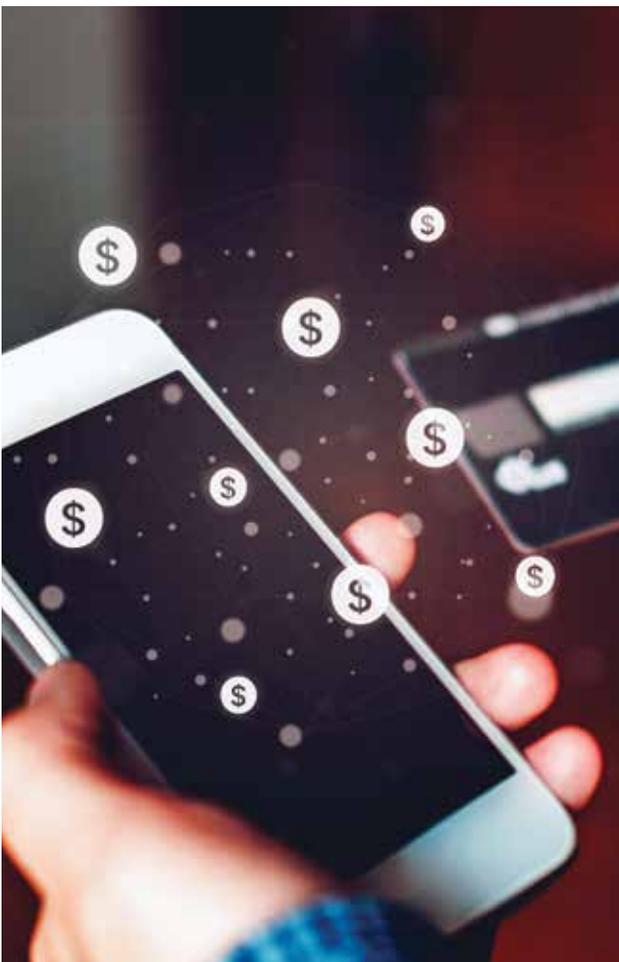


Digital Commerce:

Understanding the need for security and convenience in online payments



Digital commerce has seen significant growth over the last decade and continues to expand as more businesses create opportunities to interact with their customers in a digital channel. In the United States alone, online sales are expected to grow from roughly \$500B USD in 2018 to more than \$730B USD in 2023¹. Not only are more physical goods available online than ever before, but entirely new business models have been created, such as online subscriptions, digital and streaming media services, and gig economy services. Today, there are three primary methods of conducting payments online. Regardless of whether the customer is using a computer, mobile device or tablet, each method has its own challenge.



- 1. Guest Checkout:** A customer provides their payment credentials to a merchant at time of checkout, either because they are buying from the merchant for the first time or they prefer not to let the merchant store their payment credentials. This is the primary method customers use at smaller merchants.
- 2. Stored Payment Details:** A customer chooses to store their payment credentials with a merchant for future use (e.g. to simplify future checkout experiences). Future payments require explicit customer permission. This is the dominant method of payment at large merchants such as Amazon and online grocery providers.
- 3. Recurring:** A customer chooses to store their payment credentials with a merchant and establishes an agreement with that merchant allowing them to perform specific recurring payments for goods or services (e.g. subscription services for digital media) without further permission.

1) <https://www.statista.com/statistics/272391/us-retail-e-commerce-sales-forecast/>

What do consumers and businesses want from digital commerce?

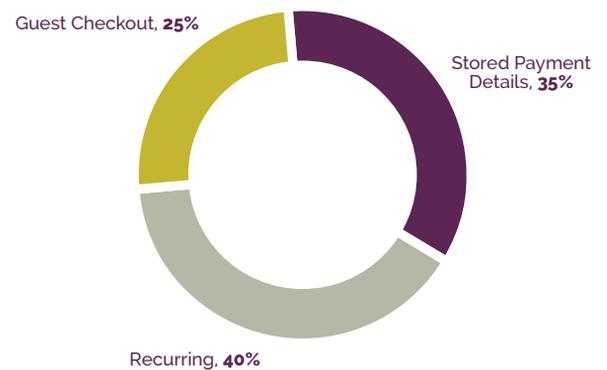
In any online interactions they have with each other, consumers and businesses care most about:

Consumers	Businesses
<ul style="list-style-type: none">• Convenience: Do I really need to enter all my payment details and contact information again?	<ul style="list-style-type: none">• Universal Acceptance: We want all our customers to be able to pay quickly and easily, however they want to pay.
<ul style="list-style-type: none">• Trust: How do I know this is really "Merchant XYZ" and that it's not someone pretending to be that merchant?	<ul style="list-style-type: none">• Financial: We want our transaction costs to be optimized and to reduce our exposure to fraud, disputes, expired accounts, etc.
<ul style="list-style-type: none">• Financial Risk & Security: How do I know my credential won't be used fraudulently and I won't have to deal with the hassle of a compromised account?	<ul style="list-style-type: none">• Reputation: If we don't ensure adequate protection of customer credentials, our customers won't continue to trust us.
<ul style="list-style-type: none">• Control: How do I know where my credential is being used or stored and how can I stop unwanted payments?	<ul style="list-style-type: none">• Cart Conversion: We want to ensure that when a customer intends to checkout, we make it easy so that they won't just abandon their cart and can complete payment.

What are the challenges with digital commerce today?

The single biggest challenge for both consumers and businesses is a lack of trust in online transactions. Face-to-face retail payments have risen to the challenge of fraud and counterfeit transactions by integrating security through EMV cards and cardholder authentication (Chip and PIN), while digital commerce is still stuck in the dark ages. Guest checkout and manual entry form fill cannot continue to be the default mechanism for online payments.

Consult Hyperion estimates that guest checkout accounts for roughly 25% of online transaction volume. These transactions are primarily conducted with smaller merchants who often do not have an existing relationship with customers.



We need to make guest checkout more convenient and secure

Stored payment details and recurring transactions make up the remaining 75% of the volume and can be primarily protected through payment tokenization (when it's used). While this is often a more secure method of transacting online there are still varying solutions being implemented and kinks to be worked out. Merchants, acquirers, processors, and the payment networks alike are all undergoing changes and refinement of their approaches to solve for these scenarios.



We need to protect stored payment details and make registration much easier

Recurring payments initiated by the merchant are becoming an increasingly significant proportion of digital commerce. However, such payments are typically made by the merchant when the cardholder is not available, based on an earlier agreement. This means cardholder authentication must be approached differently by both the merchant, and the payment service providers.



We need to make sure payments work, even when the customer isn't present when the payment is made

What's needed to move beyond today's challenges?

Many organizations have tried to make online payments easy through a variety of digital wallets and payment buttons, but none have been able to solve the problem of secure and trusted online payment acceptance on their own.

Digital wallets from the major device manufacturers increase security and created a common experience, but only for users of those devices. The payment networks created digital wallets that made transactions more secure, however the experience was not sufficiently compelling, and they were not universally accepted.

We believe that in order to move beyond the challenges faced today, an industry-wide ecosystem approach will be required, and will need to consider three principles.



Universal acceptance:

It needs to replace manual entry as the default checkout experience



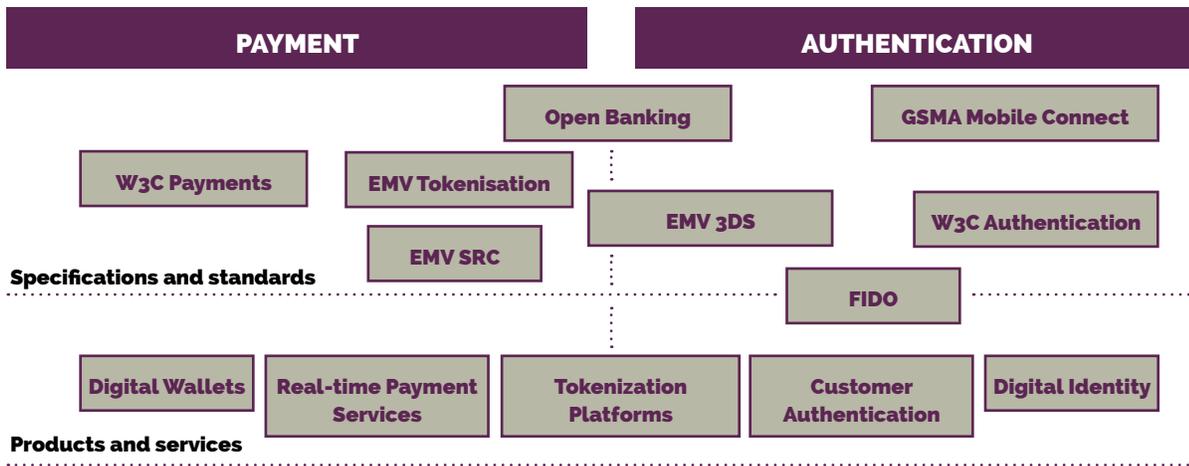
Raised security:

It needs to close the fraud gap between online and face-to-face



Common experience:

It needs to be understood and embraced by consumers



The landscape for tackling these challenges is currently evolving and shifting. There are a variety of existing and developing solutions originating from competing organizations across the digital commerce ecosystem. At Consult Hyperion, we spend a lot of time working with our clients to understand how all of these specifications, standards, products, and services fit together to deliver the three principles above.

If you are ready to take advantage of the digital commerce opportunities for your business, we would love to hear from you and talk about how we can help. For further information about how we can work with you to develop your digital commerce strategy please contact sales@chyp.com.

About Consult Hyperion

Consult Hyperion is an independent strategic and technical consultancy, based in the UK and US, specialising in secure electronic transactions. With over 30 years' experience, we help organisations around the world exploit new technologies to secure electronic payments and identity transaction services. From mobile payments and chip & PIN, to contactless ticketing and smart identity cards, we deliver value to our clients by supporting them in delivering their strategy. We offer advisory services and technical consultancy using a practical approach and expert knowledge of relevant technologies. Hyperlab, our inhouse software development and testing team, further supports our globally recognised expertise at every step in the electronic transaction value chain, from authentication, access and networks, to databases and applications.



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