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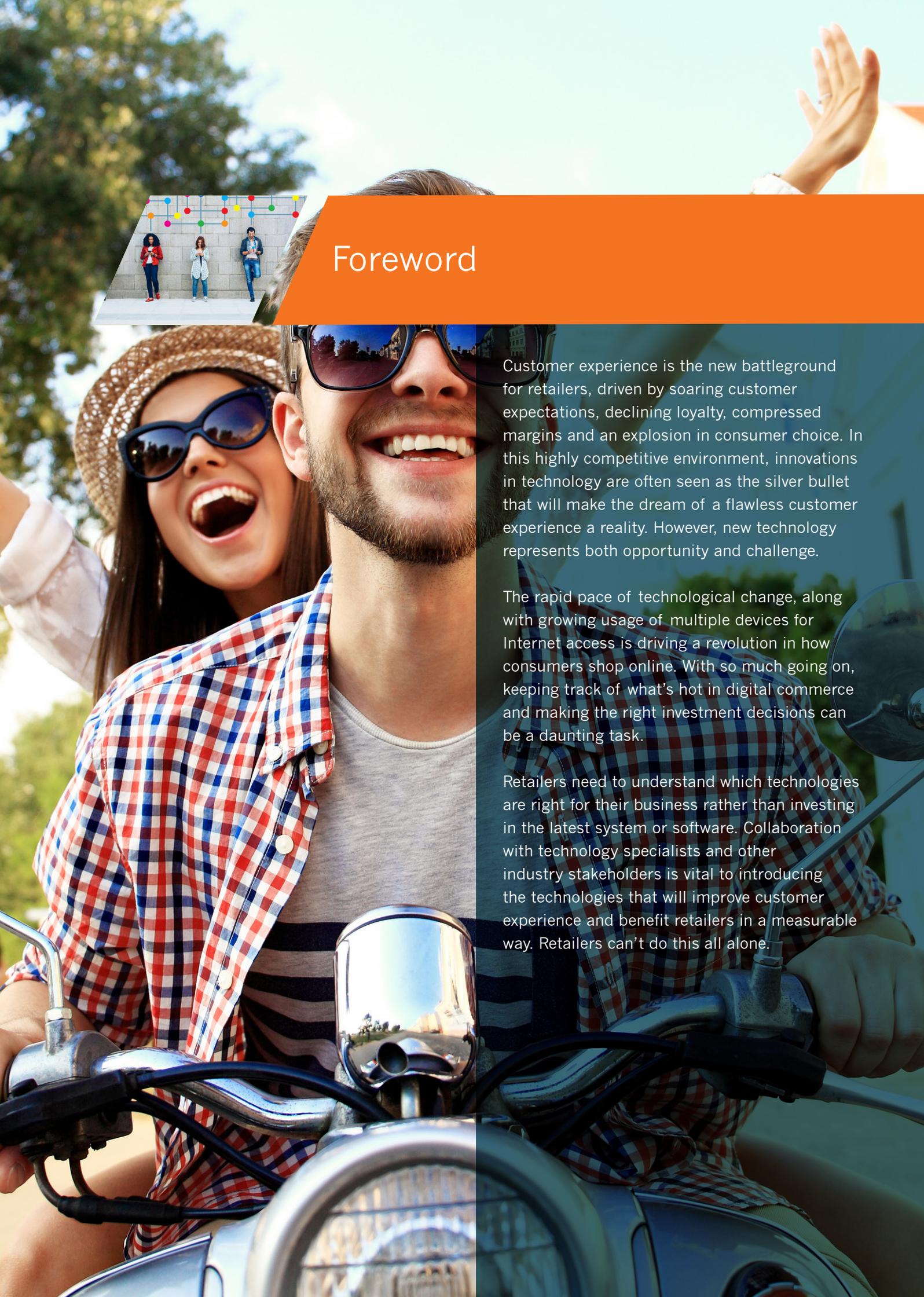
Preparing for Digital Commerce Success

Best practices for retailers and marketers to substantiate future investments

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Foreword

Customer experience is the new battleground for retailers, driven by soaring customer expectations, declining loyalty, compressed margins and an explosion in consumer choice. In this highly competitive environment, innovations in technology are often seen as the silver bullet that will make the dream of a flawless customer experience a reality. However, new technology represents both opportunity and challenge.

The rapid pace of technological change, along with growing usage of multiple devices for Internet access is driving a revolution in how consumers shop online. With so much going on, keeping track of what's hot in digital commerce and making the right investment decisions can be a daunting task.

Retailers need to understand which technologies are right for their business rather than investing in the latest system or software. Collaboration with technology specialists and other industry stakeholders is vital to introducing the technologies that will improve customer experience and benefit retailers in a measurable way. Retailers can't do this all alone.

The main opportunities and challenges for retailers

As a strategic technology partner to over 14,000 retail and travel clients, Criteo understands the digital commerce challenges they face.

Increasingly, our retail clients are asking us:

- How to make the most of personalization technology to deliver relevant, timely and tailored ads in real time
- How to better understand the complexities of the cross device customer journey (and in turn measure how different channels are contributing to sales)

Personalization just got smart

Basic customer segmentation was once at the vanguard of personalization but advances in technology have facilitated a more fluid and dynamic personalization experience, driven by machine learning and real time updates. What's more, sophisticated machine learning technology opens the door to predictive targeting for retailers – allowing them to anticipate consumer needs and behaviors, and demonstrate that they truly understand their customers.

Marrying internal and external data sources with the information generated by a personalization engine will allow new levels of relevance, boost engagement and therefore enhance the customer experience. This however, will require the consolidation of customer information via collaboration between retailers and technology partners, which can then be translated into actionable insights in real time.

Gartner predicts that by 2020 smart personalization engines used to recognise customer intent will enable digital businesses to increase their profits by up to 15%. At Criteo, we are able to help retailers improve

profitability by delivering on average 13x ROAS (Return On Advertising Spend). For every online buyer, the Criteo Engine evaluates 120+ shopping intent signals. Our performance marketing solutions enable the most advanced machine learning to continuously optimize campaigns at every level and drive new product discovery.

Customer Journey Analytics

Criteo's latest research on the [State of Cross Device Commerce](#) shows that almost a third (31%) of retail online transactions in the US now involve two or more devices. Therefore, retailers who can't follow their customers as they switch from desktop to smartphone and tablet only get a limited view of the customer journey. In today's world, it is essential that retailers are able to use analytics to optimize customer experience across all devices and for every channel.

Achieving a holistic consumer view demands a user-focused approach to analytics - to be able to seamlessly recognize and engage each consumer across all their devices, apps and web. The few companies that can identify an individual in real-time across devices either have limited reach, or work within a closed ecosystem that represents only a small fraction of the full shopping journey. This restricts the ability to optimize online campaigns and creates a fragmented consumer experience.

Customer journey analytics might start with tracking users and optimizing customer experience across devices, but the big challenge for retailers is connecting what's happening in-store with what's happening online to create a unified, seamless experience. Online and offline data are often disparate and patchy, making it a challenge to capture and consolidate information centrally. The CRM data which retailers have, in combination with a cross-device solution with persistent matching, can help to build a holistic picture of how

Criteo's Universal Match enables a single, real-time view of the consumer, including individual purchase intent, across browsers, devices, and apps.

customers are behaving in the digital and physical environments. This can provide retailers valuable information about their customers and prospects, and enable them to build and deliver personalized experiences. This, however, requires finding a partner with sufficient reach and strong adherence to privacy, and retailers must be diligent in assessing which organization to work with.

Criteo's Universal Match enables a single, real-time view of the consumer, including individual purchase intent, across browsers, devices, and apps. This ensures that every shopper receives the most relevant ads, optimized for each moment and device. Criteo does not store or process data that can be used to directly identify a consumer. We have a privacy safe approach that assigns a non-identifiable key to a consumer and links to the shopping behavior on the retailer's website, mobile app, and across the web, including ecosystems such as Facebook and Google.

Marketplaces and Monetization

Many retailers, both large and small, are thinking about how they can find new opportunities for site monetization that go beyond the core retail activity. This is an area where Amazon has led the way – they will receive nearly \$2BN in media revenues this year. This comes from two main sources – Seller and Brand Marketing.

Retailers can tap into seller marketing dollars by setting up a marketplace, where they allow third parties to list their products to their audience, in exchange for a sales commission. Getting this working well is often a complex process, but we see the retailers who crack this having great success. With a vibrant marketplace, sellers also want opportunities to promote their

products both on and offsite. Criteo offers a unique set of solutions for Marketplaces to offer marketing services to their sellers.

The other main source of auxiliary monetization for retail is brand sponsored products. Brands are willing to pay retailers to promote their products onsite, just as they have traditionally paid to promote them in store. This is now a significant source of revenue for some big retailers. Criteo recently acquired the leading company in this space – Hooklogic. We are very excited about deploying this broadly across our base of retailers in the coming year.

What does the future hold for digital commerce?

This report from Gartner highlights a host of digital commerce technologies and related trends that are likely to become mainstream in the coming years. Retailers can't afford to discount these new and emerging technologies. Innovation in AR, VR, and the growing use of messaging platforms and natural-language interfaces to interact with brands will drive increased consumer expectations.

At Criteo, we feel really excited about these trends and are confident that our solutions will continue to enable retailers to deliver more personalized and inspiring consumer experiences.



Patrick Wyatt

Senior Vice President
Product Management, Criteo



Research From Gartner:

What's Hot in Digital Commerce in 2017

For application leaders supporting digital commerce, competing on the basis of an outstanding customer experience is still a prime objective. This document profiles technologies and strategies intended to help them nimbly provide an outstanding experience without significant upfront investment.

Key Findings

- Digital commerce implementations are dependent on a complex ecosystem of technologies, data, teams and vendors.
- Many application leaders responsible for digital commerce are seeking more lightweight, agile solutions to improve the customer experience, while lowering the total cost of ownership (TCO).
- Hot technologies and strategies, based on client interest, technology providers' marketing and market "buzz," are as follows: personalization, payments, B2B/B2C convergence, customer journey analytics, API-based commerce platforms, subscription management, conversational commerce, marketplace integration and management, thing commerce and augmented commerce.



Recommendations

Application leaders responsible for planning, acquiring and operating digital commerce technologies should:

- Use this document as a starting point for broader discussion of digital commerce and the customer experience, beyond platform selection and pricing.
- Compare the technologies profiled in this document with their organization's roadmap, and assess how each technology could be implemented to benefit customers and increase revenue.
- Learn more about the technologies described in this document and their vendors. Work with business partners and stakeholders to develop a clear explanation of why each technology is, or is

not, a good fit for your organization and how each could, or could not, generate a worthwhile ROI.

Strategic Planning Assumptions

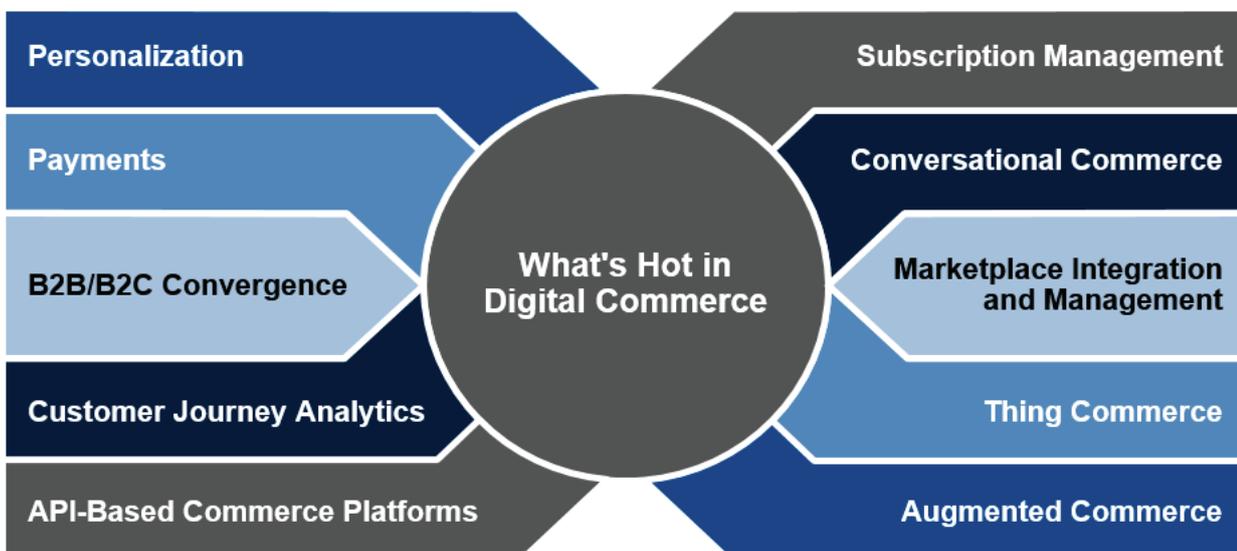
By 2018, 30% of businesses with a digital commerce strategy will include "things" and 5% will have deployed their own thing commerce platforms.

By 2020, smart personalization engines used to recognize customer intent will enable digital businesses to increase their profits by up to 15%.

Analysis

Each year, Gartner handles over 2,000 inquiries relating to digital commerce strategies and technologies. These inquiries come from large

Figure 1. What's Hot in Digital Commerce in 2017



multinational corporations and their business units, midsize and small businesses operating in a single country or region, and a wide range of technology providers of all sizes. They operate across almost all industries and represent B2C, B2B, business-to-business-to consumer (B2B2C) and other selling models.

Inquiry topics vary greatly. Gartner frequently receives inquiries from clients about new and emerging digital commerce technologies that are not viewed as “mainstream.” In this report, we have created a unified view of where this interest lies and where we believe the market is headed. Some clients ask about specific technologies or vendors, but many inquire about real-life business cases, where multiple topics may be involved. This report describes the digital commerce technologies and strategies that generated the most interest among Gartner clients during 2016. They represent what organizations are exploring and discussing, rather than what they are purchasing, in order to reveal leading indicators of future intentions. Spending on digital commerce applications clearly does not match these “hot” application types, nor is this report intended to predict the where we expect the most demand during the next few years.

In the past year, one of the emerging themes of clients’ inquiries is the desire for more lightweight, agile solutions that enable them to operate in a Mode 2 fashion. Additionally, clients frequently inquire about how to achieve this agility while developing a more personalized relationship with their customers and maintaining a low TCO with their technology solutions.

The convergence of the digital and physical worlds continues to transform buyers’ expectations of digital commerce experiences. With more and more data available across online, mobile and physical

environments, buyers have come to expect increasingly seamless experiences. Additionally, customers are using more devices than ever before, and multiple devices when interacting with a brand. Gartner’s vision for what commerce will ultimately become is explained in “Industry Vision: Commerce That Comes to You,” and clients are beginning to take note, with an increasing number of inquiries about thing commerce, conversational commerce and augmented commerce. Forward-looking organizations are beginning to develop roadmaps and solutions in these areas, while optimizing and executing in existing channels.

Application leaders responsible for digital commerce should consider this list as a starting point for discussion with their business teams with a view to prioritizing roadmaps and investments, whether for short-term tactical improvement or longer-term strategic enablement.

Personalization

Analysis by Penny Gillespie

Definition

The **Definition** of personalization for digital commerce continues to evolve, based on previously defined personalization and personalization engines:

- **Personalization** is a process that creates a more relevant, individualized interaction between two parties, one designed to enhance the experience of the recipient.
- **Digital personalization engines** are technology solutions that identify the optimum experience for an individual, based on what is known about the individual. They alter the online presentation layer, trigger an automated response, or pass analysis to the seller or service personnel to act on as deemed fit.

Providers' efforts to understand customers as individuals, to anticipate their needs, to simplify their access to products and services, and generally to help them (whether they be consumers or businesses) – all while being respectful of their needs and wishes – will shape the new customer experiences of 2020.

Source: Gartner, Predicts 2017: Trustworthiness and 'Commerce That Comes to You' Present New Opportunities for Digital Commerce, December 2016

■ **Digital personalization engines used for commerce** integrate with one or more digital commerce platforms or alternative technologies used for selling. These engines have moved beyond basic customer segmentation to continuous real-time session activity, based on customer interaction, and they make presentation layer changes for specific customers.

Personalization engines create customer profiles based on the customer's personal data, as well as behavioral data about the customer and similar individuals, to deliver an experience to meet specific customer needs and preferences. More sophisticated solutions update customer profiles in real time (continuously with every customer click stroke) and incorporate machine learning. Some solutions include a customer data hub for housing customer information generated by both the personalization engine and internal and external sources.

Why It's Hot

Because companies can no longer compete on product or price, the customer experience has become the new competitive battleground. Creating an individualized digital interaction based on customer intent and interests enables companies to deliver an optimum customer experience. Moreover, when personalization is done well, personalization technology drives relevant digital experiences that in turn drive higher levels of satisfaction and engagement, which in turn help to increase revenue, profit and return business.

What We're Seeing

Gartner clients are using personalization in multiple industries and in multiple channels (web, mobile, call center, in-store). Whereas vendors are offering

more sophisticated personalization solutions today, many of their clients continue to use the more rudimentary and introductory solutions. Yet these customers are seeing strong results from their personalization endeavors. In 2015, we reviewed 93 case studies with varying results. All had measurable results in B2B or B2C, or both, with increases in engagement and revenue. In general, digital personalization engines were increasing engagement in the following ways: more page views and clicks per page, decreased bounce rates and higher use of self-service features. Higher engagement drove higher profits in the following ways: higher order value, great conversion rates, more customer acquisitions, wider margins, fewer returned items and lower service costs. When personalization engines are expanded to other channels, the new channels see similar results (as demonstrated with the initial channel).

Payments

Analysis by Penny Gillespie

Definition

Digital payments are non-paper-based payments such as debit, credit and bank transfers that are used to make online purchases, pay bills and invoices online. Digital payments are typically authorized in real time with monetary settlement occurring either in real time or at later time. Digital payments may be offered by multiple vendors and typically require a gateway service to route the approval request and return the authorization approval or denial.

Why It's Hot

Payments have become of greater interest among clients because they have become strategic:

- Clients are extending their commerce operations to other countries. They are seeking payment vendors that can serve them in the new geography by enabling them to accept localized payment methods, which increase sales, and to enable settlement in the local currency, which reduces foreign exchange costs.
- Clients are trying to consolidate disparate channel strategies (typically with differing vendors) that have emerged over time in the hope of creating a global strategy with fewer vendors and better pricing, thereby reducing costs.
- Clients want to make payment easier and to improve the customer's experience with payments. Research shows that frictionless payments increase digital sales.
- Clients are seeking vendors that can help reduce the cost of payment transactions by increasing authorization rates for legitimate customers and reducing fraudulent transactions.

What We're Seeing

Perhaps for the first time in many years, payment vendors are starting to recognize merchants as customers, instead of hostages. Vendors are now providing added value to what could have been previously perceived as a commodity business. Leading payment vendors help their clients minimize integration efforts and provide technology support to simplify the process for switching payment vendors. They also offer benefits like lowest-cost payment routing and local authorization to promote lower transaction costs and higher authorization rates. Some vendors make it easy for their clients' customers to pay. They also make payment operations easier through managed service offerings and expanded product offerings.

B2B/B2C Convergence

Analysis by Chris Fletcher

Definition

B2B and B2C business models share some common digital commerce functionality, such as product catalogs, UI and integration APIs. The amount of functionality shared by the two models has increased as B2C and B2B organizations have continued to learn from, and adopt attributes from, each other.

B2C commerce addresses the needs of companies that are selling online directly to the consumer. B2C commerce sites typically provide an engaging user experience or storefront; the ability to recommend or promote products that are of interest to the consumer; integration of online digital commerce functionality with in-store (physical store) capabilities; and often heavy use of digital marketing to drive traffic and engagement with the consumer.

B2B commerce enables online selling between organizations. B2B commerce has historically been characterized by a usable but relatively crude UI or user experience, often as basic as a log-on screen layered on a legacy ERP system. It often supports very large and complex product catalogs, although frequently with a less-than-optimal ability to search for product or intuit what the buyer is looking for. It often features deep integration with ERP and financial management applications. It enables the ability to buy through a purchase order or existing contract vehicle. And it may have industry-specific functionality, such as configure, price and quote (CPQ) tools. B2B commerce requirements can be very complex, with the requirement not only to support complex product catalogs and product hierarchies, but also to be able to model and sell to a complex hierarchy of users within an organization.

Why It's Hot

The growing convergence between B2B and B2C commerce business models is significant for several reasons. From the perspective of B2B companies looking to augment or reduce existing physical sales channels (direct sales teams, indirect or partner sales teams, and inside customer sales and support teams), the convergence holds the promise of being able to cut costs by reducing reliance on current sales channels, while enhancing the company's sales and market presence with an online store. In addition to the typically high-volume, low-complexity order types managed by electronic data interchange (which are not, in most instances, going away), B2B commerce that "learns" from B2C business practices holds the promise of a deeper and more intimate customer experience that will result in more sales; that will enable selling to an individual, a role or a title within an organization; and that will provide the vendor with much better control over the customer experience and the product experience – such as the way that products are displayed, described and promoted – than is usually possible with "legacy" B2B solutions.

For B2C retailers, convergence with B2B may mean that they now have the ability to optimize their own buying experience with suppliers and vendors that are trying to sell raw materials or services to them; those retailers may also be able to use parts of their B2C commerce platform to engage more completely with their distributors and wholesalers and eliminate friction from the product buying experience. For brands that have already made significant investments in online selling, the opportunity to converge with B2B capabilities means that they may be able to use the product catalog they present to consumers to also sell online to retail customers and wholesalers.

What We're Seeing

The convergence of B2B and B2C models is significant for several reasons. It will have an impact on both technology vendors and application leaders, including a rapid maturation of B2B solutions and, possibly, a consolidation of B2C commerce vendors that are facing an increasingly crowded technology market.

On the B2B side, there is a realization that selling to a business does not always mean selling to an anonymous, faceless and automated entity; in fact, the business-to-individual model, which involves selling a B2B product or service but targeting a specific role, title or individual within the organization, is increasingly gaining traction. B2B customers may be buying products and services on behalf of their organizations, but their expectation is being shaped by their B2C experience, and includes the expectation that the vendor will know who they are, what they have bought during prior transactions, and will tailor a product catalog or product recommendations to their requirements. As a result of these changes, B2B commerce remains one of the faster-growing segments of commerce, but this is still an underserved market.

On the B2C side, much of the work to underpin the online buying experience has been done. UIs are highly interactive and engaging; "multichannel" or "unified" commerce, including the ability to buy online and pick up or return in-store, for example, is available as part of almost every online retail and brand experience. One of the side effects of this shift toward B2C functionality is that B2C commerce platform vendors are attempting to repurpose or extend their products to address the needs of the B2B commerce platform buyer. Application leaders supporting B2B commerce should understand that B2B commerce can be very complex and requires very specific functionality, which is not always available from a modified B2C commerce platform.

Customer Journey Analytics

Analysis by Jason Daigler

Definition

Customer journey analytics (CJA) is the process of tracking and analyzing how customers use a combination of available channels to interact with an organization. It covers all possible channels:

- Those with human interaction – a call center, for example
- Those that are fully automated – a website or mobile device
- Those that provide assistance to the customer – live chat or co-browsing
- Those that are operated by third parties – an independent retail store
- Those with limited two-way interaction – display advertising

Why It's Hot

Customers frequently use multiple channels in their path to purchase, subscription or registration and throughout their relationship with a company and its products or services. Given the importance of a superior customer experience to gain customers' trust and loyalty, application leaders supporting digital commerce need not only to understand how customers are using each channel, but also to find a way to optimize each channel for customers' intended purposes. Effective customer journey analysis can result in reduced customer pain points across channels, better continuity between channels, more

accurate revenue attribution, and better customer segmentation and personalization, all of which will result in increased revenue and customer satisfaction.

What We're Seeing

Companies who successfully undertake CJA initiatives start with just the connection between two or three channels. These companies often connect data between channels and then develop journey maps to visualize and analyze customer behavior. For example, a company may connect data between a website and a contact center, with the goal of routing customers more intelligently when calls take place. In some cases, companies choose a vendor to connect the data and generate the journey maps.

Successful CJA projects are led by an individual with cross-team responsibilities and visibility, such as a chief customer officer or a vice president of customer experience. Due to organizational silos, CJA projects that start in, and are led by, an individual business unit without cross-organization participation will have trouble demonstrating long-term success.

API-Based Commerce Platforms

Analysis by Mike Lowndes

Definition

API-based commerce (also known as “headless” commerce) is a feature of a subset of mostly SaaS commerce platforms that, instead of (or in addition to) providing the presentation layer (or “storefront”), provides a set of APIs covering core commerce functions for integration into external systems – primarily custom front-end presentation layers or web content management (WCM) and digital experience platforms (DXPs).

Why It's Hot

API-based commerce platforms have found early adopters among businesses selling digital goods and services, businesses that serve multiple channels, and businesses that wish to use custom presentation layers, native apps or WCM to drive their storefronts.

Businesses wishing to innovate and become leaders in their sector are looking to modularize their platforms to enable agile development in a “bimodal” world. This requires building of platforms from modular services (sometimes called microservice architectures), instead of relying on a single monolithic solution.

Another driver of uptake of API-based commerce platforms is the movement to decouple the front end or UI of digital properties, in two ways:

- 1 By building the UI using client-side frameworks such as Angular and React with thin server-side application orchestration tiers. This architecture lends itself to the use of pluggable services via APIs – for WCM, personalization, analytics and now digital commerce, for example. It also reduces the need for large investments in full commerce platforms, as only certain components are needed.
- 2 By building a DXP around a commercial off-the-shelf or WCM/portal product and integrating digital commerce services into that application.

What We're Seeing

Implementation of API-based commerce requires a skilled in-house team, a trusted technical partner or a system integrator to assemble the jigsaw of

services required, but the resulting platform can prove a differentiator in the market.

These platforms do not compete directly with “turnkey” end-to-end or single-vendor commerce solutions. They are also opposite in terms of goals to the offerings of end-to-end SaaS commerce platform vendors. What they bring is increased flexibility: they enable a business to build a platform that is agile and modular, based on multiple services, and they eliminate the problem of a lack of flexibility and customizability that can limit SaaS commerce platforms.

Digital commerce is evolving rapidly and the future landscape will have API orientation at its core. Gartner has introduced a vision for this evolution in terms of “commerce that comes to you”, and commerce platforms with a fully functioning commerce API are best placed to lead this evolution.

Subscription Management

Analysis by Chris Fletcher

Definition

Subscription management enables the sale of physical products, digital products (nonphysical products such as software, media and video games) and services on a recurring and automatically renewing basis. Subscription management solutions enable a company to build and model a subscription service; to present subscription alternatives to the customer; to manage the customer's order or entitlement and to integrate that order or entitlement with a product using ERP, order management, fulfillment and entitlement systems that provide the product or that provide access to the product; and to manage directly, or integrate with, the financial management and billing systems

that support the financial reporting side of the subscription.

Subscription management supports a variety of recurring business models, such as monthly or annual usage, metered usage and one-time usage. Leading subscription management services provide for integration with digital commerce or sales applications, and with back-end financial management and billing systems. Depending on specific industry requirements, additional functionality can include real-time metering and rating, mediation, allowance management, payments, multitier pricing, multiple revenue streams per customer, service and product bundling, usage caps and entitlements.

Why It's Hot

The market for subscription management technology will continue to grow, spurred by the growth of SaaS and cloud software products and services, and a growing range of services, mobile devices, Internet of Things (IoT) devices, and other consumer and business products and services. As this shift toward subscription business models continues to gain traction, organizations will be challenged in several ways. Products will have to change, such as in how they are accessed and consumed by users; product support and marketing will have to change as they grapple with the need to continually enable and refresh the customer experience; financial management – including revenue recognition, taxation, customer entitlement and product access, financial reporting and billing – will also be impacted.

What We're Seeing

Subscription management is an evolving product category. It has significant growth potential, but also presents several notable challenges to companies

looking for a viable subscription management solution. While subscription management is well established as a business model in several industries, the technology solutions needed to address the complex requirements of subscription management have not evolved as quickly. Some vendors provide subscription management functionality that is integrated with their digital commerce platform products, but that may provide narrower subscription management and financial management capabilities. Other vendors provide “best of breed” subscription management capabilities that often have deep functionality for subscription management, as well as for billing and financial management, but that require customized integration with their customers’ legacy financial, CRM or line-of-business applications. Further, subscription management requirements are often industry-specific.

Another level of complexity arises from the billing and financial reporting requirements that are part of a subscription management business model. Because a consumer or business user can change or cancel their use of a product or service, or modify their usage or the frequency with which they consume a product or service, a complete subscription management solution needs to be able to integrate with and reconcile financial reporting in areas such as revenue recognition. Because of the complexity of subscription management functionality, the often deep industry functionality required, and the presence of financial management systems that represent a “system of record” for many large organizations, most subscription management systems are based on internally developed applications or highly customized ERP and financial management systems.

Every company that sells or licenses its products on the basis of a recurring usage model, as opposed to

a one-time purchase or license, requires subscription management capability, as well as adjacent billing, fulfillment, entitlement and financial reporting functionality, to support its business. However, the majority of companies that were early implementers of subscription-based business models have not licensed this capability from a vendor that provides a packaged application solution. Instead, they have opted to either develop their own capabilities or modify an existing ERP and financial management system to support subscription management.

Conversational Commerce

Analysis by Mike Lowndes

Definition

Conversational commerce uses chat, messaging platforms and other natural-language interfaces (such as voice) to interact with brands, services and bots, thereby enabling transactions via the user's platform of choice.

Why It's Hot

Social and messaging platforms such as Facebook Messenger, WeChat and Line are rapidly increasing in popularity, together with the success of voice-driven services (Baidu, Siri) and smart home devices (such as Amazon Echo and Google Home). "Chatbots," virtual personal assistants (VPAs) and virtual customer assistants (VCAs) are becoming mainstream and development is accelerating.

These innovations are enabled and driven by maturing smart machine technologies that take advantage of the Nexus of Forces. These include natural-language processing (NLP), for which error rates are now lower, natural-language question

answering (NLQA) and deep neural networks trained on vast amounts of real-world data.

These advances offer businesses new ways to interact with both existing and new sets of customers, while also offering a new sales channel.

What We're Seeing

Most chatbots are currently domain-specific – for example, they may be specific to a particular company, as with Facebook Messenger. First-generation chatbots do not include NLP or NLQA capabilities, and have difficulty dealing with input from outside the domain for which they were built. More generic conversational bots that integrate NLP features in specific implementations are on their way, however, and we are likely to begin seeing interaction and handovers between bots of different specialties – the emergence of a "bot economy."

Although this innovation is gaining initial traction in B2C scenarios, B2B sales is an equally attractive use case for domain-specific conversational bots, and vendors are responding to this attraction.

In voice-only scenarios, challenges remain for digital commerce with regard to product discovery, where "a picture is still worth a thousand words." These challenges may be tackled using a multimodal approach – that is, by switching to a visual interface, when possible, such as when a local "smart" device with a screen is in use. In simpler scenarios, such as where the product is already known or where a linear or simple branching conversation is appropriate to enable a transaction, conversational interfaces will rapidly gain ground.

Marketplace Integration and Management

Analysis by Jason Daigler

Definition

Marketplaces such as Amazon, eBay and Tmall have become valuable sales channels for retailers and brands looking to extend their reach and position themselves in front of new customers. Further, some companies are turning their own digital properties into marketplaces, which increases inventory and traffic and opens new revenue channels. The process of selling on marketplaces can be complex, and many companies choose third-party integration services to facilitate the logistics and optimize their efforts.

Marketplace integration platforms allow customers to connect their digital asset management and product information management data with marketplaces, as well as manage pricing and competitive strategy on third-party marketplaces. Some platforms will also facilitate inventory management and order management.

Marketplace management platforms allow companies to create their own marketplaces by enabling vendors to register, load products and sell on existing commerce sites.

Why It's Hot

In addition to reaching new customers through an additional channel, selling products internationally is a common reason for extending digital commerce efforts to marketplaces. Marketplaces such as Tmall and Rakuten present lower-risk alternatives to the task of establishing stand-alone digital commerce sites in specific countries.

Becoming a marketplace operator and opening an existing commerce site to marketplace sellers is an excellent way to increase product selection for customers without the inventory costs. Increased product selection can result in greater cross-selling and upselling opportunities, improved search engine optimization, and better customer experiences when some products are out of stock.

What We're Seeing

Companies wanting to extend their sales efforts to other countries often choose to perform marketplace integration. When integrating with a single marketplace, companies often perform the integration through existing in-house development resources. If multiple marketplaces are involved, a third-party integration service is commonly used.

Further, many retailers have turned their existing commerce sites into marketplaces, thereby increasing their product selection and gaining the corresponding benefits.

Thing Commerce

Analysis by Sandy Shen

Definition

Thing commerce refers to services in which smart things make purchases on behalf of human customers by directly taking requests from the customers or inferring demand based on rules, context and customer preferences. A smart thing is a connected device that may have embedded sensors and/or a human interface, and that can communicate with cloud services to take actions. The primary purpose of thing commerce is to reduce customer effort and friction in purchases.

By 2020, 25% of leading online sellers will have enabled first-generation “commerce that comes to you” capabilities.

Source: Gartner, Predicts 2017: Trustworthiness and ‘Commerce That Comes to You’ Present New Opportunities for Digital Commerce, December 2016

Why It's Hot

Thing commerce will change the way digital commerce is done by gradually shifting decision making from customers to things. This will mean an entirely new type of customer for application leaders supporting digital commerce. With the primitive form of thing commerce, the operation is manual and requires explicit customer action. In the future, when devices become more sophisticated and gain customer trust, they will be delegated the power to make purchases, starting with repeat purchases such as consumables and maintenance.

This development will impact how businesses market and sell to customers as they will be dealing with things, rather than humans. They will have to rely on bots that can speak to other bots that control things, and make their offerings appealing to those controlling bots.

What We're Seeing

Thing commerce will rise on the basis of advances in the IoT, human computer interfaces (HCIs), VPAs and smart machines.

The IoT connects operational devices to the cloud and allows them to monitor device status and usage. Some are designed to interact with humans, and an HCI enables them to recognize human requests via voice, text or other means of input, as well as to authenticate customers with biometrics. Smart machines, together with rule-based systems, prescribe actions to take, based on the data collected. The more they learn about customer behavior and preferences, the better they get.

A VPA combines an HCI, smart machine technology and a database of knowledge or skills. It interacts with customers in order to recognize their needs

and requests, and to respond accordingly. Amazon's Alexa, Google's Google Assistant, Microsoft's Cortana and Apple's Siri are examples. We are seeing some companies begin development efforts or release solutions for end customers, in order to interact with them through existing VPAs.

As more VPAs come to the market, companies may use multiple versions, depending on the use case. There will be a network of VPAs or bots that coordinate with each other to avoid conflicts and clashes. There will be a master VPA that sends instructions, pulls data from other VPAs and bots, and reviews and approves decisions. Businesses whose VPAs get selected as the master VPA will have strong lock-in of customers, and other businesses will interact with master VPAs and bots to connect to their customers.

Augmented Commerce

Analysis by Sandy Shen and Mark Lewis

Definition

Augmented commerce uses augmented reality (AR) and virtual reality (VR) technologies in digital commerce to increase conversion rates by enhancing the shopping experience. VR can show what products look like in specific settings when shoppers are not physically at the location. For example, it can take a shopper on a virtual visit to a store or to a proposed destination of travel while they are sitting at home. It may require the use of head-mounted devices (HMDs) to create an immersive experience.

AR overlays a digital image on the environment in which the shopper is physically present to provide additional information. For example, it can show how a product fits into a physical location or play an instructional video on how to assemble a product.

Why It's Hot

Augmented commerce is a powerful tool for driving sales as it gives a 2D/3D visual of the product, and allows shoppers to magnify, rotate, move and change the configuration of the image. Further, the image can fit into the surroundings as shoppers move around. It gives the customer a quasi-real feeling for a product. It also overcomes a difficulty with current digital commerce, whereby product content is pre-edited and shoppers have to rely on secondary information such as product pages, user reviews and customer service to decide whether it is the right product for them.

What We're Seeing

AR has more potential for digital commerce because it has more use cases than VR, and is mostly implemented as software without a requirement for HMDs. Some AR applications require the use of a "marker" – a predefined image to serve as a trigger. Another type of AR application is "marker-less" – it can recognize any objects, and shoppers need only scan their surroundings to start the AR session. The

latter approach requires more sophisticated image recognition and presentation capabilities, so that the digital content fits well into the physical context.

We are seeing AR technology used by mobile apps to enhance the shopping experience, and by social media to promote new products. It is also being used as in stores to help fit mirrors, digital signage and "clienteling" apps, to enhance in-store experiences.

VR can create very immersive experiences, but high-end VR needs a connection to a PC as it demands huge processing power. This makes it less suitable for commerce, except for a few industry-specific use cases. Lower-end VR can be achieved by inserting wireless devices such as smartphones into a head-mounted rack, and is often used for showing prerecorded video.

Additionally, for AR and VR technologies to be successful in digital commerce, they must be deployed to solve specific customer problems, instead of being used just for their novelty appeal.

Acronym Key and Glossary Terms

API application programming interface

AR augmented reality

B2B business to business

B2B2C business to business to consumer

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CJA customer journey analytics

CRM customer relationship management

DXP digital experience platform

ERP enterprise resource planning

HCI human computer interface

HMD head-mounted device

IoT Internet of Things

NLP natural-language processing

NLQA natural-language question answering

SaaS software as a service

TCO total cost of ownership

UI user interface

VPA virtual personal assistant

VR virtual reality

WCM web content management

Evidence

■ Gartner client inquiries

■ Market research

Source: Gartner Research Note G00313832, Jason Daigler, Sandy Shen, Chris Fletcher, Penny Gillespie, Mike Lowndes, Mark Lewis, 25 January 2017

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