Gain a competitive edge in online travel with modern payment APIs

MARQETA

A wave of disruption is about to crash over the online travel industry. At least that is the view of investors who slashed the market value of industry leaders like Booking Holdings, TripAdvisor, and Expedia in 2019. Pundits call this "the Google squeeze," a reference to the ability of tech giants like Google and Amazon to wield their technical prowess, e-commerce savvy, and vast troves of customer data to enter and dominate vulnerable industries. But the demise of today's travel leaders is far from a foregone conclusion.[1]

For nearly two decades, newly formed startups and hundred-year-old firms have been innovating on top of a layer of technology known as open APIs, or application programming interfaces. They have pioneered new business models and innovative services that cater directly to customers' desires for cheaper, faster, and more personal experiences. In doing so, they've written a playbook of re-invention that is being applied across industries.

This whitepaper will explore how travel industry incumbents can strengthen their competitive position by building on top of modern payment APIs. You'll understand why modern payment infrastructure has become core to companies' success in a digital-first world, and you'll come away with a clear picture of how open payment APIs in general and modern card issuing, in particular, can help improve security, increase customer engagement, and build brand loyalty for online travel companies.

1: Reinvention begins with existing technology

APIs are not new. They are the standard way that applications communicate with each other, and they date back to the early years of the computing industry. Traditionally treated as proprietary technology by the companies that created them, APIs connected applications for specific internal purposes. While necessary for business operations, they were not considered to be a noteworthy competitive advantage.

Then, in 2000, Amazon, eBay, and Salesforce began exposing their APIs on the web. Their purpose in opening up their APIs was to encourage third-party developers to access their content and tap into their services. Their goal was to gain exposure to potential customers and deepen connections with existing customers and partners. They achieved this and more thanks to the benefits their APIs offered other organizations. The data and services exposed by open APIs fueled growth across the API-using ecosystem.

Other companies began following suit and releasing their own web APIs, including travel leaders like Expedia, TripAdvisor, and Sabre. The purpose of these APIs wasn't to increase agility or avoid disruption; it was to expand hugely successful, fast-growing businesses. Expedia's APIs made it easy for developers to incorporate the ability to book a flight, hotel, or rental car into their applications. Sabre's APIs similarly allowed travel reservations, while TripAdvisor's APIs offered developers easy access to information on accommodations and restaurants. By 2015, Expedia was collecting 90% of its revenue through its APIs.[2] The *Harvard Business Review* likened the strategic value of APIs to a company to the relationship between the World Wide Web and the internet.[3]

As APIs proliferated, people began talking about the "API economy." By the time the presidential election was held in 2016, there were some 12,000 open APIs on offer, and a generation of developers was using them to launch products and services with unprecedented speed.[4]

2: Open APIs replace core services

The first generation of open APIs offered nice-to-have — but not critical — functionality. If, for some reason, eBay listings failed to appear alongside other content, no one's core business was affected. Developers who were concerned about the reliability of the new web APIs from Amazon, eBay, and Salesforce soon had their fears allayed. Web API services proved remarkably robust.

The experience of using web APIs prepared the most intrepid developers to put their trust in Amazon in 2006 when the e-commerce giant announced its Simple Storage Service, known as Amazon S3, and the Elastic Compute Cloud, which offered raw computing power on demand. Far from a traditional product announcement with a carefully designed user interface, S3 was released as a RESTful API that allowed developers to store files on Amazon servers using PUT and GET requests. For a set price of $.15 a gigabyte per month, anyone could upload and retrieve any amount of data, at any time, from anywhere on the web. EC2 was likewise controlled by APIs. The great migration of computing from on-premises data centers to the cloud had begun. Looking back more than a decade later, industry observers described Amazon's announcement as equal in importance to the iPhone. "Apple cemented the mobile age, but it was Amazon that ushered in the cloud era, which changed the way businesses use technology in the same extreme way that smartphones have changed consumers' tech habits," wrote Jon Swartz of *MarketWatch*.[5]

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– Marc Andreessen

The change did not happen overnight. Amazon S3 and EC2 were adopted with trepidation. For years, business executives — particularly at large enterprises with significant investments in their own private data centers — wondered aloud, "can the cloud be trusted?" Meanwhile, startups embraced the storage and compute services offered by Amazon with a vengeance. With basic infrastructure out of the way, developers began moving up the technology stack and offering APIs for critical services like telecommunications, data management, messaging, and stream processing. Gradually it became clear that concerns had been grossly overblown. "If you thought you couldn't use a cloud platform because of security, you actually have it backwards," a Google executive told a group of business leaders attending a conference in London in 2015. "Being on a cloud platform will actually make you more secure."[6]

There was now no question that open APIs, used judiciously, offered a competitive advantage. In a famous op-ed published in the *Wall Street Journal*, venture capitalist Marc Andreessen reminisced about a cloud computing company he had founded in 2000. At the time, the cost of running a basic internet application on Loudcloud was $150,000 a month. Eleven years later, running the same application in Amazon's cloud would have cost $1,500 a month. Andreessen predicted massive disruption. "Six decades into the computer revolution, four decades since the invention of the microprocessor, and two decades into the rise of the modern internet, all of the technology required to transform industries finally works and can be widely delivered at global scale," he wrote. Andreessen went on to list industries that had already been "eaten" by software: publishing, entertainment, music, marketing, telecommunications, retail, and recruiting.[7]

3: The first open payment APIs

When Andreessen published his op-ed in 2011, the most disruptive companies in the financial services industry were PayPal and Square. By internet standards, PayPal, founded in 1998, was already an older generation business. Its tech stack was outdated and, at the time, coupled to eBay, though that was soon to change. PayPal's open APIs allowed online merchants to integrate payments into their websites, a service that was then enabling tens of billions of e-commerce sales each quarter. Square, a younger company, founded in 2009, had just released Register — a small piece of hardware that transformed iPads into cash registers.

Both PayPal and Square were front-end companies, focused on improving the consumer's checkout experience. Behind the scenes, the financial industry continued to process payments using legacy systems like ACH, wire transfer, the SWIFTNet network, and the ISO 8583 protocols. It was an area that was long overdue for a technology overhaul.

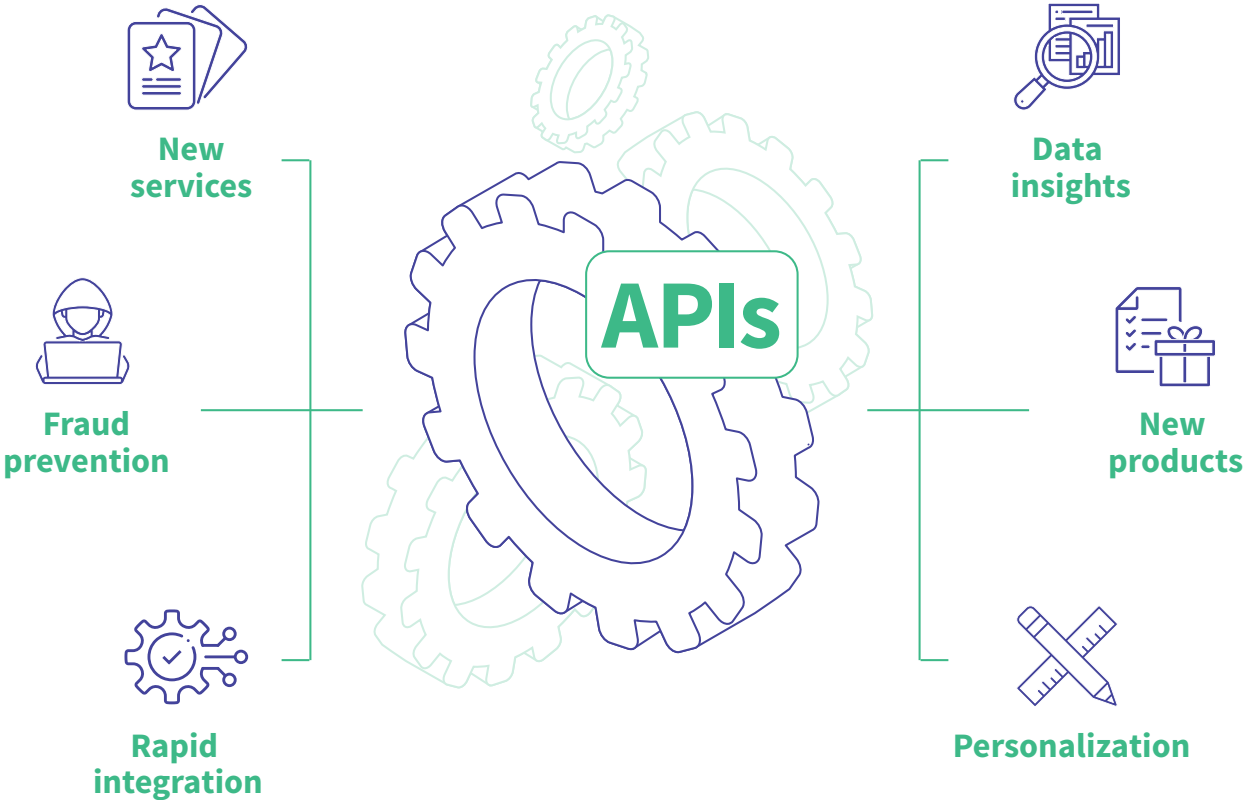
In 2014 innovation struck when Marqeta released the first open APIs to provide access to its modern issuer processor infrastructure. Marqeta's move made it possible for companies to control and customize the end-to-end payment process, from issuing a credential in the form of a physical or virtual card to funding the card and authorizing a transaction.

The process of offering payment credentials to customers had previously involved a great deal of friction. A business that wanted to offer physical cards to customers or to pay suppliers with virtual cards had to apply to set up a card program with an issuing bank. This involved complicated paperwork, substantial deposits, and upfront fees, followed by a long waiting period. In cases where a card program was approved, it could take up to a year to get new cards into the hands of cardholders.

Marqeta's core APIs streamlined this process and reduced the time it took to launch a card program from months to days. Companies were able to design their cards and dynamically set controls that determined when, where, and how payments would be authorized. Enhanced security was accompanied by higher engagement as businesses were also able to satisfy the desire of workers, vendors, and customers for faster payments.

The newfound ability to curate the payments experience produced an expanding set of benefits, generating revenue and data that supported innovative business models, along with effective retention and growth strategies that in turn boosted business and generated additional revenue in a virtuous cycle.

Open payment APIs support growth and retention



4: Rethinking the payment experience in online travel

Every trip booked through an online travel agency can be viewed from at least three perspectives — that of the traveler, the agency or aggregator, and the services provider. Traditionally, travelers have paid with credit or debit cards, while agencies have paid with ACH or check, and more recently, with first-generation virtual cards. Each of these methods has the potential to be marred by friction and fraud.

In 2018, finance professionals reported the highest rate of payment fraud on record. Four out of five said their companies had been victims of check, wire fraud, ACH fraud, or payment card fraud. Account takeovers and new account fraud were "alarmingly common," according to Javelin Strategy & Research. Year over year, land travel and accommodation suffered a 19% increase in attacks. "As hotels, car rentals, and train services aim to optimize for the customer experience, they face challenges when it comes to fraud prevention," Forter, an e-commerce security company, stated in its 2019 Fraud Attack Index. "Transactions and bookings where the payment is made online in advance are particularly prone to attack, but are also increasingly popular with good customers."

But a frictionless payment experience and a secure payment process don't have to be at odds. Early adopters of digit wallets like Google Pay and Apple Pay dramatically lowered their exposure to identity theft while enjoying heightened convenience when shopping online. Rather than having to dig through a physical wallet for a plastic card and then type in a string of numbers into a payment form, digital wallet owners can simply select the "pay with Google" or "Apple Pay" option when they are ready to check out. Unlike traditional e-commerce transactions, digital wallets substitute a token for the traveler's primary account number, along with a single-use cryptogram that functions like the three-digit security code found on the back of many credit cards (also called the card verification value). In the event of a data breach, a thief would retrieve only a cache of unusable tokens.

Similar technology is available via Marqeta's open APIs to protect the payments between online travel agencies and travel providers. Just as Marqeta can instantly issue virtual cards and facilitate their tokenization and insertion into digital wallets, so does Marqeta work behind the scenes to streamline payments between buyers and suppliers. Card program administrators can apply dynamic spend controls at their discretion to restrict payment by merchant, location, amount, start/end dates or times, and more. An administrator with heightened security concerns can make every payment a one-time payment and thus prevent a primary card number from ever being reused by a fraudster.

Fast and flexible, the same infrastructure that improves payment security enables real-time communication with cardholders. During weather emergencies or other unforeseen events, an online agency can offer relief to distressed customers stranded in an airport, including push-to-card payments or virtual hotel vouchers sent directly to digital wallets. Providing personalized assistance and stepping in during a traveler's hour of need are just two examples of how agencies can better connect with customers by using modern infrastructure. The possibilities of leveraging open payment APIs to create brand-enhancing moments are nearly limitless.

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Conclusion

All important new technologies follow adoption cycles. The first, earliest adopters draw attention to a new way of solving what may seem to be a familiar problem, for example paying for airfare or a hotel room. The boldest risk takers follow quickly, gaining competitive advantage and often pioneering new business models. The most agile and forward-thinking industry leaders hasten after. Eventually, everyone adopts the technology. It ceases to be a differentiator and simply becomes the de facto standard.

Open payment APIs and modern card issuing are in the third stage. Tested by innovators, they are being adopted by industry leaders. Join them now to gain a competitive edge.

Find out more about Marqeta's modern card issuing platform or begin exploring Marqeta's open APIs in a private sandbox today.

Notes

[1] *Travel Weekly*, "Wall Street Analysts on the 'Google Squeeze," November 21, 2019.

[2] *Harvard Business Review,* "The Strategic Value of APIs, January 7, 2015

[3] Ibid

[4] McKinsey & Company, "APIs: Three steps to unlock the data economy's most promising new go-to-market channel," January 2014

[5] *MarketWatch,* "How Amazon created AWS and changed technology forever," December 3, 2019; https://aws.amazon.com/ec2/

[6] *ComputerWeekly.com,* "Google scolds businesses for citing security as a reason not to use the cloud," June 23, 2015

[7] *Wall Street Journal,* "Why software is eating the world," August 20, 2011