruptors in the analytics space focused on e-commerce, logistics, retail, predictive, payment, risk and marketing	  
AR/VR and content creation	Emerging technologies with retail applications that allow retailers to offer a differentiated customer experience and build brand awareness and loyalty	  
Beauty, health and wellness	Universe of beauty companies: manufacturers, retailers, disruptors and new entrants	   
Digitally native vertical brands (DNVBs)	D2C digitally native brands covering clothing, accessories, personal care, home and kitchen, furniture, and other consumer-focused products	   
Ecommerce SaaS	Emerging and disruptive SaaS businesses in the e-commerce sector	  
Fintech	Retail and commerce-related disruptors in the FinTech universe that focuses on payments, risk analytics, false declines and retail POS	  
Geospatial analytics	We are constantly evaluating new themes and evolving our focus. Other categories currently include logistics, shipping, IoT and SMB	    
Marketing suites	Emerging platforms in the digital marketing space	  
Mobile	Focused on mobile solution providers that optimize the mobile experience from desktop-to-mobile website conversions and targeted mobile marketing to simplifying the mobile checkout experience	  
Outsourcing and service providers	Companies that provide outsourcing and end-to-end e-commerce services, such as contact centers, platform, marketing, photo services, logistics, warehousing, etc.	   
Personalization	Emerging players in the ecommerce personalization space	   
Robotics	Robotics is getting integrated into various aspects of supply chain and retail	 
System Integrators	Focus on large SIs covering multiple platform as well as smaller SIs covering just one or a handful of platforms	 

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6. In-store productivity – Key players
7. In-store productivity – M&A and private placement transactions

ComCap's perspectives on COVID-19 situation

ComCap's perspectives on effects from COVID-19 and the current impact to retail associates

- As the impact of activities surrounding COVID-19 are felt in the US and all over the world, we at ComCap are continuing to work with our clients to assist during this time to take on some of the business concern burden and chart a course through the outbreak
- Retail store closures continue at a rapid rate as the COVID-19 makes its way around the globe
- In most cases, employees are being compensated for the lost shifts, pointing to how the global pandemic has led to seismic shifts in paid sick-leave policies for retail workers on the front lines
- Though companies like Walmart have taken steps to reduce hours, several major retailers are electing to fully cease physical store operations as confirmed coronavirus cases in the US continue to rise
- More than 90 major US retailers are temporarily closing stores in an unprecedented move to prevent the spread of the coronavirus
- Most of these companies — which range from mall brands like Urban Outfitters to major athletic retailers like Nike — have confirmed they will pay employees for lost shifts during this period
- Since the outbreak of the coronavirus in the US, companies like Whole Foods, Starbucks, and Trader Joe's have all implemented new protections for workers for the first time
- Kohl's CEO Michelle Gass announced recently that the company would close all of its US stores through April 1 and "support store associates with two calendar weeks of pay"

Sales associate enablement overview

Store Associate Enablement – An emerging sector in retail tech
































- **In-Store Associate Enablement is en vogue:** The modern retail environment needs tools and technology to engage customers, increase customer loyalty, drive sales up and improve store associate performance. Every aspect of the consumer's daily journey in-store is being complemented with digital tools, and with the advent of advanced in-store solutions and associated software, the consumer is facing increased satisfactory experiences and workers are being empowered and enhancing their productivity
- **Capital Market Dynamics** for In-Store Associate Enablement assets couldn't be more favorable – many strategic parties are waking up to the fact that to improve in-store performance, increase customer engagement and expand worker productivity, they will need in-store associate enablement tools
 - Yet – many of these parties have not done anything to address this issue – and are actively **looking to acquire differentiated assets for premium multiples**
- **ComCap is at the forefront of the In-Store Associate Enablement segment:** we are in constant dialogue with strategic parties looking to bolster their in-store capabilities via acquisition
- **And we stand ready to help:** whether you're looking to bolster your in-store capabilities, raise capital, or evaluate strategic alternatives – we are the only boutique investment banking advisor that intimately understands the in-store associate enablement sector – and how it fits into the broader digital retail ecosystem

ComCap is uniquely situated to assist you as you evaluate your capital/strategic needs, and we look forward to connecting with you!

ComCap's Retail In-store Technology Map

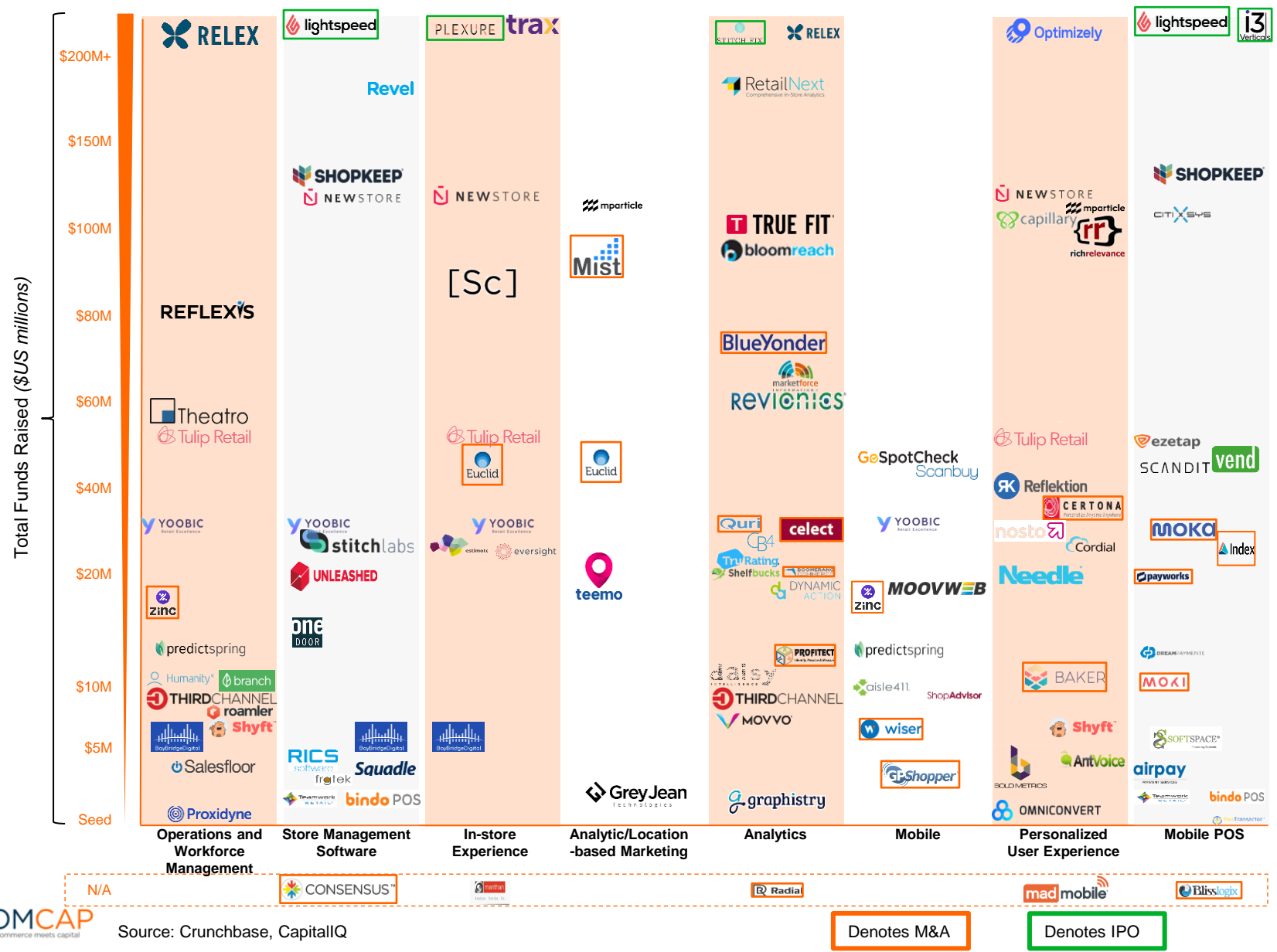


ComCap's Retail In-store Technology Map descriptions

Feature	Description	Example company
POS	Point-of-sale software, hardware, and payments processing	 
Customer Engagement & Clienteling	Tools used to promote customer satisfaction through the personalization of the shopping experience	  
Predictive Analytics & Merchandising	Prescriptive retail analytics solutions built to enable eCommerce, store & omnichannel teams	   
Compliance	Tools used to monitor location's conversion ratio, track and analyze visiting trends, and compare shop performance	   
Wi-Fi / IoT solutions	Digital store communication systems that enhance both store performance and shopping experience	  
Visual Merchandising	Floor plans and three-dimensional displays that maximize sales and increase customer engagement	  
Workforce Management	Integrated set of digital tools and processes that align the right people with the right role	   
Workforce Communications	Solutions for planning and deploying HR programs and improving the communication flow	 
Inventory Management	Management of omnichannel inventory across all sales channels and supply locations	  
Operations Management	Operations management tools that centralize multi-channel operations into one centralized platform	  

2 In-store Productivity Enhancement

The In-Store Experience Landscape



Enhancing in-store experiences can drive material value in productivity and customer engagement...

\$41B

- US companies that offer poor customer service **are losing an estimated amount of \$41 billion** yearly¹

71%

- Shoppers use their mobile devices in-store, with that number increasing to **83% for 18–44 year old shoppers**⁵

\$3,328

- It costs, on average, **\$3,328 to find, hire and train a replacement for a \$10/hour retail employee**³

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- Worker productivity improves by **20-25%** in organizations with connected employees²

*“To stand out and sell by delivering a superior customer experience, **retailers must now embrace technologies to empower their store associates and help them evolve.** In-store innovations make the shopping experience more alluring and lucrative by helping store associates **deliver frictionless, customer-centric service that inspires consumers to keep coming back.**”*

- Retail Customer Experience, June 2018

Retail organizations are increasingly turning to innovative technology startups to help them solve complex problems posed by the modern retail environment

¹ [Newvoicemedia](#)

² [The McKinsey Global Institute](#)

³ [CAP Study](#)

⁴ [Salesfloor.com](#)

⁵ [Retaildrive](#)

⁶ [Nudge Rewards](#)

...Which has opened the door for innovation on two fronts

1

Technology-Enabled Staffing Platforms

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- 90%** of job-seekers have researched job information **online** and **79%** of individuals ages 18-29 have **applied for jobs online**
- The gig economy is currently estimated to be **34% of the workforce** and will only continue to grow

The Problem for Retailers

- Traditional job sites** like LinkedIn and Indeed **overwhelmingly cater to full-time, white collar jobs**, while largely ignoring seasonal or blue-collar professions.

Technology-enabled operations have entered the market to fill the void left by larger, less focused players.

2

In-store Productivity Enhancement

Key Facts

- The cost of seasonal and temporary **labor has dramatically risen** and continues to do so
- Traditional retailers are experiencing increased **layoffs, store closings** and **“shadow closings”** growing at unprecedented rates
- The **“Amazon Effect” is real and likely here to stay** as legacy players with outdated technologies and strategies find themselves falling further behind

The Problem for Retailers

- Legacy retailers have been notoriously slow to adapt to changes in technology**, and now find themselves at a distinct disadvantage as in-store purchases continue to lose total retail market share.

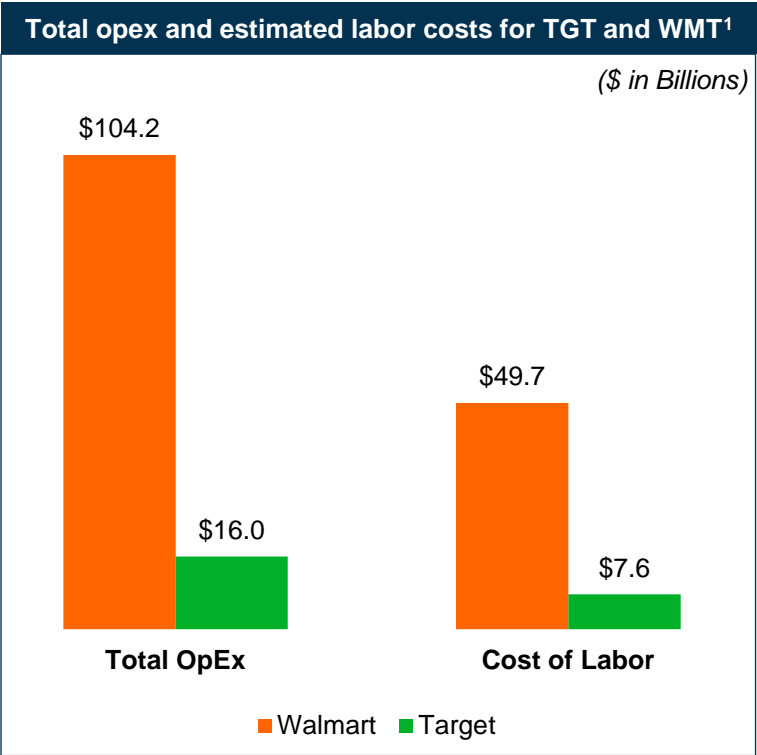
Operations that can help retailers “save money and live better” are enjoying increased investment.

For companies with retail-centric technology offerings, there has never been a better time to evaluate strategic alternatives

1 Technology-Enabled Staffing Platforms

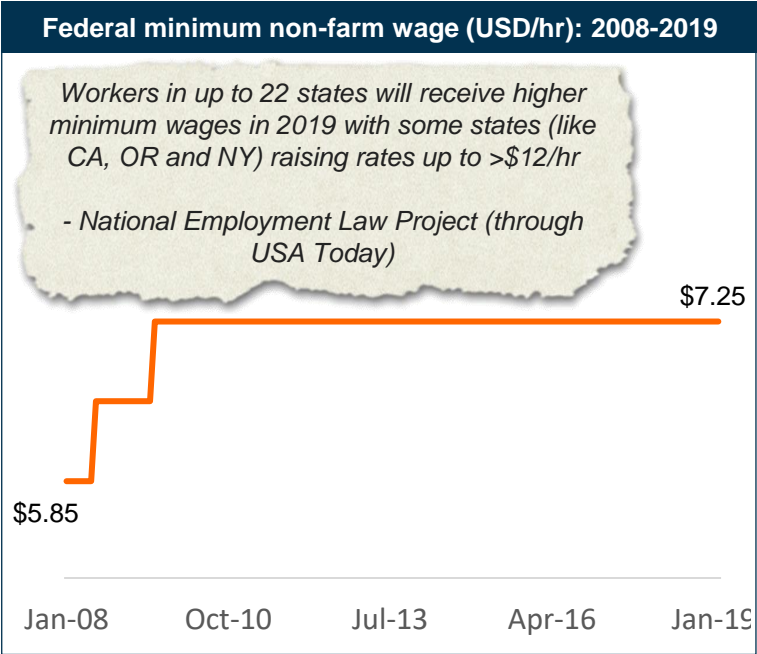
In-store Associates: High Cost but Higher Value

Labor and associated costs are significant pain points for retailers



Assuming 2/3rds of TGT and WMT's employees turn over annually, each organization is spending an incremental \$815M and \$5.3B in associated turnover costs, respectively².

In-store associates being the lynchpin of customer experience despite high costs



"The role of associates in physical retail stores remains in the spotlight as retailers look to differentiate themselves through superior in-store customer experiences...**Retailers that leverage intelligent technology** for repetitive tasks will be leaner and more efficient, and they **will likely gain competitive advantage.**"

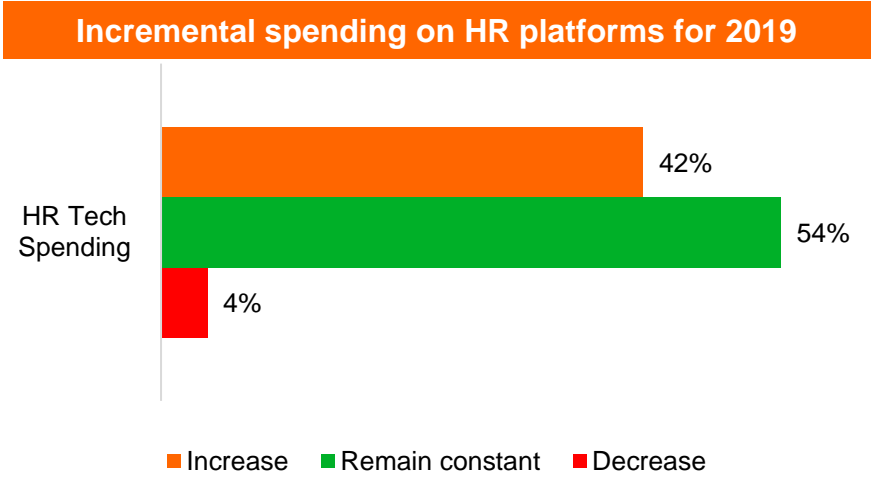
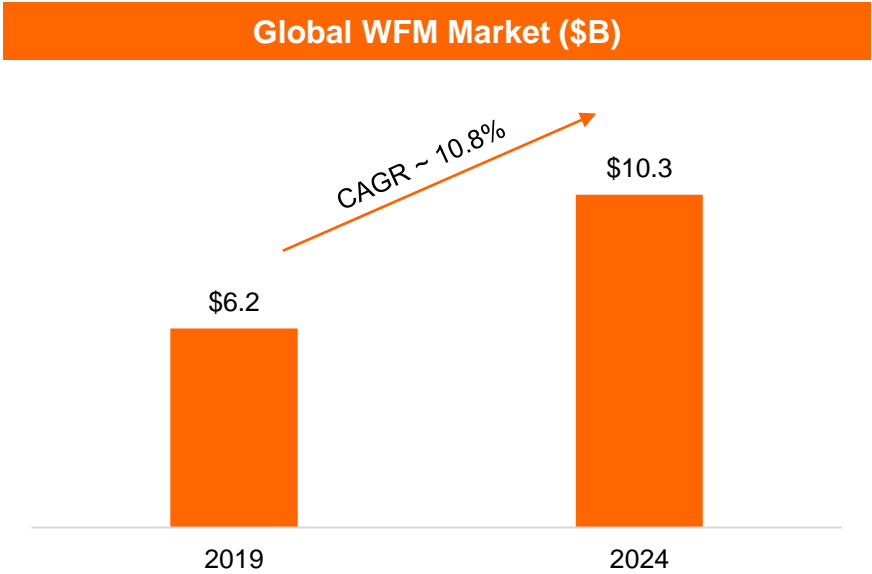
- Gartner, "What is the future of the retail store associate?"

¹ The Bureau of labor statistics estimates labor costs make up 44.2% of opex for American retailers.
² Labor costs are multiplied by 67% (assumed turnover) and 16% (assumed cost to replace the average worker).

1 Technology-Enabled Staffing Platforms

Global Workforce Management Market Overview

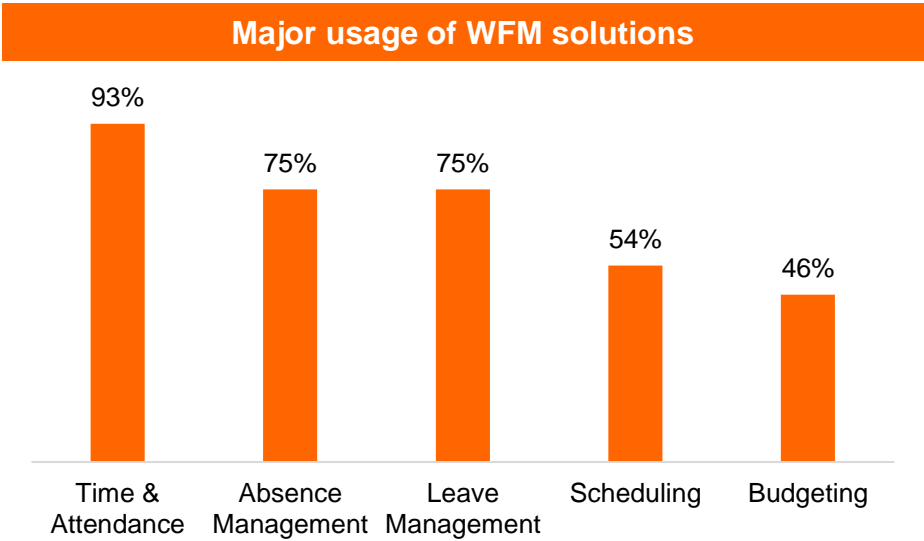
- Automation across internal business processes, along with the need for more granular level analytics, has been the key driver of growth in the adoption of workforce management (WFM) software globally
- Another driver for the market is the increasing adoption of automation among SMEs as they expand their operations
 - Several smaller WFM companies offer them flexible and affordable solutions to manage their workforce effectively
- Adoption of overall HR solutions, including WFM, 'over the cloud' is now the standard as against 'on premise' installation
 - Per a study by Sierra-Cedar, over 70% of companies had at least one deployed HR Cloud application vs. 40% who had at least one on premise deployed HR application
- Geographically, North America remains the largest market for WFM solutions, followed by Europe.
 - However, Asia-Pacific is expected to be the fastest growing marketing going forward, driven by factors like the rise in the number of companies and regulations associated with job creation and higher need for digital distance-learning
- On-going workforce trainings are also a major driver for the growth in adoption of WFM solutions
 - In a report titled 'The Future of Jobs 2018' by the World Economic Forum (WEF), around 54% of the global workforce had to be re-skilled or up-skilled to adaption to new digital technologies



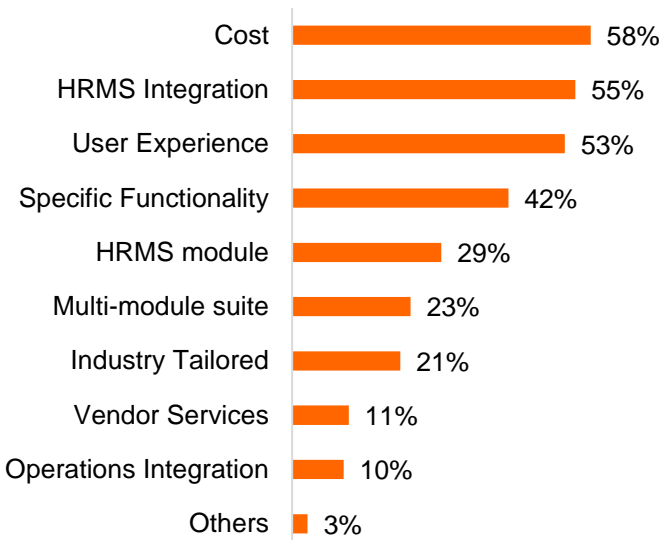
1 Technology-Enabled Staffing Platforms

The WFM buyers are gradually moving toward advanced versions

- Time and Attendance applications are the most widely adopted solutions in the WFM category, with >90% adoption, followed by Absence and Leave Management
- Being more complex in their set-up (and hence more expensive), scheduling WFM solutions are primarily adopted by Hospitality, Manufacturing, and Retail industries who heavy labor scheduling requirements
- Workforce/Labor Budgeting applications are often overlooked despite their important role in workforce planning processes. However, recent advancements in predictive analytics and machine learning are supporting their growth



Factors affecting adoption of a WFM solution



- Cost remains the top most factor affecting the adoption of WFM solutions, followed by human resource management system (HRMS) integration and easy user experience
- However, the importance of cost as a factor is reducing, as organizations look for more advanced features
- Organizations headquartered in the U.S. and Canada are more likely to focus on HRMS integration issues, while organizations headquartered in Europe and Asia were more likely to focus on Cost
- Major differences in selection criteria are seen by industry: Nonprofits are influenced most by Cost, Retail values Industry Tailored and Operations/Sales Integration more than other industries, and Financial Services organizations are focused on User Experience

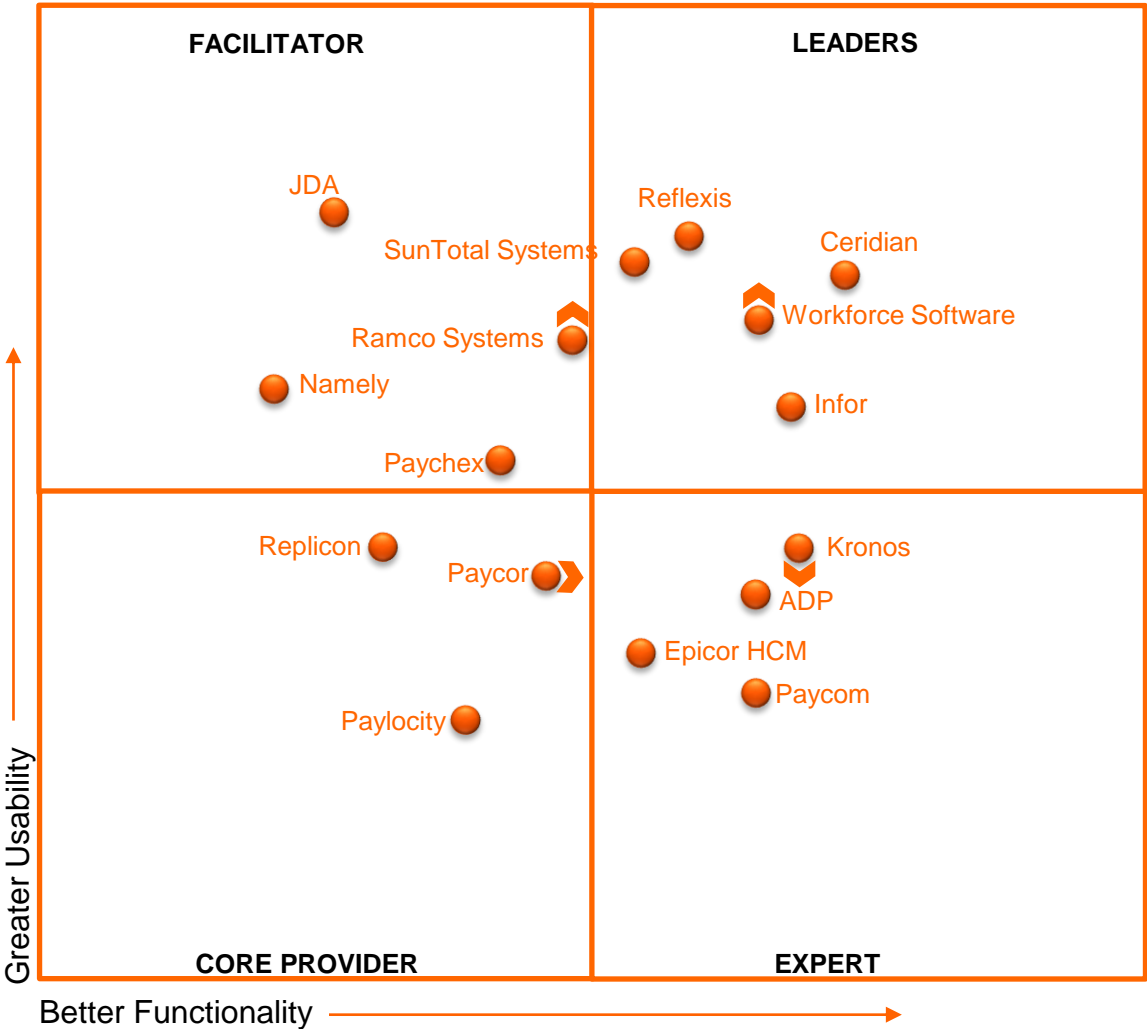
1 Technology-Enabled Staffing Platforms

Nucleus Research: WFM Technology Value Matrix

“WorkForce Software maintains a strong position as a Leader in the 2019 WFM Technology Value Matrix with the ability to meet complex time and scheduling needs...WorkForce Software has delivered a new UI that enables managers and employees to be more productive. Combined with their longstanding ability to simplify compliance, get complex pay calculations right, and respond to dynamic scheduling needs, WorkForce continues to deliver innovative solutions for their customers.”

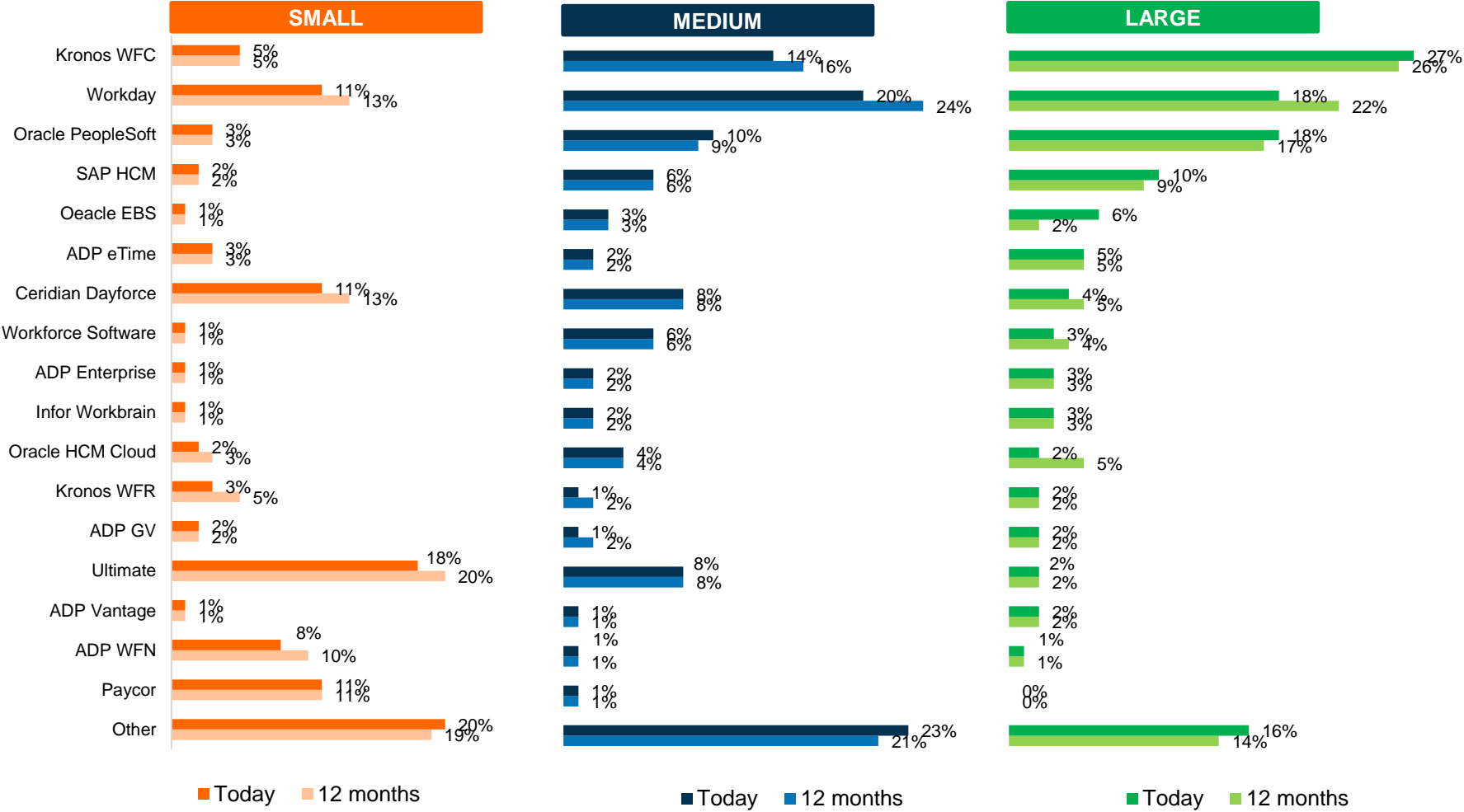
Trevor White, Analyst at Nucleus Research

- The companies seek to manage increasingly tight labor resources, modern workforce management (WFM) solutions can be both a differentiator in attracting and retaining talent and a key to optimizing scheduling to reduce overtime and staffing gaps
- Leaders in both camps are investing in usability, self-service (particularly around scheduling), and embedded analytics to move toward more granular optimization and forward-looking planning
- The market is fairly divided between those WFM vendors that support high complexity and multiple geographies and pay rules, and those that offer less robust capabilities at a much more attractive price point



1 Technology-Enabled Staffing Platforms

Sierra-Cedar: WFM applications adoption trends across small, medium, and large organizations



The market is ripe for change and expect to see rapid shifts in the next few years as vendors take newer SMB solutions up market and organizations expand funding options

1 Technology-Enabled Staffing Platforms

Ventana Research: WFM Value Index Analysis

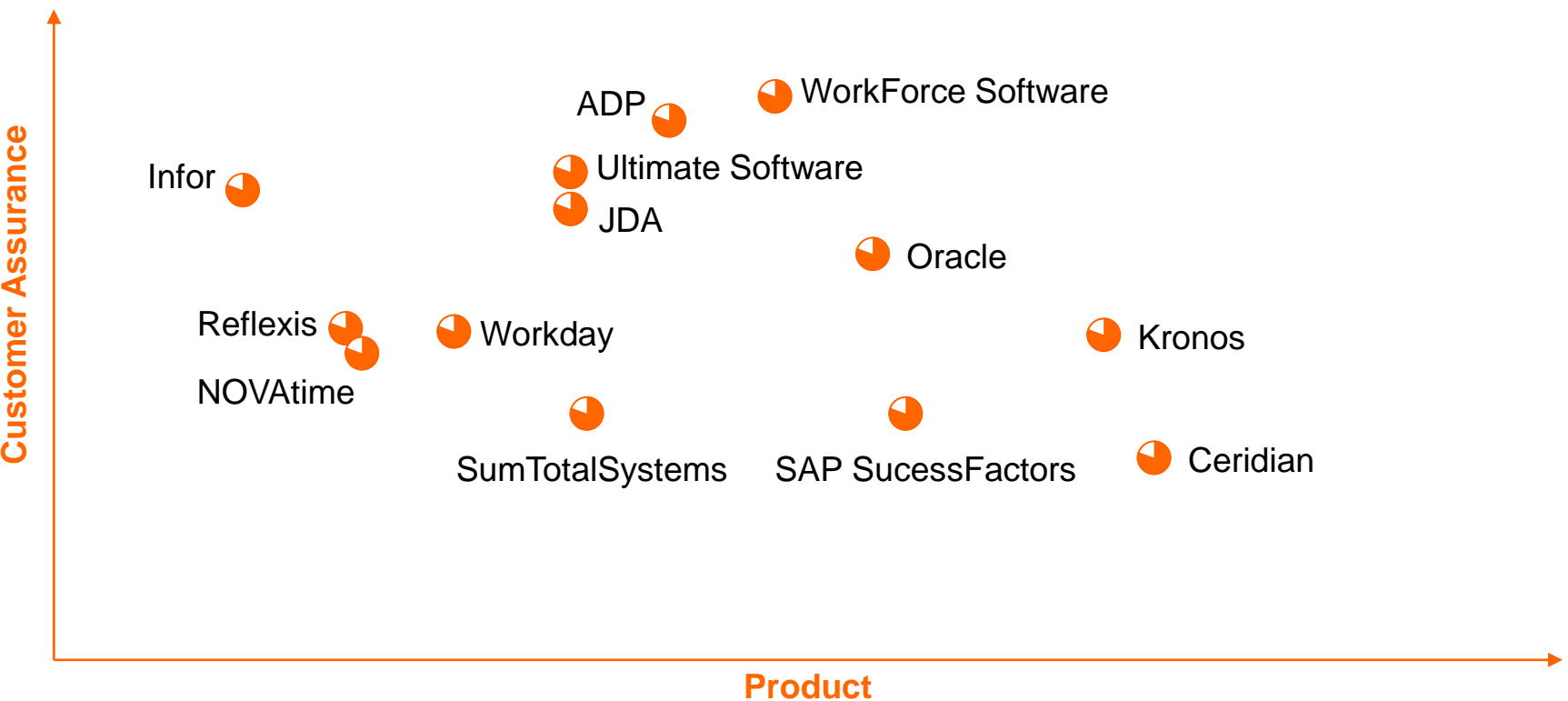
The Value Index for WFM in 2019 finds Kronos first on the list with WorkForce Software in second place and Ceridian in third

Vendors	Overall rating	Usability	Manage-ability	Reliability	Adaptability	Capability	Validation	TCO/ROI
ADP								
Ceridian								
Infor								
JDA								
Kronos								
NOVAtime								
Oracle								
Reflexis								
SAP SucessFactors								
SumTotal Systems								
Ultimate Software								
Workday								
WorkForce Software								

1 Technology-Enabled Staffing Platforms

Ventana Research Value Index: Workforce Management

Workforce management software typically provides process automation capabilities related to forecasting and scheduling work, absence management, time and attendance management and activity and task management



- Per Ventana Research’s WFM Value Index, the companies that topped the Product axis were Ceridian, Kronos, and SAP SuccessFactors
- Whereas on the customer assurance axis, the toppers were Workforce Software, ADP and Ultimate Software
- However, the company that was found to offer good value on both axes was Oracle

2 In-store Productivity Enhancement

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Increase in sales

- ❑ **Granting access to unavailable products**, including items temporarily out-of-stock
- ❑ **Complementing click and collect programs**, allowing associates to help shoppers buy online
- ❑ Producing **real-time updates** on **product inventory**
- ❑ **Selling items from any in-store location**, rather than at checkout kiosks
- ❑ Avoiding the hassle of out-of-stocks by **providing more ways to sell products**



Understand shoppers

- ❑ Helping associates know their customers better through **deeper data insights**
- ❑ Allowing consumers to **shop from any location**, as digital baskets follow the consumer from store to store
- ❑ Accessing real-time **omni-channel marketing data** that can **automatically trigger discounts** for participating customers
- ❑ Providing in-store associates **a forum to represent their business** with a more standardized presentation



Share detailed information

- ❑ **Increasing associate product knowledge**, using in-store tablets and mobile POS to share detailed product data beyond label information
- ❑ Saving associates' time and effort by **reducing search time across multiple retail systems** when asked questions regarding product location
- ❑ Granting new opportunities to **cross-sell and upsell products according to personalized preferences**

BRP's "2019 Special Report: In-store Mobility"

41%

of consumers plan to increase their mobile shopping frequency

85%

of consumers have purchased a product through mobile applications

33%

of consumers frequently make purchases through mobile devices

63%

of consumers rely on mobile phones for price comparison

49%

of retailers are citing in-store mobile experience as one of their top priorities

66%

of retailers offer mobile point-of-sale capabilities in their stores

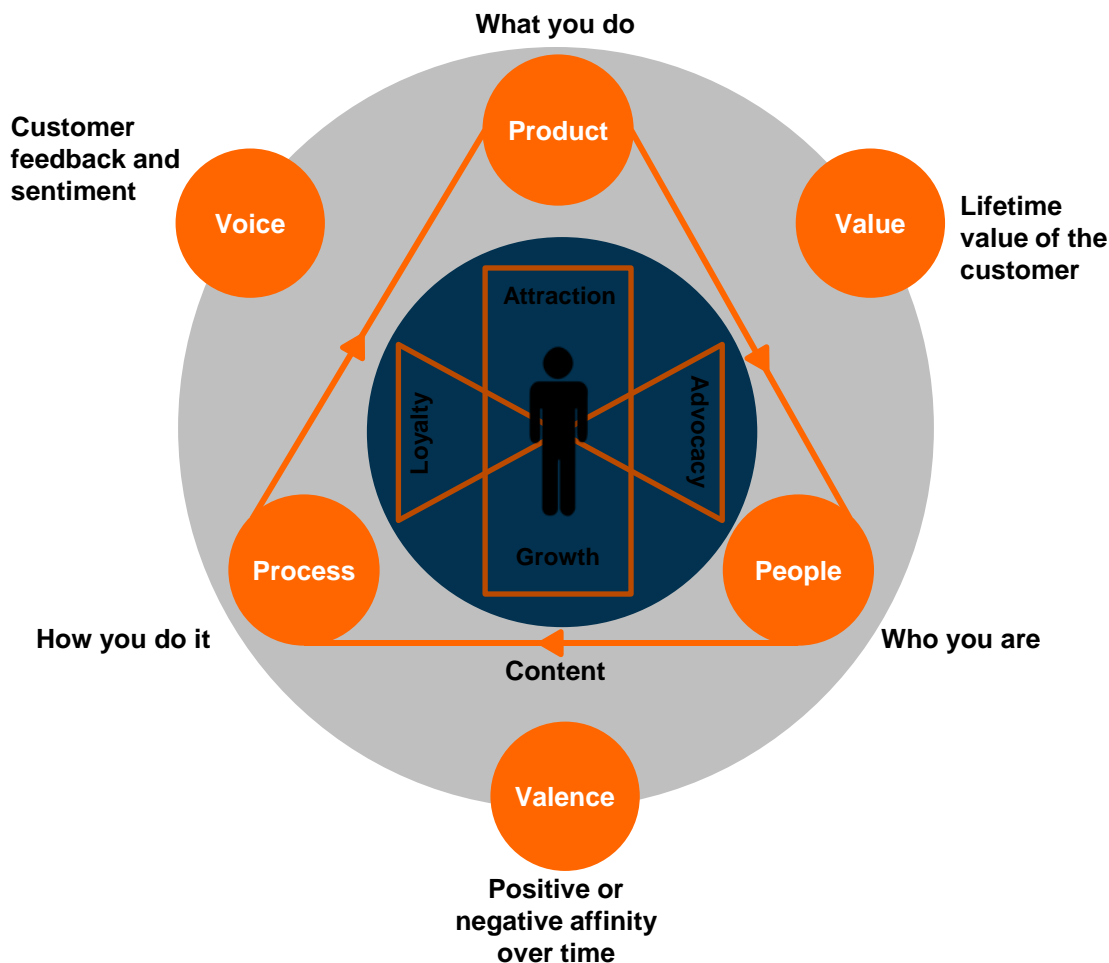
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 - **Who you are** - your people
 - **What you do** - your products and services
 - **How you do it** - your business processes, methodologies and service levels
- **The goal of marketing leaders** is to **attract customers, build relationships** and **establish** a greater sense of **loyalty**.



Sales associate enablement technologies



What an ideal in-store tech set up should include?

Retailers need to implement an all-round in-store strategy to improve customer engagement sustainably

- ❑ **Key innovators:** Companies such as Farfetch, Urban Outfitters and Ikea have led in-store innovations with highly interactive technology.
- ❑ **Market Leader:** A strong & visionary technology leadership can freely implement differentiated in-store technology to enhance the CX while pushing the organizational goals
- ❑ **Simple Technologies are in demand:** Chatbots and robots are intriguing, but just 5% of consumers want to use them. A much larger group prefers simpler tech like fast self-checkout kiosks.
- ❑ **Data Analysis:** A good in-store tech would enable data gathering in multiple ways – of not just ‘what’ the customers are buying, but even ‘why’ they are buying what they are.
- ❑ **Key investment arena:** The in-store tech enablement plan should include on-going budget increases for future investment
 - ❑ 58% of companies with more than 5,000 employees expect to raise their tech investment by 10% or more in the next two years
 - ❑ While 49% of companies with 1,000-5,000 employees reported the same



The role of new and future in-store technologies

- 1

Reduce inventory cost: An inventory control system helps to know about merchandise in hand, order and how many items have been received and sold
- 2

Improve customer satisfaction: An electronic inventory system enables to answer customer questions with just a few keystrokes
- 3

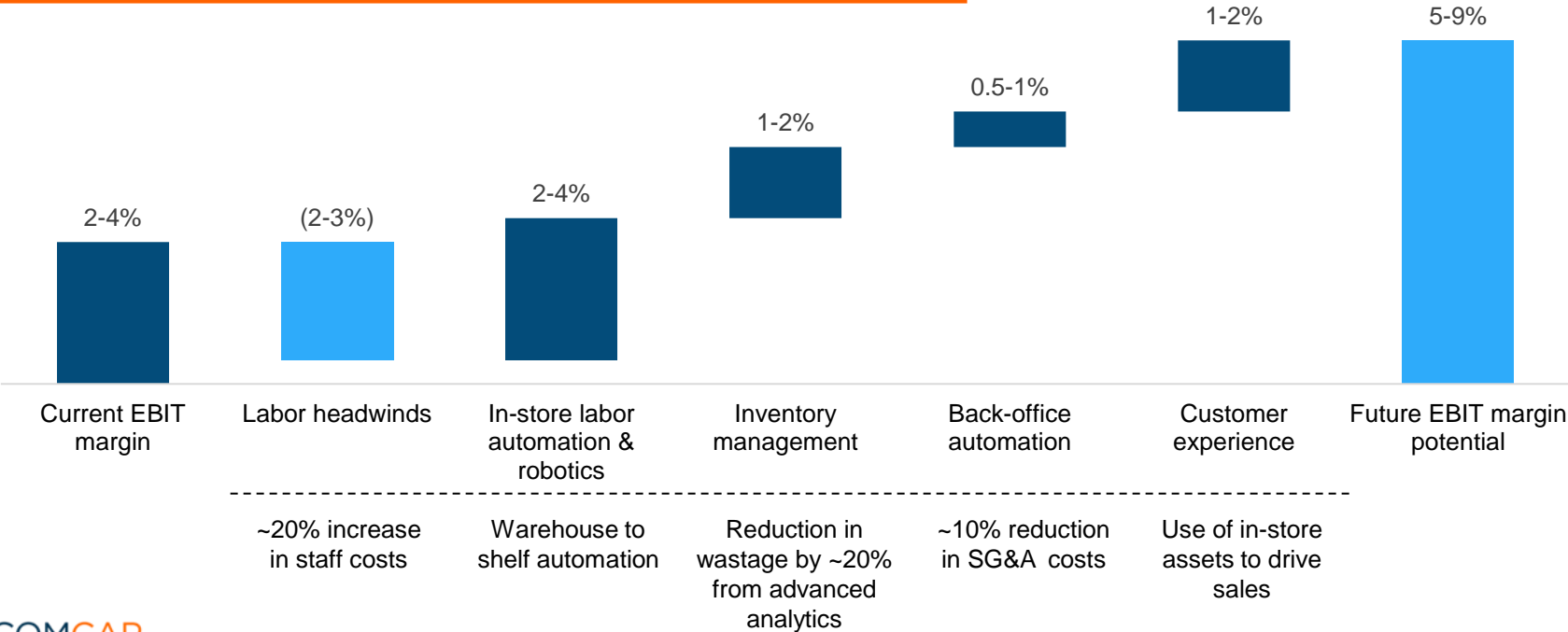
Facilitate inventory control: A portable terminal offers greater speed and accuracy as compared to manual count
- 4

Keep track of margins: With new tools it is easy to decide pricing and markdowns within pre-set parameters, or track margins based on the prices
- 5

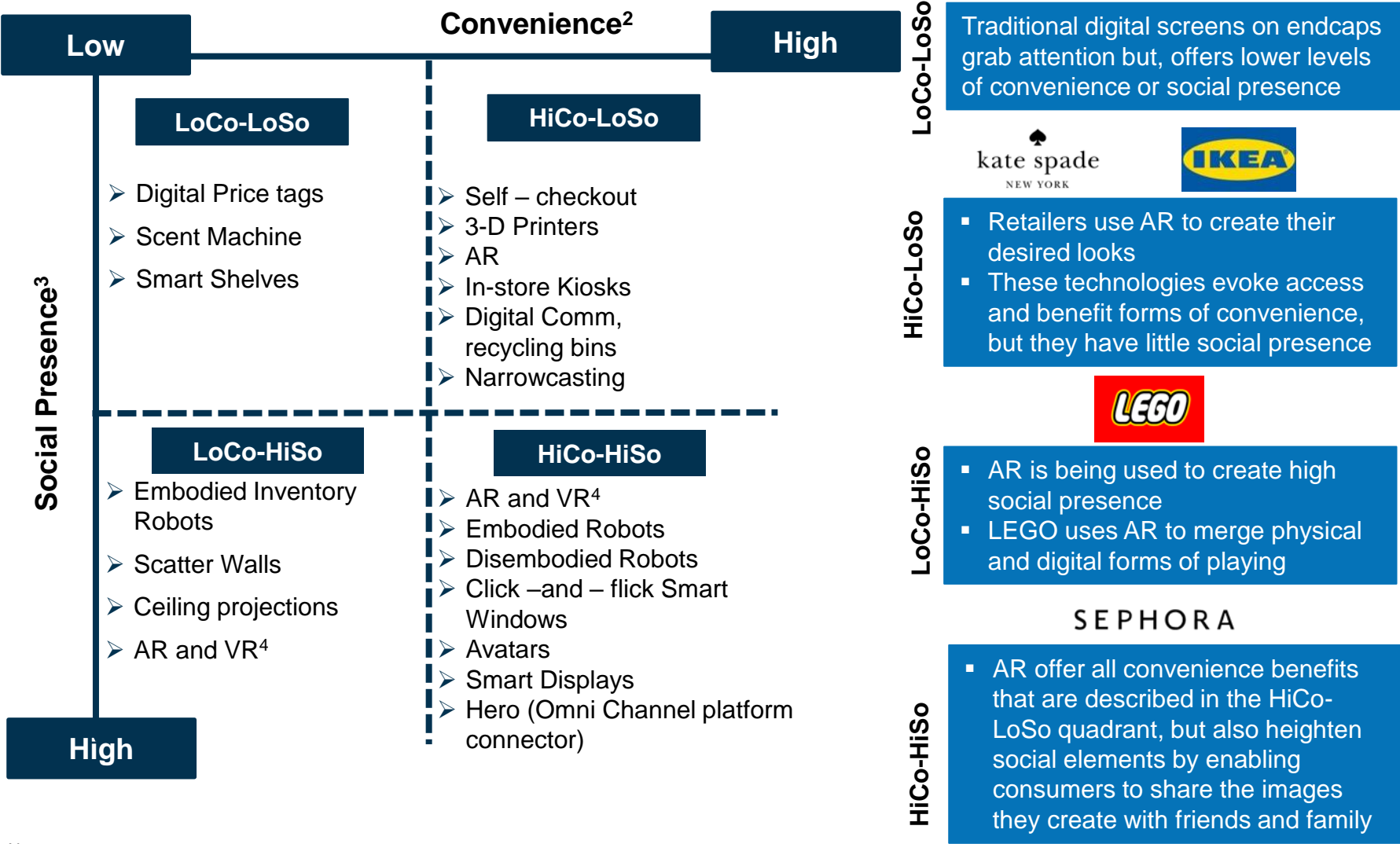
Improve forecasting: Automated statistical forecasting systems create far more calculated and accurate demand forecasting
- 6

Adopt a just-in-time relationship with suppliers: Forecasting tools work with a central database, inventory control and sales systems to tie purchasing more closely

Fresh in-store technology adoption can potentially double store profitability










Typology¹ of new in-store technology infusion







Notes

1. The typology is considering the technologies from the consumer perspective
2. Convenience refers to when consumers seek to minimize the time and effort they devote to shopping
3. Social presence refer to products or situations which trigger a feeling that a human being is present
4. The technologies appearing again in different quadrants depend upon their different versions and hence create different combinations of convenience and social presence.

Innovative in-store technologies in the retail environment (1/2)

In-store Technology	Digital shelves, displays and tags	Smart shopping carts	Self or mobile checkout / Interactive kiosks / ordering in touch screen displays
<div>Description</div> <div></div>	<div>Retail shelves that have RFID readers, digital-camera sensors and analytics technology</div>	<div>Shopping carts attached with a tablet and sensors</div>	<div>Machines that provide mechanism for customers to process their own purchases from a retailer</div>
<div>Advantages</div> <div></div>	<div><ul style="list-style-type: none">➤ Prevents out of-stock situations➤ Indicates prices, promotions nutritional and dietary information➤ Recommends related products➤ Tracks shoppers' behavior towards displayed products➤ Notifies store personnel of misplaced items➤ Delivers engaging interactive experiences at POS</div>	<div><ul style="list-style-type: none">➤ Retrieves and stores information in real-time and answer queries➤ Tracks consumer pathways through the store➤ Enables check out without waiting in the line</div>	<div><ul style="list-style-type: none">➤ Enables check out without waiting in line➤ Enables more sale as it maximizes awareness for brands, products and services➤ Delivers engaging interactive experiences at point of sale, information</div>
<div>Implementors</div> <div></div>	<div></div>	<div></div>	<div></div>
<div>Key Facts</div> <div></div>	<div><ul style="list-style-type: none">➤ According to estimates, Kroger's shelving could add important part to achieve additional \$400m operating profit by end of 2020➤ Based on a study,<ul style="list-style-type: none">▪ 80% of consumers entered stores due to digital signage▪ 40% of consumers agree that digital signage can change their decision to purchase a product over another</div>	<div><ul style="list-style-type: none">➤ Based on Caper, customers buy 18% more per visit in stores that carry its carts➤ Caper's smart carts are affordable, scalable solution for businesses looking for autonomous shopping action➤ According to Usabilla, 22.5% of US digital shoppers cited long checkout lines as the primary reason for leaving a store</div>	<div><ul style="list-style-type: none">➤ According to SOTI's Annual Connected Retailer Survey, "73% of respondents were in favor of self-service technologies to improve the retail shopping experience and reduce staff interactions, up 10.6% from last year"➤ Self-scanning apps, an alternative to 'Just Walk Out' technologies, will be used by over 32 million shoppers by 2023⁽¹⁾</div>

Innovative in-store technologies in the retail environment (2/2)

In-store Technology	Smart Fitting Rooms	AR and VR	Robots
<div><div>Description</div><div></div></div>	<div>Digital dressing rooms that use touch screen solutions installed in the changing room</div>	<div>VR replaces the real world with the computer-generated environment and AR blends the real & the virtual world</div>	<div>Robots algorithms help to recall shopper preferences and quickly cross-reference shelf-prices</div>
<div><div>Advantages</div><div></div></div>	<div><ul style="list-style-type: none">➤ Offers quick access to product information➤ Allows to intimate store assistant to bring the necessary item without coming out of the fitting room➤ Recommends related products➤ Assists the customer in finding a suitable product</div>	<div><ul style="list-style-type: none">➤ Provides in-store navigation to assist customers find the required product➤ Offers detailed view of customers' preferences➤ Enables customers to visualize products in different settings</div>	<div><ul style="list-style-type: none">➤ Monitors inventory levels and pricing of products within stores to boost sales➤ They understand when customers enter the store and are programed to greet them, interact with them, and to assist them to navigate around stores➤ They work around the clock and assist to reduce costs and improve the in-store shopper experience</div>
<div><div>Implementors</div><div></div></div>	<div><div>REBECCA MINKOFF</div><div>ADORE ME</div><div>RALPH LAUREN</div><div>AMERICAN EAGLE OUTFITTERS</div></div>	<div><div>L'ORÉAL TOPSHOP</div><div>COVERGIRL</div><div>NIKE</div><div>SEPHORA</div><div>IKEA</div></div>	<div><div>LOWE'S</div><div>TESCO</div><div>amazon</div><div>GIANT</div><div>Walmart</div></div>
<div><div>Key Facts</div><div></div></div>	<div><ul style="list-style-type: none">➤ Markets and Markets expects the virtual fitting room market size to grow from \$2.9bn in 2019 to \$7.6bn by 2024, at a CAGR of 20.9%➤ Based on National Retail Federation, 88% would be interested in trying smart dressing rooms again and 57% of those who haven't tried it would be interested in doing so</div>	<div><ul style="list-style-type: none">➤ Based on Gartner research in April 2019,<ul style="list-style-type: none">▪ 100 million consumers will shop in AR online and in-store by 2020▪ 46% of retailers plan to deploy either AR or VR solutions to meet customer service experience requirements by 2020</div>	<div><ul style="list-style-type: none">➤ According to Boston Consulting Group, the global robotics market to reach \$87bn by 2025 and over half of this is expected to be allocated for retail market➤ In a pilot at a Palo Alto tech shop, the retail store claimed a 70% increase in foot traffic during the week; Pepper – a humanoid robot worked there</div>

Retail in-store case studies

ThirdChannel's solutions help to digitize in-store environments in order to improve CXs backed by technology & analytics

Satisfied Client base...

"I was truly blown away at the depth of ThirdChannel. [ThirdChannel's Advanced Analytics] is something I have been looking for in Sales Management for a long time and have always had to do the foot work myself."

"ThirdChannel technology is unsurpassed by any sell through reporting tool I have seen to date... with all the qualitative and quantitative information imaginable."

"ThirdChannel Agents are more like brand ambassadors that are within the demographic; not just a merchandiser."

....and wide scale of operations

- ✓ Cloud-based field management and decision support solutions to drive in-store sales
- ✓ Service 1,100+ nationwide & regional retailers plus thousands of independent retailers
- ✓ Coverage in all 50 states, US territories and Canada

Solutions Overview



Field Management System™:

Cloud-based technology to manage in-field retail execution

- Scheduling & Tracking field team activities
- Training field teams to keep them aligned with brand focus and company goals
- Real-time communication with the team
- Real-time team performance metrics
- Alerts and notifications of important updates



Reporting & Analytics™:

Advanced analytics to highlight best in-store sales strategies

- Real-time store level data gathering
- Cloud-based reporting analyzes millions of data points daily
- Retail Presence Optimizer™ analyzes in-store traffic, shopper demographics, local weather, and competitor stats and advises each store's sales potential.
- Analytics for deciding new store locations
- Advanced reporting from field teams



Field Agent Network™:

Access to 150,000+ brand right field pros for in-store activation

- ThirdChannel's network of qualified field agents are vetted across various industries.
- Services + solutions i.e. people + technology, for every type of retail execution
- Training programs for sales associates
- Demos, sampling & assisted selling at each store level
- Competitive intelligence about nearby stores and their performance

Walmart to expand in-Store tech

Walmart is increasing dependency on “smart assistants” to reduce the amount of time workers spend on “repeatable, predictable and manual” tasks in stores and allow them to switch to selling merchandise to shoppers.

Key Strategies



Roll Out of Robots

- Expanding its deployments of robots in stores to track inventory, clean floors & unload trucks



Autonomous Floor Scrubbers

- Work together with Walmart employee using a simple and intuitive "teaching and repeating" approach helping them to quickly install the system and adapt the cleaning routes



Walmart App

- Walmart app now features a unique Store Map, helping customers to find everything easily
- Customers can shop via the app and take delivery in-store



Pickup Towers

- 16 foot Walmart pickup towers deliver millions of items from Walmart.com to local Walmart store within a minute



Checkout With Me

- Employee can complete checkout process from anywhere on the sales floor with cellular devices and Bluetooth printers and provide a receipt via print, text or email



Autonomous Shelf Scanner

- Identify where stock levels are low, prices are incorrect or labels are missing – which in turn provides employee with a real-time view of store inventory, helping them to focus on areas which require more attention

Walmart's next-gen superstore

Scan & Go

- Smartphones are used to scan items as they are picked up from the shelves
- Allow fast and convenient weighing of loose items, which are then simply added to the automatic receipt

SmartLife

- Demonstrators select digital products & SmartLife becomes that piece of technology
- Customers can see the device in super-size without damaging traditional demo models

Endless Aisles

- Kiosks at the end of the physical aisle enable customers to order out-of-stock items online
- Customers can collect the product at store or getting delivered at home

Call Buttons

- Next-gen call buttons activate GPS-enabled devices worn by staff members, meaning that when that button is pressed, only staff with training in the appropriate department will be called to that department

Yoobic offers the ultimate customer experience by empowering the store associate



Yoobic aims to create a collaborative retail environment by connecting all employees with one platform.



- ❑ Improve operational efficiency and in-store execution
- ❑ Measure and optimize product visibility on shelf



- ❑ Empower the clients' store teams to deliver the perfect experience
- ❑ Share knowledge with social learning
- ❑ Strengthen and motivate the team with microlearning courses



Save 40 minutes per store visits on average



22% increase in conversion rates

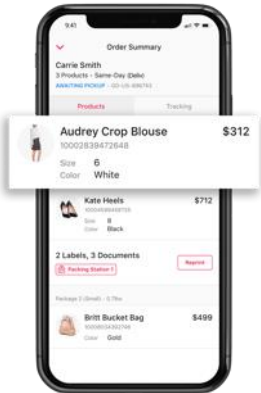
NewStore built an Omni-channel-as-a-Service platform to run retail stores on iPhones



Platforms include Omnichannel OMS, Mobile POS and Omnichannel cloud

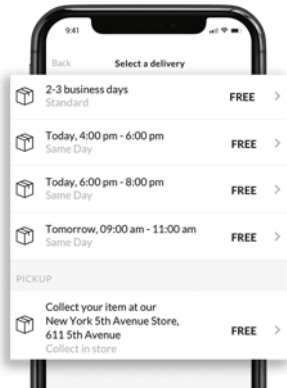
OMNI-CHANNEL OMS

- ❑ Route orders based on customer and inventory location
- ❑ Modernize omni-channel fulfilment
- ❑ Access inventory across the entire organization
- ❑ Build deeper customer relationships
- ❑ A solution purpose-built for omnichannel, consisting of lean and flexible retail IT systems
- ❑ Omni-channel Management



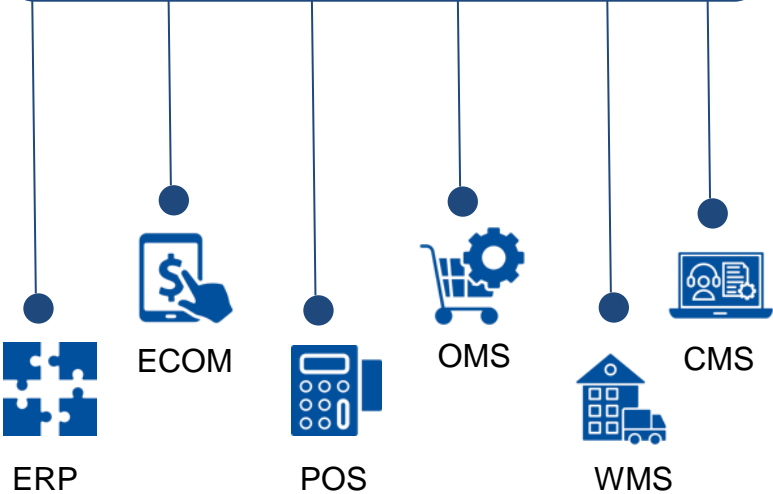
MOBILE POS

- ❑ Process any combination of store and endless aisle purchases in a single transaction
- ❑ Capture a 360-degree view of customers
- ❑ Track the performance of associates and stores across all channels in a single system
- ❑ Expands on capabilities and functionality
- ❑ Point-of-sale integration



NEWSTORE OMNICHANNEL CLOUD

EXISTING LANDSCAPE



A personalization platform that powers 1:1 experiences that drive incremental revenue



True Omni



- Offers personalization in store by integrating the company's Confidence and Discovery Engine APIs into existing technology



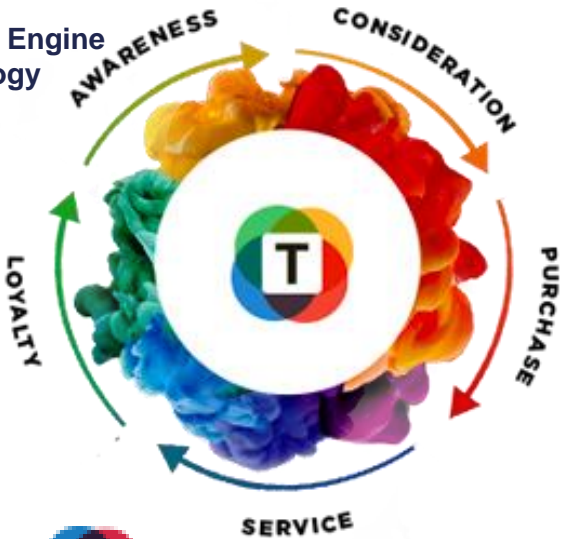
True Discovery

- Uses True Fit shopper and product data to provide a list of style rankings to personalize catalogs and assortment for users

True Insight



- A collection of dashboards for retailers that visualize shopper and fit data across both their brand site and any multi-brand retailers



True Confidence

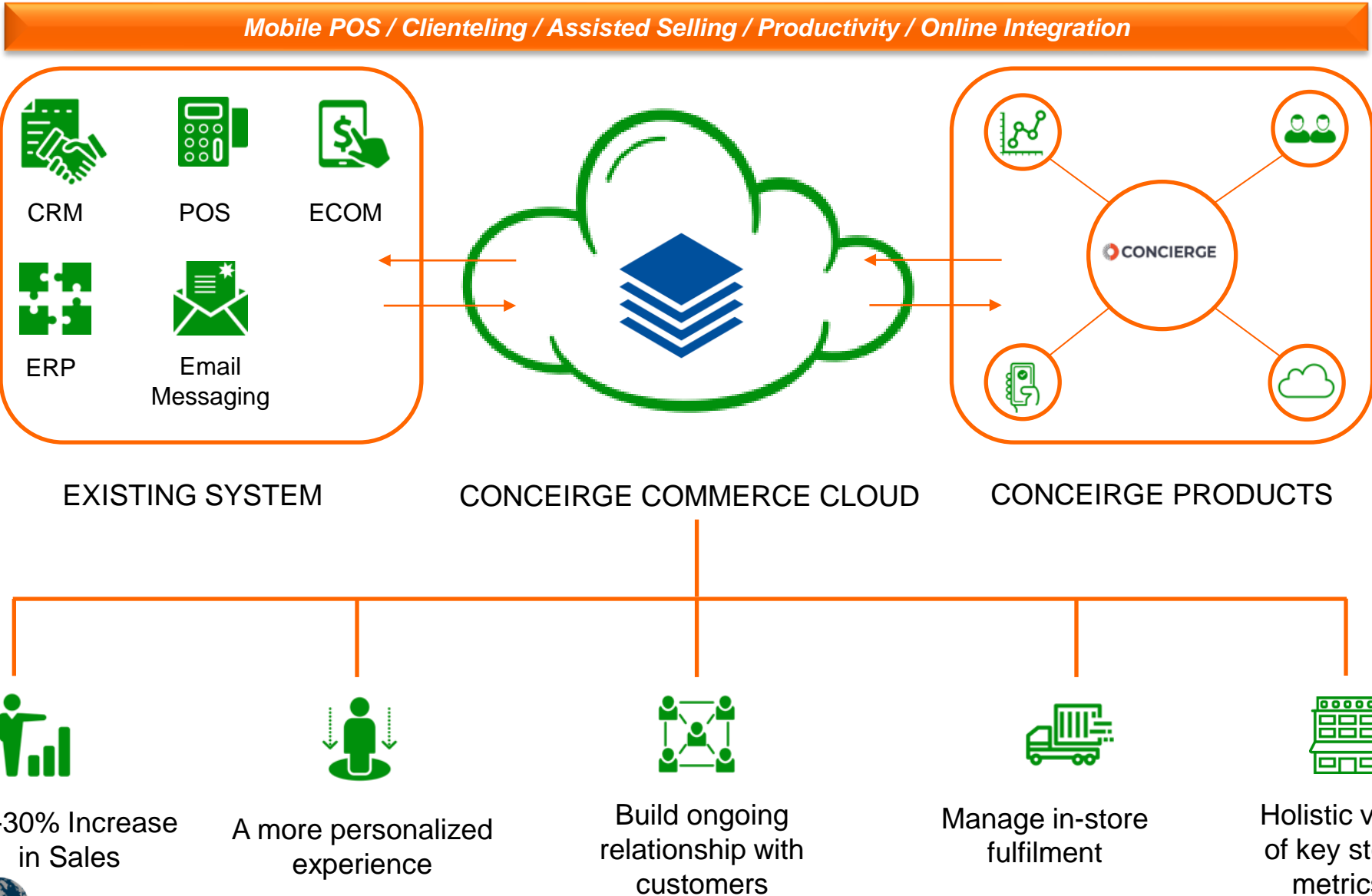
- Provide personal fit ratings, size recommendations and fit details to shoppers



True 360

- Connects the key data points around each unique shopper, creating a detailed view of every shopper so that retailers can serve them better


Mad Mobile—a mobile-first unified commerce platform




Multimedia Plus' INCITE, an associate enterprise application category, and QuizScore, a program for online training, boosted up Kate Spade average dollar per transaction




INCITE, in 2016, pioneered a new associate enterprise application category, **the Mobile Associate Communications Platform**, that advances how retailers can educate, inform and evaluate its in-store employees. The company provides organizations with a low bandwidth way.



Delivers multimedia communications





Video without streaming




Real-time metrics for visibility into participation and completion by field managers


QuizScore is a proprietary online training platform that enables clients to reach employees in the field and drive performance.




Bundles high-definition video and interactive training inside a lightweight app



Employees need improvement




Assess training effectiveness




Refine programs at regional, district and store levels

A client's database is stored in the cloud, which enables field managers to easily access the information they need from any location with a laptop or smartphone.


Kate Spade's highly branded platform, **Style Study**, enhance its store performance by partnering with Multimedia Plus.




Personalize each guest experience




Empower associates to speak the same brand and product language consistently across stores



Give managers insight into how far along associates are in their training and how well they are absorbing it



Instil complete confidence in associates in delivering to guests that brands promise



According to Emily Sklar, retail marketing manager at Kate Spade, "After embracing the INCITE solution, one particularly noteworthy outcome for **Kate Spade was a \$20 jump** in average dollar per transaction [ADT] in one of its Maryland stores, which is a huge, huge boost in business for just one store."

Another store saw a 21% lift in handbag sales in 1Q of 2016.

Kate Spade's management team depends on reports from MMP's QuizScore website, the backend data analysis engine behind INCITE, for quick recaps as well as detailed, real-time results of training compliance, based on the quizzes, to determine how well the training has been understood and its impact.


89% of retailers will arm associates with mobile tech in the years




Software to empower the sales associates and engage the customers

- **81% of customers prefer to move in a store after researching the product online** – offer personalized and expert recommendations, a pleasant in-store experience and seamless check-out.
 - **90% of consumers use their smartphones to compare prices or research products** – according to Salesforce, consumers use smartphones during their shopping experience. This indicates that the customers more informed about the product than their own people.
-
- **BayBridgeDigital** will provide a new generation of clienteling and put the mobile device at the heart of clients’ business.
 - Key features include payment capabilities and predictive analytics.
 - The company’s clienteling solution will rejuvenate the **one-to-one relation** between the client’s sales associates and its customers.


Adapted for Different Users



Managers




Sales Associates




Customers


Crafted for various retail sectors




Fashion




Luxury



Beauty




Electronics




Interior Decoration


Key figures



6%
In-store traffic



24%
Conversion rate



33%
In-repeat business

Dynamic to improve instore consumer mobility



Dynamic digital is addressing key mobility trend around consumers loyalty and differentiated digital experiences



Customer's Expectations

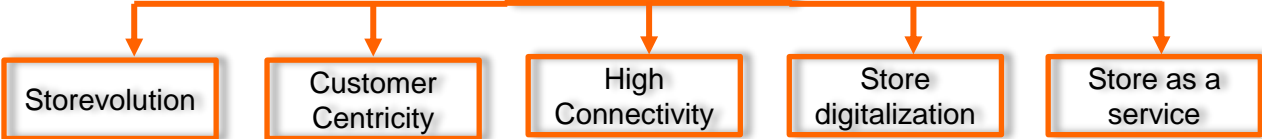
- 63% use their mobile phones to compare prices
- 67% prefer the stores that offer promotional deals
- 40% prefer to shop at stores that offer mobile POS



Retailer's Capabilities

- 49% of retailers use mobile experience as the preferred way to engage customers
- 57% of retailers use mobile coupons to allure customers
- 66% of retailers use mobile POS in their stores

Business Drivers



YNNAMIC RETAIL SOFTWARE Features:

- Offer a service-oriented software solution that seamlessly supports the entire Omni channel retail flow
- Designed on modular principles and can be integrated into existing retail infrastructures to support consumer touchpoints
- A complete portfolio of hardware solutions

Key benefits:

- Drive Superior Experiences with Mobile Retail
- Increase Customer Loyalty
- Inspire Consumers Throughout their Entire Journey
- Convenient Customer Shopping Experiences with Mobile Self-Scanning

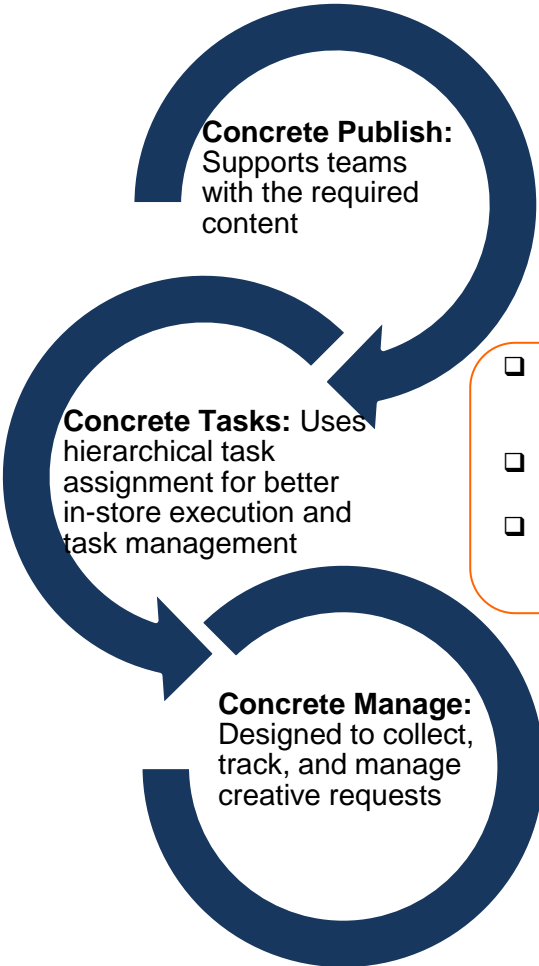
Diebold Nixdorf's Retail Systems	
	Retail Cash Management: secure, cost-effective Cash management
	Reverse Vending: The modular platform form of Reverse Vending Machines
	Electronic Shelf Labelling: portfolio of segmented and graphic shelf labels
	POS Systems: Reliable and outstanding POS technology
	Peripherals: Holistic portfolio for ruggedized peripherals for POS
	Interactive Kiosks: Relevant information with a touch of button
	Self checkout solutions: Consumers complete the transaction by themselves
	Pay tower: Comprehensive payment options

Concrete Platform – help head office teams work smarter with field teams

Ensures better retail execution and store performance with coordinated communications and task management

Applications built to maximize store performance

Benefits



Concrete Publish:
Supports teams with the required content

- ❑ An interactive cloud-based portal that can be securely accessed by teams anytime
- ❑ Provides greater control over distribution of brand and operational content
- ❑ It allows users to follow pages and stay up-to-date with new content



revenue uplift by +1-3%

+40% more shop-floor time for store managers



+10% improvement in staff attrition

Customers benefit from +95% task completion rate



Tracks task progress across stores.

Gives better visibility by a two way communication



- ❑ Allows better insight, planning and workload management, as store users can see their own tasks alongside head office and area manager led initiatives
- ❑ Allows store teams to prioritize tasks assigned with minimal disruption
- ❑ Provides personalised dashboard for real-time execution with instant updates, reminders and facilities to upload evidence on completion

- ❑ Provides tailored forms to comprise of all information and supporting material required to speed up workflows
- ❑ Enables easy information gather and feedback across stores through checklists, order forms, product reports & surveys
- ❑ Cloud based customized dashboards provide complete visibility over team workload, and potential risks

Concrete One – consumer interaction and focus groups

More than 100k store associates, across over 160 countries use the solution



HACKETT
LONDON



Release updates on a regular basis, with all clients having access to pre-release solutions for testing

J.CREW

Justice™

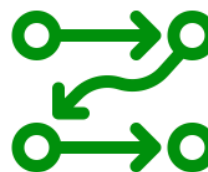
Kiehl's
SINCE 1851



The product has been built on the basis of clients inputs

kate spade
NEW YORK

L'ORÉAL®



The product team regularly engages with customers to ensure its roadmap is delivering value

MARKS &
SPENCER

Monsoon



TORY BURCH

極度乾燥(しなさい)
Superdry. TIFFANY & Co.

mothercare

DEBENHAMS



Quarterly client focus groups enable customers to share their experience and comments on challenges or issues they are encountering in the retail environment

“Empowering stores with greater responsibility is extremely important. Store associates have become visual merchandising ambassadors in areas where an owned store may be competing on the same street as a department store to sell Fred Perry.”

- Heather Lowe, Global Brand Manager at Fred Perry



COMCAP
Where commerce meets capital

Source: company data, Concrete Media PDF

Standard Cognition acquires DeepMagic to accelerate autonomous checkout roadmap

Acquisition Overview

[Sc]

Acquires

deepmagic

Announcement Date : Oct 10, 2019

"DeepMagic had developed very strong computer vision technology that fits very well into our technology portfolio - we're excited to take the technology forward."
-Jordan Fisher, co-founder and CEO of Standard Cognition

"We're thrilled that our technology will live on in the Standard platform. We've long admired Standard's approach to autonomous checkout. They are currently leading this market and we believe they are well positioned to win big in this space."
-Bernd Schoner, co-founder and CEO of DeepMagic

Target Business Overview	Deal Terms	Strategic rationale
<ul style="list-style-type: none">▪ DeepMagic's patented AI and computer vision enables grab-and-go transactions and payment at unattended points-of-sale, similar to Amazon Go.▪ Its technology enables people to swipe their payment card upon entering kiosks or stores, pick up what they're there for, and walk out without having to visit a checkout.▪ It deployed its first commercial store in collaboration with Cisco Systems in 2018 and since then has installed systems for multinational CPG's, payment processing providers and retailers in US and Europe.▪ The company holds key patents dating back to 2016 covering important elements of autonomous checkout technology.▪ It was founded in 2016, with 5 employees it is headquartered in New York, NY.	<ul style="list-style-type: none">▪ Financial terms are not disclosed.▪ Schoner, Co-Founder and CEO of DeepMagic will join Standard in a consulting capacity, to help manage the integration of DeepMagic's technology into Standard's platform.	<ul style="list-style-type: none">▪ DeepMagic's computer vision technology and patents to strengthen Standard's leadership position.▪ Some of DeepMagic's patented technology is expected to provide Standard with some protection should Amazon choose to patent the technology used in its Go stores.▪ Both companies took a computer-vision only approach to autonomous checkout, making their technologies very compatible.

Comparison between Walmart and Amazon



Sensor-triggered displays	<ul style="list-style-type: none"> No Smart Displays. AI & Robot assisted efficient stores 	<ul style="list-style-type: none"> No Smart Display. “Just Walk Out Technology”
Focus area	<ul style="list-style-type: none"> Making the shopping and checkout processes faster and smoother. Delegating routine tasks to robots, freeing up associates’ time for better customer service. 	<ul style="list-style-type: none"> Currently has 16 Go stores and to open 3,000 grocery and convenience stores by 2021. Piloting new enhanced checkout solutions in Whole Foods based on biometric data — computer vision-enabled scans of customers’ hands
Electronic Shelf Labels	<ul style="list-style-type: none"> None. But smart scanning and in-store logistics by robots enables smart loading, unloading, and sorting of items on shelf 	<ul style="list-style-type: none"> None. The ceiling mounted “smart” cameras accurately track items picked up from the shelf, placed back on the shelf & left with.
Technology	<ul style="list-style-type: none"> Primarily robots and AI-enabled. Mobile-enabled faster checkouts BOPIS-enabled stores 	<ul style="list-style-type: none"> AI-based tech backed by hundreds of regular & infrared ceiling cameras, and computer vision algorithms
Challenges	<ul style="list-style-type: none"> Standardizing automation across a huge network of worldwide stores which are all different in size and design. 	<ul style="list-style-type: none"> Currently only works with packaged items, difficult to track items sold loose/by weight i.e. fresh foods.



Amazon in-store tech innovations

Technology overview



Display

- The store is lined with shelves similar to normal super markets, primarily stocked with packaged and pre-made foods
- Shelves do not contain any special electronic/smart display labels
- Supported **by ceiling smart movement cameras** and **shelf sensors** that can automatically identify customers, track their movements within the store, and detect the objects picked up



Entrance

- Customers need an **Amazon account**, **smartphone** and the **Amazon Go app**
- Customers scan **QR code** from their phones at the entrance to open the aisle gates

Shopping



- The movement of customers begins to be **tracked** when they enter the stores
- Every item that customers pick off the shelves, is added to a **“virtual” shopping cart** on the Amazon Go app
- Amazon opened its first two AmazonFresh Pickup stores, where customers can order groceries online and schedule them for pickup
- The store’s smart **sensor system** “knows” when customers pick something up and put it back

Checkout



- Customers can pick up any item on the shelves and walk out of the store, and are billed later via the **app**



Vision

- ✓ In 2018, the company has established and is in pipeline to establish 66 pop-up stores
- ✓ In 2016, planned to open 100 Pop-Up stores to sell Amazon devices in malls and inside Whole Foods locations across the U.S.
- ✓ In January 2018, Amazon opened its first Amazon Go store for the public in Seattle, WA
- ✓ In addition to NY, Amazon Go has 21 convenience stores in San Francisco, Chicago and Seattle

Electronic shelf labels

- ✓ According to Amazon, the store uses technology (which they call “Just Walk Out Technology”) similar to that being currently used in self-driving cars, computer vision, sensor fusion, and deep learning
- ✓ Customers simply download and open the Amazon Go app. Walk into the store. Grab items. And walk out
- ✓ It is backed by hundreds of regular and infrared ceiling cameras, computer vision algorithms and machine-learning.



Alibaba sets global pace for in-store tech innovations

Technology overview

Display



- **‘Cloud Shelves’ technology** play product demos every-time when someone picks up an item
- **Virtual shelves** allow customers to select the out-of-stock apparel on a screen with size, color and other preferences, scan it with app and have it delivered directly to home
- **RFID** supported technology can automatically track & identify tags attached to objects
- **Magic mirrors, virtual fitting and smart purchasing machines**, where shoppers can scan data items, place orders and synchronize purchase details with Tmall for online payment & discounts
- **Virtual screen** recognizes customers and shows their waiting time for a meal service

Entrance



- Scan **QR code** on Taobao app at the entrance to acquire electronic entrance code
- **Biometric self-perception & learning system** helps in recognizing customers in open space by their biometrics with their Taobao ID

Shopping



- **Hema Xiansheng grocery stores app (Freshippo)** assist customers to buy groceries for local delivery, pre-order meals for pick-up or in-store delivery and making payments
- Updated 400 **RT-Mart stores** with features like 1-hour delivery within 3-kms; a delivery option for in-store shoppers, a smart mommy-and-me area, and a daily fresh
- Under the “New Retail” strategy, mobile is at the heart of the customer-facing digital tech. Shoppers use Hema’s app in-store to get information and recipe ideas, and scan barcodes
- Use of **robotics** and **conveyors** to speed the picking of online orders in the stores
- Launched an app to **digitize** each store’s inventory management for anticipating customer preferences, enabling proprietors to know what, when and how to order

Checkout



- Payments are done in a booth, where the customer shows his face and pay cashless & contact-free
- Customers can also use **Alipay** mobile wallet to make payments



Vision

- ✓ In 2018, it announced a plan establish 2,000 Hema stores across China in the next 3-5 years. Since inception, there are ~150 Hema stores in 21 countries
- ✓ By Jan 2019, Alibaba has opened around 120 Freshippo-branded supermarkets in ~20 Chinese cities. The expansion is seen as Alibaba’s latest testament to the New Retail concept
- ✓ Alibaba is on track to transform AR technology into a “new retail era”



Electronic shelf labels

- ✓ Launched a system of “**emotional discounts**” for its electronic price tags: if a customer smiles to a product, the price drops. The larger the smile, the lower the price
- ✓ **Ling Shou Tong platform**, a retail-management platform, that allow store owners to optimize product procurement and boost sale
- ✓ Ability to give store operators recommendations, based on sales analytics, on what to buy and how to display goods in their stores

“Sorry you have not ordered anything.”

“No. 15, you still have 1min left.”



JD.com in-store tech innovations

Technology overview

Display



- ✓ **Sensors** to track in-store customer behavior and provide insights on product selection and placement within stores
- ✓ Leverage **big data** to choose most relevant products according to customer persona
- ✓ **Smart shelf technology** offering inventory awareness and price management
- ✓ JD E-space is featured with **dynamic price tags** to ensure store prices are aligned with online prices, **QR codes** for placing orders instantly & **robots** to guide and introduce products

Entrance



- ✓ **Facial & image recognition** technology for identifying customers and recording payments
- ✓ JD X-Mart **uses AI, RFID and facial recognition**, enabling customers to choose products and take their shopping bags straight away without stopping for payment

Shopping



- ✓ Heat mapping through **ceiling cameras** to monitor traffic flow, product selection and customer preferences allowing the company to serve personalized advertisements and promotions
- ✓ 7Fresh, JD's hi-tech supermarket, provides **location-based online channel** through its app to buy from the community shop anytime and getting delivery within 30 minutes
- ✓ At 7Fresh, a **robot shopping cart** will follow shoppers around the room, via electronic bracelet. The robot will make personalized recommendations based on the customer's shopping history
- ✓ **SnapShop** allows users to take **product picture** and provide similar product recommendations
- ✓ It is implementing technology into its operations in several ways ranging from smart warehouses to drone delivery

Checkout



- ✓ **Visual recognition** technology developed by JD.com used for intelligent weighing checkout counter, whose cost is only higher than that of a conventional one
- ✓ Partnered with Fung Retailing Group to launch **AI-enabled checkout**, capable of recognizing items in seconds without scanning their barcodes

Electronic shelf labels

- ✓ Change prices easily and quickly while maintaining the same price across online and offline platforms
- ✓ Takes only 23 seconds to update 1,000 labels
- ✓ Supported by cloud system of labels which was developed by JD Payment. The cloud system offers price management, promotion management, smart inventory management and marketing analysis
- ✓ The QR code on product's electronic price tags will provide detailed information and evaluation through the JD App on being scanned



Vision

- ✓ Has established a joint lab with Intel to explore the use of Internet of Things
- ✓ It intends to automate its complete delivery system with the help of 'polite' robots and underground tunnels
- ✓ In 2017, the company planned to open hundreds of unmanned convenience stores
- ✓ It will use RFIDs and cameras with facial recognition and image recognition technology on the store ceilings


























In-store productivity – Comparative analysis

Key Clienteling Players: A Comparative Analysis





	 NEWSTORE	 Tulip Retail	 mad mobile	 Kinetic
Overview	Transforms brick and mortar shopping into app-powered, digitally connected retail experiences. Key solutions include: A NewStore mobile commerce app and Omni-channel-as-a Service	A mobile application provider focused on empowering workers in retail stores. Enables assisted selling, endless aisle, clienteling, store communications and POS solutions	A mobile-first unified commerce platform enabling retail store associates to provide clienteling, assisted selling and mPOS in real-time	A retail technology and design firm. The Kinetic Commerce suite includes customer mobile apps, associate mobile apps, endless aisle displays, connected fitting rooms and connected malls
Employees	51-200	51-200	51-200	51-200
Founded	2015	2013	2010	2011
Funds Raised	\$110.4M	\$51.2M	NA	NA
Key Investors	Stephen Schambach, General Catalyst, and Activant Capital	Jump Capital, KPFB, Uncork Capital, Fung Capital, Kima Capital and Hard Yaka	Decathlon Capital Partners	Eventi Capital Partners
Key Clients / Partners	     	    	  	    
Key Facts	<ul style="list-style-type: none"> Works with 140+ specialist team members from 31 countries, speaking 27 different languages Has built strong technology partnerships with ~50 reputable brands and solution partners 	<ul style="list-style-type: none"> In 2017, it reported profitability, with sales having quadrupled since 2016 and set to double annually throughout the next few years Has deployed across 25 countries and in 7 languages 	<ul style="list-style-type: none"> Has become the mobile platform of choice for more than 90 major companies Over \$5B in mobile transactions are expected to flow through its concierge platform in 2018 	<ul style="list-style-type: none"> Their solution is powered by the Kinetic Commerce SaaS platform that enables clients to bring new solutions to market with advantages in speed and scale

Key Workforce Management Players: A Comparative Analysis












	 YOOBIC Retail Excellence	 RELEX	 REFLEXIS	 Theatro
Overview	A mobile application that can be used to track merchandising and marketing operations in a retail store. The solution will help retailers optimize their in-store operations and deliver a great shopping experience that drives conversion up. The company has five offices based in New York, London, Paris, Sao Paulo and Tel Aviv.	A provider of an integrated retail and supply chain planning system that delivers results for customers. It offers solutions for demand forecasting, automatic replenishment, inventory planning and others.	A provider of real-time store operations solutions to simplify store operations, optimize labor spend, and improve store execution. The Reflexis ONE cloud-based real-time work platform helps retailers drive simplification for stores and improved line-of-sight.	A provider of voice-controlled mobile app platform for hourly employees. The company's SaaS mobile IoT solution offers hourly employees immediate access to voice-controlled collaboration and existing enterprise apps.
Employees	150+	500+	450	100+
Founded	2014	2005	2001	2011
Funds Raised	\$31M	\$223.9M	\$80.2M	\$43.7M
Key Investors	Insight Venture Partners, Felix Capital and Petribox	TCV, Summit Partners, EASME – EU Executive Agency for SMEs	Great Hill Partners, Blue Cloud Ventures, Sageview Capital, Pequot Capital	CPMG, Commerce Ventures, Aristos Ventures, Khosla Ventures
Key Clients / Partners	     	   	    	   
Key Facts	<ul style="list-style-type: none"> The product is now being used by 120+ brands and retailers worldwide and by over 20,000 users across 45 countries The company's revenues are up by 143% between 2016 and 2017 and continues to grow strongly 	<ul style="list-style-type: none"> Has partners in Australia, South Africa, Switzerland, Poland and Turkey Has acquired Galleria RTS in 2016, Forecast Solutions in 2018 Has offices in US, UK, Germany, Italy, Spain, France, Finland, Sweden, Norway, Denmark and HK 	<ul style="list-style-type: none"> Served more than 250 global retailers across different sectors such as department stores, DIY, grocery, convenience, hard goods, apparel and fashion, sports and outdoor recreation, and miscellaneous products Has over 150,000 stores 	<ul style="list-style-type: none"> The solution empower employees, connect people and systems, improve productivity, create new insights and thrill customers drive profits

Source: Company websites, Crunchbase, LinkedIn, Press Releases


Key Store Management Software Players: A Comparative Analysis

	CONCRETE	SHOPKEEP	stitchlabs	one
Overview	A retail management software that provides a cloud based application to connect head office teams to its stores. It helps retail brands control their brand experience, and maximize retail performance across their owned-stores, franchised stores, and wholesale partners.	A cloud-based iPad point of sale system for restaurants and retail stores. It empowers merchants to run smarter businesses by optimizing staffing, managing inventory and accessing real time sales reports on one seamless, cloud-based platform.	Stitch Labs provides software that simplifies commerce, decisions and life for brands. It offers solutions including inventory management software, inventory control system, multichannel selling, order management system, pricing, operations and others.	One Door provides a retail merchandising system that ensures store execution of localized, fixture-based planogramming. Its web-based visual merchandising management solution helps reduce the cost of in-store merchandising.
Employees	50+	270+	70+	100+
Founded	2003	2008	2011	2000
Funds Raised	NA	\$137.2M	\$23M	\$16.5M
Key Investors	NA	First Data Corporation, Square 1 bank, Tribeca Venture Partners, ORIX	True Ventures, Triangle Peak Ventures, Costanoa Ventures	Spring Lake Equity Partners and Bridge Bank
Key Clients / Partners				
Key Facts	<ul style="list-style-type: none"> More than 100k store associates, across +160 countries Has offices in London, UK and New York, NY Key solutions include Concrete Tasks, Concrete Publish and Concrete Manage It provides real time retail with built in analytics to iteratively improve the customer engagement. 	<ul style="list-style-type: none"> More than 25,000 businesses and customers annually Performs over 289 million transactions annually It is customer-rated as No. 1 for iPad POS In 2015, the company acquired Payment Revolution 	<ul style="list-style-type: none"> The company serves over 2,000 brands The company's brands witnessed 40% YoY average growth and has \$4.5B annual transaction volume It helps 39% average increase in operational efficiency 	<ul style="list-style-type: none"> The company has offices in Latin America, Europe, the Middle East and Asia Pacific Help retail brands tell great stories, using technology to improve how they collaborate across silos, localize their merchandising, and simplify the store experience






















Key Analytics/Location-Based Marketing Players: A Comparative Analysis

	 mparticle	 Gravy	 teemo
Overview	mParticle is the customer data platform for every screen. It empowers different teams to execute on their KPIs independently while understanding the customer holistically.	A provider of location intelligence for marketers. Its AdmitOne engine verifies consumer attendances at wide range of places, points-of-interest and local events, providing visibility into the offline consumer journey	Teemo offers digital and personalized marketing solutions leveraging consumers offline behaviour. It is the Drive-to-Store marketing platform that is revolutionizing retail advertising.
Employees	140	50	~50
Founded	2013	2011	2014
Funds Raised	\$76.3M	\$26.7M	\$17.9M
Key Investors	Expanding Capital, Social Capital, Golden Ventures, Bain Capital Ventures	Spring Lake Equity Partners, Loeb Partners, Gaspar Global Ventures, Gannett Co, MeTel	Index Ventures, Mosaic Ventures, Isai
Key Clients / Partners	  Spotify  Jet	 NCM NATIONAL CINEMEDIA  Terra's KITCHEN  HEARST	 goodwill  JO-ANN fabric and craft stores
Key Facts	<ul style="list-style-type: none"> It is the fastest, most efficient way to keep customer data in sync everywhere Has offices in San Francisco, Seattle, Florida and London Helps to enhance customer data and connect it anywhere to improve marketing performance, enhance analytics and others 	<ul style="list-style-type: none"> Key solutions include: Gravy DaaS, Gravy Insights and Gravy Audiences Key industries include automotive, hospitality, financial services, restaurants, retail, travel & entertainment and restaurants Its insight products: foot traffic analytics, competitive analytics, and attribution analytics 	<ul style="list-style-type: none"> The Worlds' No. 1 deterministic mobile location platform is producing real results for its customers The company serves over 100 customers in the Retail, QSR, Automotive and Grocery industries It collects geolocation data through direct mobile app partnerships

Key Analytics Players: A Comparative Analysis

				
Overview	RetailNext enables retailers and manufacturers to collect, analyze and visualize data about in-store customer engagement. The company focuses entirely on optimizing the shopper experience.	Stitch Fix is a personal styling platform that delivers curated and personalized apparel and accessory items for women. They have over 90 meaningful data points collected through the initial style profile.	True Fit is a footwear and apparel discovery platform. Its products include True Discovery, True Confidence, True Omni, True Insight and True 360.	BloomReach takes customer experience to the next level via its first open and intelligent Digital Experience Platform. Its products include Search and Merchandising, Experience, and Experience Manager
Employees	230+	6,600+	~180	400+
Founded	2007	2011	2010	2009
Funds Raised	\$184M	\$122.4M	\$97.4M	\$97M
Key Investors	Commerce Ventures, August Capital, Pereg Ventures, NPG Capital, Qualcomm Ventures	Baseline Ventures, Western Technology Investment, Lightspeed Venture Partners	Intel Capital, Jumps Capital, Signal Peak Ventures, Cross Creek, Georgian Partners, Promus Ventures	Bain Capital Ventures, Lightspeed Venture Partners, Salesforce Ventures, Battery Ventures
Key Clients / Partners				
Key Facts	<ul style="list-style-type: none"> More than 400 retailers in over 75 countries have adopted RetailNext's analytics software and retail expertise to increase sales, reduce theft and eliminate unnecessary costs It uses video analytics, Wi-Fi detection of mobile devices, data from point-of-sale systems and other sources to inform retailers about how customers engage with their stores 	<ul style="list-style-type: none"> It offers personalized service for both women and men, and designed to help clients look, feel and be their best selves Has over 100 data scientists, 3,900+ employee stylists and 3 million active clients It is strategically investing for long-term growth and brand building 	<ul style="list-style-type: none"> Over 250 global sites are on the True personalization platform, powering the personal and relevant experiences of shoppers Its Genome is mapped from the collection of attribute-rich fit and style data for footwear and apparel 	<ul style="list-style-type: none"> It serves various sectors such as retail, brands, distributors, manufacturers, financial services, education, media and entertainment and others It is a Leader in the Gartner Magic Quadrant for WCM and a Strong Performer in the Forrester Wave for WCM

Key Mobile POS Players: A Comparative Analysis

				
Overview	Lightspeed provides POS and e-commerce solutions for retailers and restaurateurs to manage their businesses. Lightspeed Payments enables the clients to monetize customer GTV passing through its platform, creating a significant revenue growth opportunity.	i3 Verticals offers businesses with credit and debit card transaction processing services. Its solutions include event management, gateway, gifts and loyalty programs, K-12 schools and online payment.	Index is a retail software company that provides personalization and measurement of online commerce to offline. Its core payment solution is built upon a semi-integrated payment solution and hosted gateway.	Ezetap Mobile Solutions is a payment device maker. Its offerings include universal payments, analytics and reporting, interoperability, multi-partner routing and others.
Employees	700+	330+	~60	200+
Founded	2005	2012	2012	2011
Funds Raised	\$347M	\$30.8M	\$26M	\$51M
Key Investors	CIBC, Silicon Valley Bank, Investissement Quebec, iNovia Capital, Accel, Caisse de Depot et Placement du Quebec	iGov Solutions, Randall Data Systems, CSC Links, Axia Payments, Exber Cash Register, Bill & Pay	General Catalyst, Innovation Endeavours, Khosla Ventures, Burch Creative Capital, 819 Capital	Jeff Skoll Group, Social Capital, Horizon Ventures, Capricorn Investment Group, Social Capital
Key Clients / Partners	   	   	   	    
Key Facts	<ul style="list-style-type: none"> It has 14 offices across the world GTV: \$13 billion The company's cloud-based solutions are being used in approximately 100 countries and over 47,000 locations around the world The company plans to invest in marketing strategies tailored to attract new businesses to its platform 	<ul style="list-style-type: none"> It serves various industries such as B2B, e-commerce, education, healthcare, municipality, non-profit, property management and retail, and hospitality It offers solutions to its clients through direct sales force, as well as through a network of distribution partners 	<ul style="list-style-type: none"> In March 2018, Stripe acquired the company The software was integrated with Stripe's offerings, allowing customers' physical and digital payments data to be stored in one place The integration will allow Stripe to focus on signing on larger companies that also have deep pockets 	<ul style="list-style-type: none"> In June 2017, the company has acquired FortunePay, and in June 2014, it acquired Clinknow In March 2019, Byas Nambisan was appointed as CEO The company also has office in Dubai and expanded its presence in UAE in 2018

In-store productivity – Key players

ThirdChannel



Company Overview

Founded: 2012

Status: Private

Employees: 137

HQ: Boston, MA

Company Overview: ThirdChannel's cloud-based retail data and analytics platform provides its customers with a compiled view of millions of in-store data points correlated with retail store POS, e-commerce, logistical information and other external data sources to provide users with analytical insights to optimize and take immediate actions to improve their sales across channels.

Its solutions cover areas like Brand Reps, Field Merchandising & Inventory, Demos, Sampling & Assisted Selling, Store Associate Training, Competitive Intel, and Reporting & Analytics

Key Facts

- ThirdChannel is a privately held Minority and Woman Owned business with over 150,000 registered field agents and active in every city across the US and Canada.
- ThirdChannel has over 70 brand programs that have been operating across 22,668 locations in scores of department store, grocery, footwear, apparel, convenience, sports, specialty retailers and a wide range of pop-up venues.
- In October 2017, the Company has raised \$7m in one round of equity funding from Fung Capital Asia.

Management Team



Gina Ashe
CEO and Founder

Prior to founding ThirdChannel, Gina was CEO, Founder and Board Member at Krush, Inc. Before that she was EVP and Founder at Sermo, Inc. Prior to that, she has been part of the senior management at companies like Rapp Collins Healthcare, InfoMedics, Inc. and Cone, Inc.

Gina completed her B.S. in Computer Science from Columbia University and MBA in Finance from the NYU Stern School of Business.

Key clients and partners



Standard Cognition Corp.

[Sc]

Company Overview

Founded: 2017 **Status:** Private
Employees: ~80+ **HQ** San Francisco, CA
Total Funding: \$136.7m
Company description: Standard Cognition develops AI-powered checkout system for brick and mortar retailers.
Its platform enables its users to pick up what they need from a store and walk out without scanning items or passing through a checkout.
It equips storefronts with to track what customers grab using cameras and charge them. It doesn't use facial recognition or other biometrics and hence preserves privacy.

Key Facts

- Its solution helps retailers to reduce labor costs, improve customer experience, and improve profit margins by up to 100%.
- The Company has been focused on developing unbiased anti-theft technology that doesn't care what a person looks like, just what items disappear from shelves.
- It acquired DeepMagic, a pioneer in autonomous retail kiosks, in Oct 2019 and Explorer.ai, a mapping and computer vision startup, in Jan 2019
- Standard Cognition, valued at \$535m, was named to Y combinator's Top Companies List for 2019 and is currently working with retailers across US, Japan and with plans to expand globally.
- Amazon's early start in the space poses a risk that it could patent troll the startup.

Management Team



Jordan Fisher, Founder and CEO
Jordan is a Mathematician, entrepreneur, product manager who previously served U.S. Securities and Exchange Commission and Pwnee Studios.



Michael Suswal, Co-Founder and COO
Michael is an Entrepreneur who previously served U.S. Securities and Exchange Commission and founded Pwnee Studios and Sassafras Distribution.

Key Competitors



Checkout Technologies
in-store intelligence

ZIPPIN

caper

grabango™



Management Team

Status: Private

HQ: New York, NY

It uses machine learning and advanced AI algorithms to identify high local demand for specific products in stores. When a product fails to sell to predicted demand levels, CB4 sends an alert to the store manager, highlighting the floor execution issue and suggesting ways to fix it

The software uncovers hidden purchasing patterns that detect unfulfilled consumer demand. These patterns are translated into actionable recommendations that help correct operational inefficiencies in order to capture the lost sales opportunities.

Key Clients / Partners



Yoni Benshaul, CEO

Yoni is currently responsible for strategic vision and direction of organization and its execution. Previously, he served as VP Sales and strategy at Panorma Software. Prior, he led the enterprise division of Mind CTI



Prof. Irad Ben-Gal, Co-founder and Active Chairman

Irada is the principle inventor of its core technology. He has 20 years of experience in various companies like Oracle, Intel, Applied Materials, Siemens, Nokia, and various AI startups

Key Clients / Partners



- In March 2019, the company raised \$16m series B funding from Octopus Ventures
- Through the company's pattern-recognition AI software, retail operations and IT teams improve floor execution and customer experience
- Its patented software increased store growth by up to 2% using simple sales data
- The company has offices in New York, NY; Hertsliya, Israel and London, UK
- In June 2019, the company renewed its partnership with Handy Mart to equip store managers with AI. It will also help to increase same-store growth, and better meet local demand in their 39 Handy Mart convenience store locations

Concrete Platform

CONCRETE
Store Operating System™

Company Overview

Founded: 2003

Status: Private

Employees: 50+

HQ: London, UK

Company description: Concrete retail management software provides a cloud based application that connects head office teams to stores, whether wholly owned, joint venture, franchise or wholesale.

Key solutions include Concrete Tasks offers a way to manage tasks across geographies, regions, and even store types; Concrete Publish allows users to follow pages and stay up-to-date with new content and Concrete Manage helps to control the production of creative content from improving the briefing process, and increasing visibility over work in progress, through to final artwork reviews and expediting approvals.

It is available on desktop, tablet or via a mobile app

Key Facts

- The company provides services in 160+ countries and having association with +100k store associates
- Concrete has offices in New York, NY and London, UK
- It provides real time retail with built in analytics to iteratively improve the customer engagement.
- It helps retail brands to control their brand experience, and maximize retail performance across their owned-stores, franchised stores, and wholesale partners
- Its solutions include retail operation, visual merchandising, marketing & promotions and associate development
- It provides services in the field of increasing store engagement, boosting store productivity and consistent retail execution
- With the execution of Concrete platform, brands can save more than 40% of time, increase in revenue by 1% - 3% and improve labor attrition by 10%

Management Team



Tristan Rogers, CEO

Tristan is a serial founder with a broad interest in SaaS, retail, tech, automotive engineering, luxury consumer goods. He first started doing web designing with Diageo and Royal Mail as customers. He co-founded The Oxford French Car Company, paps and My Brother Bob



Barney Craggs, CCO

Barney has over 24 years of experience in the information technology and services industry. He works with Concrete since five years. Previously he served as Sales Director at Newgrove. Prior he served as Sales Director at Gocycle and QAS Systems. He also worked at Missing Link Software

Key Clients/Partners



NewStore



Company Overview

Founded: 2015 **Status:** Private
Employees: 51-200 **HQ:** Boston, US

Company description: NewStore transforms brick and mortar shopping into app-powered, digitally connected retail experiences. It develops and provides a mobile retail platform that boosts conversion, promotes engagement, unifies online and offline experiences and modernizes fulfillment.

Its solutions include an omni-channel platform comprising of an Associate, Fulfilment and Omni-channel manager apps.

The platform analyzes and outputs important company data, including a unified inventory view, store health, revenue tracking, customer insights and configurations. It also provides a cloud-based order management system and a mobile POS

Key Facts

- The company works with 140+ specialist team members from 31 countries and speaking 27 different languages.
- Over the years, the company has built strong technology partnerships with ~50 reputable brands and solution partners, including LYONSCG and Mobizcorp.
- The company has so far raised \$110.4M from various investors, including General Catalyst and Activant Capital.
- In 2015, New Store acquired CouchCommerce, a cloud based SaaS platform that provides e-commerce platforms for tablets, smartphones and smart TVs, for an undisclosed sum.

Management Team



Stephan Schambach, Founder and CEO
Stephan is a serial entrepreneur with a proven track record of creating and growing successful tech companies in the United States and Europe. He established NewStore in 2012 with the goal of solving omni-channel-related issues faced by a multitude of retailers and brands.

Under his leadership and vision, he brought Intershop and Demandware to IPOs, each with multi-billion dollar market caps. In 2016, Demandware was acquired by Salesforce and is now known as Salesforce Commerce Cloud. He has won numerous awards around the world for his technology and entrepreneurial leadership, and is the author of Makeover: *“How Mobile Flipped the Shopping Cart.”*

Key Technology Partners





Mad Mobile

Company Overview

Founded: 2010 **Status:** Private
Employees: 51-200 **HQ:** Tampa, FL

Company description: Mad Mobile is a mobile-first Unified Commerce platform enabling retail store associates to provide clienteling, assisted selling and mPOS in real-time.

The company’s Concierge mobile retail platform connects store associates with valuable information across enterprise systems (ECOM, ERP, CRM, DOM, POS) to surface powerful functionality for assisting customers and enhancing the consumer journey. It also empowers store managers with actionable insights to optimize store operations and sales. Its offerings include Concierge Cloud, Concierge Associate and Concierge Manager.

Key Facts

- The company’s solution, Concierge, is an in-store mobile application used in more stores and run by more associates than any other solution globally.
- Mad Mobile has become the mobile platform of choice for more than 90 major companies
- It serves clients in the retail, B2B, distributor, manufacturing and financial spaces.
- Over \$5 billion in mobile transactions are expected to flow through Concierge in 2018.
- In 2015, the company acquired KidoZen, an enterprise platform that provides enterprise-ready back-end capabilities to mobile applications.
- Has additional offices in New York (US), Milan (Italy), Buenos Aires (Brazil) and London (UK).

Management Team



Bruce Bennett, Founder and CEO
Bruce is well versed at the board and executive levels of both public and private companies, participating in several successful M&A exits. These include companies like SOE Software, GoSolutions, Image Technologies and eAngler.



Jared Rodriguez, CTO
Jared previously founded and served as CTO of KiteDesk. Prior, he served as CTO of Skyway Software. He also co-founded and served as CTO of Tradex Technologies and as Chief Architect at Microseeds Software.

Key Clients



Kinetic Commerce

Company Overview

Founded: 2011

Status: Private

Employees: 51-200

HQ: Ontario, Canada

Company description: Kinetic Commerce is a retail technology and design firm. It offers a suite of connected retail solutions that clients can customize to create a seamless online to offline shopping experience for its customers. The Kinetic Commerce suite includes customer mobile apps, associate mobile apps, endless aisle displays, connected fitting rooms and connected malls.

The solution is powered by the Kinetic Commerce SaaS platform that enables clients to bring new solutions to market with advantages in speed and scale. The company has offices in Toronto and New York.

Key Facts

- The Kinetic platform brings together digital and physical retail experiences that helps clients create consistent connections with their customers and empowers their associates to operate more efficiently.
- It offers safe and secure integrations with a wide range of major retail systems and third-party platforms including e-commerce platforms, payment software, POS solutions, marketing and various others.
- In 2016, the company raised funds from Eventi Capital Partners.
- Also provides digital lab services, such as strategy, design and developmental services for mobile and tablet, websites and e-commerce, social platforms, and emerging technology solutions.

Management Team



David Dougherty, Co-founder, President and Chief Creative Officer

David previously served as Principal and Vice President of Innovation at Trapeze. Prior, he served as a service design, interaction design, strategy and technology consultant in private practice.



Troy Michaud, CTO

Troy previously served as Senior Vice President of Technology and Operations at mobileLIVE. Prior, he served as Senior Vice President of Technology and Operations at Digiflare. He also served as Acting Vice President of IT Operations at QuickPlay Media.

Key Clients



In-Store Labor Optimization – Key Players

Company Name	Employee Count	Total Amount Raised	Headquarters	Description	Investors
AgilOne	51-200	\$41M	Sunnyvale, CA	AgilOne is a predictive marketing platform that offers better customer profiles, predictive analytics and integrated marketing campaigns. AgilOne's 360 Profile API can be leveraged to enable real-time contextual interactions in a variety of scenarios, such as call centers, online chat and in-store clienteling.	Tenaya Capital, Sequoia Capital, NextWorld Capital, Mayfield Fund, Four Rivers Group
Applexus	201-500	NA	Federal Way, WA	Applexus offers consulting, products and services in SAP, e-commerce, UX, BI, IoT and Cloud. Applexus Clienteling is a key enabler for clienteling solution.	NA
Arthur	2-10	NA	New York, NY	With Arthur, brands can increase customer engagement and improve conversion rates by empowering retail associates to communicate with shoppers in a measurable, scalable way.	NA
Cegid Group SA	1,000-5,000	\$51.4M	Lyon, France	Cegid, a leading global provider of retail technology to luxury, fashion apparel, beauty and Jewelry brands. The Company was acquired by Silver Lake Partners in July 2017 for \$70.3M.	Silver Lake Partners
Certona Corporation	51-200	\$37M	San Diego, CA	Certona Corporation, the leading real-time omnichannel personalization solution and pioneer of AI-driven experience individualization, powers over 100 billion unique experiences each month. As of February 2019, Certona Corporation operates as a subsidiary of Kibo Software, Inc.	Kibo Software
Close To Me SAS	11-50	\$7.9M	Paris, France	Close To Me SAS offers an online platform for booking the products available in shops and stores. It provides solutions to drive traffic in-store, enhance in-store conversion and ease day-to-day operations.	Alven Capital Partners, Fa Dièse
Concrete Platform	50+	NA	London, UK	A retail management software that provides a cloud based application to connect head office teams to its stores.	NA
Direct Source	51-200	NA	Chanhassen, MN	Direct Source helps retailers create the ideal in-store experience—one that engages customers, empowers store associates and builds brand loyalty.	NA
Eye Stalks Corporation	11-50	\$14.7M	Palo Alto, CA	Eye Stalks Corporation provides cloud-based workforce management applications and sensors in the United States, Europe, and Asia.	Amasia, Andreessen Horowitz LLC, Cherubic Ventures, Foundation Capital, GV, Karlin Ventures, LLC, Legend Star, Menlo Ventures
Keytree	201-500	NA	London, UK	Keytree empowers store associates and retail managers by providing required customer and stock information in-store at the push of a button, improving efficiency, productivity and overall shopping experience.	NA
Kibo Software, Inc	201-500	\$40.9M	Dallas, TX	Kibo is a leading omnichannel commerce platform for retailers and branded manufacturers with over 800 customers fulfilling orders in 75 countries. It operates as a subsidiary of Vista Equity Partners.	Atrium Capital Corporation, Globespan Capital Partners, Icon Ventures, Jackson Square Ventures, Northgate Capital Group, L.L.C., Sequoia Capital, Sigma Partners, Vista Equity Partners

Source: Capital IQ, Company Data

In-store labor optimization - key players (continued)

Company Name	Employee Count	Total Amount Raised	Headquarters	Description	Investors
Mad Mobile Inc.	51-200	NA	Tampa, FL	Mad Mobile Inc., a mobile platform company, provides m-commerce and enterprise mobile solutions for retailers.	Adobe, Hillhouse Capital, eBay
Mi9 retail	501-1000	NA	Miami, FL	Mi9 Retail provides enterprise software solutions to retailers. Their solution leverages real-time omni-channel data for a holistic view of customers' behaviors, preferences and profile along with social marketing tools.	General Atlantic, Summit Partners, Otimo Retail
NewStore, Inc.	51-200	\$120M	Boston, MA	NewStore, Inc. develops and provides a mobile retail platform that boosts conversion, promotes engagement, unifies online and offline, and modernizes fulfillment.	Activant Capital Group LLC, Enjoyventure Management, FJ Labs, General Catalyst Partners
PredictSpring Inc.	11-50	\$13.4M	Los Altos, CA	PredictSpring Inc. operates a mobile commerce platform that allows brands and retailers to build and launch mobile apps from the web, email, social media and paid channels.	Beanstalk Ventures, Benvolio Group, Felicis Ventures, Novel TMT Ventures
Red Ant	51-200	NA	London, UK	Leading retailers use Red Ant's cloud-based digital store platform to empower their employees to deliver a truly connected experience. The platform gives stores tools to help customers shop efficiently.	NA
Reflexis Systems, Inc.	201-500	\$80.2M	Dedham, MA	Reflexis Systems, Inc. provides retail workforce management software solutions.	Great Hill Partners, Blue Cloud Ventures, Sageview Capital, Velocity Financial Group, Pequot Capital
Retaligent Solutions, Inc.	51-100	NA	Atlanta, GA	Retaligent Solutions, Inc. offers clienteling, CRM, loyalty, assisted selling and gift registry/wish list and customer centricity solutions for the retail industry. Retaligent Solutions, Inc. operates as a subsidiary of Raymark Xpert Business Systems, Inc.	Raymark Xpert Business Systems Inc.
Salesfloor	51-200	\$3M	Quebec, Canada	Salesfloor is a mobile platform designed for store associates to personalize customer experiences. Salesfloor provides store associates with clienteling tools to engage customers.	White Start Capital and BDC Venture Capital
Snap+Style	11-50	\$8.9M	New York, NY	Snap+Style is a stylist app that creates continuous communication between a retailer's customers and store associates.	Arab Angel Fund
TABLE.co	11-50	\$3.5M	Berkeley, CA	Beyond conversational commerce, TABLE.co allows retailers to provide seamless clienteling and total service solutions to their customers.	NA
Theatro	51-200	\$23.7M	Richardson, TX	Theatro is a Dallas-based SaaS company that creates business apps for mobile IoT devices for the indoor mobile workforce.	CPMG, Commerce Ventures, Aristos Venture, Khosla Vnetures
Tulip Retail, Inc.	51-200	\$51.2M	Ontario, Canada	Tulip Retail, Inc. develops and operates a cloud-based mobile platform for enterprise retail store associates.	Align Ventures, Audrey Capital, Box Group, Commerce Ventures, Kleiner Perkins Caufield & Byers, Founder Collective, Jump Capital
Yoobic	150+	\$31M	London, UK	Yoobic is a mobile application that helps retailers optimize their stores, operations and teams to deliver an irresistible shopping experience that ultimately drives conversion up.	Insight Venture Partners, Felix Capital and Petribox

In-store productivity – M&A and private placement transactions

Key M&A Transactions

(\$USD millions)

Date	Target	Acquirer	Transaction Size	Enterprise Value	LTM Revenue	EV / LTM Revenue	EV / LTM EBITDA
01/07/20	GASTROFIX GmbH	Lightspeed POS Inc.	\$126.3	\$132.4	\$12.5	10.6x	NA
12/23/19	Zynstra Limited	NCR Corporation	\$129.2	\$129.2	NA	NA	NA
10/21/19	Kounta Pty Ltd	Lightspeed POS Inc.	\$43.3	\$43.3	\$6.4	6.8x	NA
08/01/19	Sanderson Group plc	Aptean Limited	\$111.2	\$105.7	\$42.0	2.5x	14.5x
05/20/19	Profitect Inc.	Zebra Technologies Corporation	\$86.0	NA	NA	NA	NA
05/02/19	Fastrak Retail (UK) Limited	Pollard Banknote Limited	\$5.2	\$5.2	\$7.8	0.7x	NA
03/04/19	Mist Systems, Inc.	Juniper Networks, Inc.	\$405.0	\$404.2	NA	NA	NA
12/18/18	YOU Technology, LLC	Inmar, Inc.	\$565.0	\$565.0	NA	NA	NA
10/12/18	Dj-Matic Nv	Stingray Digital Group Inc. (nka:Stingray Group Inc.)	\$12.5	\$12.5	NA	NA	NA
07/23/18	Zooz Mobile Ltd.	PayU Group	\$60.0	\$60.0	NA	NA	NA
06/20/18	PointSoft Limited	Value Digital Limited	\$7.6	NA	NA	NA	NA
06/07/18	iMobile3, LLC	Total System Services, Inc.	\$13.4	\$13.4	NA	NA	NA
06/04/18	VERTIKOM GmbH	Fentus 91. GmbH	\$22.7	\$24.7	\$87.7	0.3x	NA
05/25/18	Enterprise Merchant Solutions, Inc.	i3 Verticals, Inc.	\$15.0	\$15.0	NA	NA	NA
05/15/18	Coasin Chile S.A.	Logicalis Latin America	\$20.2	\$20.2	\$84.4	0.2x	NA
04/27/18	Fujian Jifu Financial Service Data Processing Co., Ltd.	Zhejiang Jifu Financial Data Processing Co., Ltd	\$11.1	\$31.9	NA	NA	NA
Min			\$5.2	\$5.2	\$6.4	0.2x	14.5x
Mean			\$102.1	\$111.6	\$40.1	3.5x	14.5x
Median			\$33.0	\$37.6	\$27.3	1.6x	14.5x
Max			\$565.0	\$565.0	\$87.7	10.6x	14.5x

Key Private Placement Transactions (1/2)

Date	Target	Buyers	Deal Size (\$M)
1/14/2020	StoreHub Sdn Bhd	Vertex Venture Holdings Ltd.; Accord Ventures, Inc.	\$9.1
1/12/2020	New Store, Inc.	General Catalyst Partners; Activant Capital Group LLC; Salesforce Ventures, Inc.	\$20.0
12/2/2019	Theatro	Sageview Capital LP	\$20.0
11/13/2019	SheerID, Inc.	CVC Capital Partners Limited; Voyager Capital LLC; Centana Growth Partners	\$64.0
11/13/2019	Formes et Sculptures Industrie SAS	CM-CIC Investissement	\$8.0
11/7/2019	CitiXsys Americas, Inc.	Goldman Sachs Group, Merchant Banking Division	\$60.0
10/28/2019	Shenzhen JL Cloud Technology Co., Ltd.	JLPAY Technology Co., Ltd.	\$7.0
10/16/2019	Adroit Worldwide Media, Inc.	The Contrarian Group, Inc.; Mark IV Capital, Inc.; Impact Venture Capital	\$11.0
9/20/2019	Daisy Intelligence Corporation	Sonae Investment Management; Framework Venture Partners	\$7.5
9/16/2019	Trigo vision LTD	Vertex Ventures Israel; Hetz Ventures; Red Dot Capital Partners	\$22.0
8/15/2019	KiotViet	Jungle Ventures; PT. Traveloka Indonesia; Jungle Ventures III, L.P.	\$6.0
8/6/2019	Fluent Retail Pty Ltd	Arrowroot Capital Management, LLC	\$22.3
7/23/2019	SES-imagotag Société Anonyme	NA	\$11.2
7/22/2019	Trax Technology Solutions Pte Ltd.	HOPU Jinghua (Beijing) Investment Consultancy Co., Ltd.	\$100.0
7/16/2019	SumUp Inc.	NA	\$371.0
6/20/2019	Engage3, Inc.	Black Diamond Ventures, LLC; Peregrine Ventures LLC; New Road Capital Partners, LLC	\$12.0
6/3/2019	Optimizely, Inc.	Goldman Sachs Private Capital Investing group; Accenture Ventures	\$50.0
5/28/2019	Kukui Corporation	SSM Management Company, LLC	\$27.0
4/23/2019	Theatro	Cisco Investments; Honeywell Ventures	\$15.0
3/31/2019	Adroit Worldwide Media, Inc.	Mark IV Capital, Inc.	\$10.0
3/27/2019	Context-Based 4 Casting, Ltd.	Octopus Ventures Ltd.; Sequoia Capital Israel; Peregrine Ventures LLC; Sonae Investment Management	\$16.0
3/14/2019	Zip Co Limited	NA	\$36.8
2/12/2019	QU POS, Inc.	NRD Capital Management, LLC; Cota Capital Management LLC	\$10.0
2/11/2019	Vectron Systems AG	NA	\$5.7
2/6/2019	Retail Logistics Excellence - RELEX Oy	Technology Crossover Ventures; Technology Crossover Ventures X, L.P.	\$200.0
1/22/2019	Thematic Groupe SAS	Natixis S.A.; Sofina Société Anonyme; Bnf Capital Limited; Sodexo Ventures	\$81.8
12/14/2018	Stitch Labs, Inc.	NA	\$12.6
12/11/2018	Shopkeep Inc.	First Data Corporation; Tribeca Venture Partners; Salesforce Ventures, Inc.	\$65.0
11/15/2018	Shyft Technologies Inc.	Madrona Venture Group, LLC; Ignition Partners	\$6.5
11/2/2018	Mercaux Inc.	NA	\$11.0
10/22/2018	StoneCo Ltd.	Ant Financial Services Group	\$100.0
10/22/2018	Revel Systems, Inc.	NA	\$20.8
10/12/2018	Dj-Matic Nv	Stingray Digital Group Inc. (nka:Stingray Group Inc.)	\$12.5
10/5/2018	Unitrontech Co., Ltd.	Hanwha Investment & Securities Co., Ltd.; Hanyang Securities Co. Ltd.; SUSUNG ASSET MANAGEMENT Co., Ltd.; Core Trend Investment Ltd.	\$12.3
9/28/2018	CitiXsys Americas, Inc.	Housatonic Partners	\$20.0
9/13/2018	Moka	EDB Investments Pte. Ltd.; Sequoia Capital India Advisors Private Limited; SOFTBANK Ventures Korea Inc. (nka:SoftBank Ventures Asia); East Ventures Co., Ltd.; YJ Capital Inc.; Fenox Venture Capital; Sinar Mas Digital Ventures; Convergence Ventures; Mandiri Capital; EVG Fund, L.P.	\$24.0
8/24/2018	ModoPayments, LLC	Deutsche Bank Aktiengesellschaft	\$13.0
7/26/2018	Celect, Inc.	August Capital; Fung Capital Asia Investment Limited; NGP Capital; Activant Capital Group LLC	\$15.0

Key Private Placement Transactions (2/2)

Date	Target	Buyers	Deal Size (\$M)
7/26/2018	Scandit AG	NGP Capital; Atomico Investment Holdings Limited; GV	\$30.0
7/23/2018	Brightpearl Limited	MMC Ventures Ltd; Cipio Partners; Notion Capital Partners LLP	\$15.0
7/11/2018	Trigo vision LTD	Vertex Ventures Israel; Hetz Ventures	\$7.0
7/10/2018	Toast, Inc.	Bessemer Venture Partners; T. Rowe Price Group, Inc.; Tiger Global Management LLC; Generation Investment Management LLP; Lead Edge Capital Management, LLC	\$115.0
7/2/2018	Revel Systems, Inc.	NA	\$5.3
6/29/2018	Trax Technology Solutions Pte Ltd.	Boyu Capital Consultancy Co. Ltd; DC Thomson Ventures	\$125.0
6/28/2018	Yoobic Limited	Insight Venture Management, LLC; Felix Capital Partners LLP	\$24.6
6/27/2018	Cordial Experiences, Inc.	Upfront Ventures; High Alpha, Inc.; PeakSpan Capital, LLC	\$15.0
6/21/2018	TouchBistro, Inc.	BDC Capital Inc.; JPMorgan Mezzanine Corporation; Recruit Holdings Co., Ltd.; Relay Ventures; OMERS Ventures; BDC IT Venture Fund; Napier Park Financial Partners	\$54.1
6/19/2018	Tiller Systems SAS	Omnes Capital S.A.S.; Cambon Partners; 360° Capital Partners; Ring SAS	\$13.9
5/24/2018	12 ReTech Corporation	NA	\$12.0
5/8/2018	SES-imagotag Société Anonyme	Yuen-Yu Investment Co., Ltd.	\$30.3
5/3/2018	New Store, Inc.	NA	\$20.0
5/2/2018	Poq Studio Ltd.	Beringea, LLC; Smedvig Capital Limited	\$12.9
4/27/2018	Firich Enterprises Co., Ltd.	NA	\$19.4
4/26/2018	Pinpoint Software, Inc.	Bessemer Venture Partners; Storm Ventures LLC; BOLDstart Ventures; Social Capital; Bloomberg Beta L.P.; Cherubic Ventures; Slack Technologies, Inc.; Investment Arm; Slack Fund	\$13.5
4/19/2018	Sand Bankcard-Link information & Service Co., Ltd	Shanghai Science & Technology Investment Co. Ltd.; Shanghai Qiangsheng Holding Co., Ltd.; Guohua Life Insurance Co., Ltd.; Ningbo Shanrui Equity Investment Fund Partnership Enterprise	\$263.4
4/10/2018	Ace Turtle Services Pvt Ltd	1/0/1900	\$13.5
4/10/2018	Singlespot SAS	Iris Capital	\$7.4
3/13/2018	Pine Labs Pvt. Ltd.	Actis LLP; Altimeter Capital Management, LP	\$82.5
3/12/2018	xAd, Inc.	1/0/1900	\$18.0
2/21/2018	Capillary Technologies Pvt Ltd.	Warburg Pincus LLC; Sequoia Capital India Advisors Private Limited	\$19.8
2/12/2018	BayBridgeDigital Group LLC	Forepoint Capital Partners	\$6.0
1/31/2018	payworks GmbH	Visa Inc.; Speedinvest GmbH; CommerzVentures; Finparx Holding GmbH	\$14.5
1/25/2018	StoreHub Sdn Bhd	Vertex Venture Holdings Ltd.; Cradle Seed Ventures Fund 1; Cradle Seed Ventures Pte Ltd.; Accord Ventures, Inc.; Fintonia Group	\$5.1
1/11/2018	AN Global I.T. S.A.P.I. de C.V.	Banco Credit Suisse (Mexico) S.A., Investment Arm	\$19.4
1/2/2018	True Fit Corporation	Intel Capital; Cross Creek; Georgian Partners Growth LP; Signal Peak Ventures; Jump Capital	\$58.6
Min			\$5.1
Mean			\$38.7
Median			\$16.0
Max			\$371.0