

# OPENNESS IS CHANGING THE FUTURE OF PAYMENTS.

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WHITEPAPER

# FOREWORD



Dear Reader,

Online commerce is firmly entrenched, which by now is common knowledge. Most consumers shop online or through mobile devices, many on a daily basis. Through the internet, the business world is becoming more **Open** every day. Square, Airbnb, Facebook, and many other companies are changing how the world purchases goods, conducts business, and communicates. **Openness** is sweeping across all business industries, giving consumers more options and providing businesses with the opportunity to create exciting new ways to operate.

The payments industry, due to its reliance on security, has been slower implementing **Open** solutions than other industries. But the time of **Open** payments has arrived. **Open** architecture will influence all actors in the payment industry: payment service providers, banks, acquirers, merchants, and by extension, consumers.

The arrival of **Open** payments is exactly why we've developed this white paper with First Annapolis. PAY.ON is **Open** because we are convinced that this is the future of payments and so are building **Open** payment infrastructure and business models. Companies need accessible APIs, interactive documentation guides, and a variety of non-restrictive technologies. Yet payment providers cannot develop **Openness** in a vacuum; it requires strong and trusting partnerships – sometimes among competitors. Although payments have become more **Open** over the past 20 years, the next 20 promise even bigger changes, and the potential for larger gains. Payment actors need to embrace this new paradigm in the technology they develop, their business practices, and how they generate trust. Every actor in the payments industry has the opportunity to benefit from the shift to greater **Openness**, and this paper will provide you with a roadmap to do so.

I hope you enjoy the white paper and that it gives you practical insights for setting your payments business on the path to greater **Openness**.

Markus Rinderer  
CEO and Co-founder, PAY.ON AG



Dear Reader,

Payments is transitioning from an industry defined by closed standards and restricted access, to one where openness is a key driver of success. **Openness** has a number of dimensions, but in general can be described as being simple and flexible, both technically and commercially. **Openness** is closely linked to a partnership-oriented market approach. Many payment innovators, which are emerging and growing faster than ever, rely extensively on partners to enable rapid global expansion or supply and distribute product components. Payments are also becoming an integrated component of broader solutions, rather than a stand-alone service. The journey towards open payments is still in its early stages; for example, mobile payment technologies remain nascent. What is already clear, based on the last five years of market evolution, is that winners will embrace the principles of **Openness** while losers will hold onto the past.

In this white paper, developed in collaboration with PAY.ON, we first define **Open** Payments, discuss the various implications of **Openness**, and envision the future and how marketplace participants can practically apply **Openness** to their own businesses. We provide a number of examples, although there are dozens or even hundreds of other examples of payment providers around the world leveraging the principles of **Openness** for business success. We thank all of our friends in the marketplace that contributed to this research.

I hope that you enjoy the paper and that we have the opportunity to discuss the subject directly at some point in the future.

Joel Van Arsdale  
Partner, First Annapolis Consulting

## EXECUTIVE SUMMARY

Openness as a business and technological concept has been changing the world since the advent of the internet. The impact of Openness is more noticeable in technology-based industries, but the trend is spreading, and today a growing number of businesses are built around Openness. The payments industry has joined the Open revolution and is becoming defined by the Openness of payment technology, business models, and communities of trust.

**Openness has three attributes: accessibility, flexibility, and transparency.** To be accessible, services must be publicly available and in standard formats; flexible services can be combined and do not limit users; and transparency requires interactive documentation and clear commercial terms.

These three attributes of Openness must be applied to the **three dimensions of payment services: technology, the business model, and trust.** If they are not, or are only applied haphazardly, a business will not receive the full benefits of Openness. For a business's technology to be Open, it must find the balance between accessibility, interoperability, and security. BBVA is a payment provider that illustrates how to find such a balance. The Spanish banking group has a number of forums – an online developer center and the app marketplace BBVA 4U are examples – where it is experimenting with technological Openness. BBVA and other payment providers are already differentiating themselves and gaining market share through superior Open technologies.

Open business models and strategies should be non-restrictive, leverage partnerships as a foundation for growth, and encourage transparency. Square embodies an Open business model in payments. While Square offers several successful products, the company's success stems from their business model, which is focused on transparency and simplicity. Partnering with Square is straightforward, which is important because partnerships, even among competitors, can result in win-win situations in Open business models.

Trust, especially in the payments industry, is easier said than done. Traditionally, trust was created in payments through security features, rules, and accreditations. But Openness is changing the nature of trust. Rather than tightly restricted access, trust is being formed by data transparency and sharing. Visa Ready and Visa HCE (host card emulation) are both examples of trust built upon Openness. Both act as umbrellas of trust over relatively Open products.

Today's payments marketplace is only partially Open. Payment services are not yet truly easy-to-use, global, and omni-channel. Legacy systems need to be replaced so free-flowing competition and innovation can flourish. Yet the industry's progress towards Openness over the past 20 years is considerable. Before the internet, payments were defined by proprietary standards, closed domestic marketplaces, and restrictions rather than possibilities. Today's market is increasingly defined by new technologies, new business models, and a general "can do" attitude. In the current environment, access to payments is broader than ever before, as areas that were generally restricted to banks are now open to payment institutions. The number of payment channels has exploded and payment infrastructure is more internet-based than before. These, and other developments, have moved payments towards Openness. Now, the market leaders are global operators and innovative start-ups that quickly obtain billion dollar valuations. Payments built on Open technologies and business models are a reality that will shape the future of the market.

Openness is redefining payments for all participants. For consumers, payments have become nearly frictionless and invisible, as payment services integrate with technologies such as smartphones. Payments are also simpler for merchants who now often procure their payment services as part of a broader commerce package. For payment providers, Openness means faster time to market, more efficient and automated operations, and partnership-based business models. This undoubtedly all sounds good, but only for those that become more Open. Those that do not risk being left behind.

Embracing Open payments means embracing the attributes of Openness: accessibility, flexibility, and transparency. Companies are accessible when they have easy sign-up processes, open and modern technical interfaces, global and local capabilities, and effectively balance security with convenience. Flexible businesses offer services that are modular, open to various technologies, multicultural, and adaptable for uptake by partners. To be transparent payment providers must offer clear terms, utilize feedback loops, and follow standards that stimulate interoperability and competition. In many cases, being Open will require a sea change across all aspects of a payment provider. Yet they are changes better started now, while Openness is still nascent, before it becomes the entrenched global standard. Actors that maintain legacy technologies, closed business models, and restrictive methods to build trust will fade away. Those that embrace innovation and Openness will be positioned to achieve historic success.

## OPENNESS: A BROADER TREND IN TECHNOLOGY

The shift to Openness is not confined to the payments industry. The basic concept originated from and applies to other industries. As a highly regulated sector, with a complex value chain, payment services are late to the Open game. Now that Openness has arrived in payments and is changing the way businesses cooperate and service providers and end-users interact, it is useful to observe trends already established in other sectors.

**Open innovation:** Developed by Henry Chesbrough of the Haas School of Business at the University of California, Berkeley, the term describes "A paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology."<sup>1</sup>

This idea is opposed to the internal research and development model that formed the cornerstone of tech strategy during most of the twentieth century. Open innovation is about building partnerships between start-ups, individual inventors, and large organizations with the capacity to apply and scale new technology. Chesbrough applied the concepts of "don't go it alone" and "don't reinvent the wheel" to a complex business world in which actors have limited resources and must rely on partners for success.

**Open source:** Computer software source code available for others to study, change, or distribute.

Open source has existed for more than a decade and is an important ingredient in the Open business approach described in this paper. The open source movement began as a loose coalition of idealists and is now firmly rooted as a business model for entire industries.

Although companies have less control over new releases and the priority of new features, open source software is more resilient and stable because of its decentralized development and testing.

**Open business model:** In an open business model companies strategically share certain resources. This primarily applies to non-competitive or highly scalable resources that companies expect to be more valuable 'outside' the company.

Because of its scalability, internet services are particularly conducive to the open business model and various companies designed inventive solutions to capture value from shared resources. The freemium<sup>2</sup> business model is one example.

<sup>1</sup> Chesbrough, Henry William. Open Innovation: The New Imperative for Creating and Profiting from Technology. Harvard Business School Publishing Corporation, 2003.

<sup>2</sup> Freemium is a pricing strategy where basic services are free, but a fee is charged for add-ons and premium features.

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The paper consists of five sections. First, [Openness](#) will be thoroughly defined and dissected along its key dimensions. Section two covers the history, current state, and future of [Openness](#) in payments. Section three examines [Openness](#) as a force of change while section four provides guidance for thriving in an increasingly [Open](#) payments marketplace. The paper ends with concluding remarks. There will be business examples of [Openness](#) throughout.

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# PREFACE

Ubiquitous connectivity is giving rise to new, innovative business models. [Openness](#) is a prevailing principle of the current business age and payments are no exception; they are also becoming more Open. In this paper, [Openness](#) refers to business that is unrestrictive, inclusive, unbundled, flexible, and transparent. This paper will thoroughly explain the concept of [Openness](#), what it means for the payments industry, and how individual players are responding to the new reality it is creating.

In the payments industry, [Openness](#) is a prevailing force of change. Legacy, closed, and localized payment ecosystems are being replaced by more accessible and flexible models. Trust is critical because many actors cooperate in a complex value chain. The chain of trust from payer to payee hinges upon the orchestrated collaboration of many other parties. Increasingly, these interactions are [Open](#) and typified by do-it-yourself API-based technical integrations, partnership-based business models, and global and collaborative standards.

This paper explores the implications of [Openness](#) for the payments industry and defines [Open](#) Payments as: **payment-related services that are accessible, flexible, and transparent.**



**Accessible:** Services are provided through publicly available, standard interfaces. Access is not restricted to certain business types or sizes and is available across borders.



**Flexible:** Services are provided individually and can be combined with others. Terms and conditions do not unnecessarily limit partners and cater to the specific needs of the partnership. Accreditation is tailored to the risk involved: the lower the risk, the lighter the accreditation requirements.



**Transparent:** Robust documentation and product guides are available. Commercial terms are simple and predictable. Customers and partners interact and exchange experiences. Partners communicate openly about their performance in terms of uptime, conversion, and response times.

This paper will argue that to remain relevant in the payment services industry, service providers must adopt an [Open](#) business approach. Such an approach will enable them to add sustainable value for their clients in an increasingly complex commercial environment.

# 1 INTRODUCTION AND DEFINITION: WHAT IS OPENNESS AND HOW DOES IT APPLY TO PAYMENTS?

**Openness** has three attributes – accessibility, flexibility, and transparency – that must be fulfilled. The three attributes are complementary and reinforcing; remove one attribute and the benefits of the others are diminished. For example, transparency brings trust among partners, clarity for customers, and enables feedback from users, but if a company is not also accessible and flexible, the company will be unable to react to partners’ needs, offer customers truly innovative products, or act upon users’ recommendations.

Payments, meanwhile, have three dimensions – technology, the business model, and trust – that are always present. Without all three dimensions fast and secure payments do not exist. Technology is the backbone for all payments but is especially important in e-commerce. The business model dictates the types of payment services a company offers. Trust has always underpinned payments, starting with the social trust needed to use paper as a form of currency, leading up to trust built through security measures in e-commerce today.

The three attributes of **Openness**, when properly implemented and integrated, combine with the three payment service dimensions to create **Open** payments (see Figure 1).

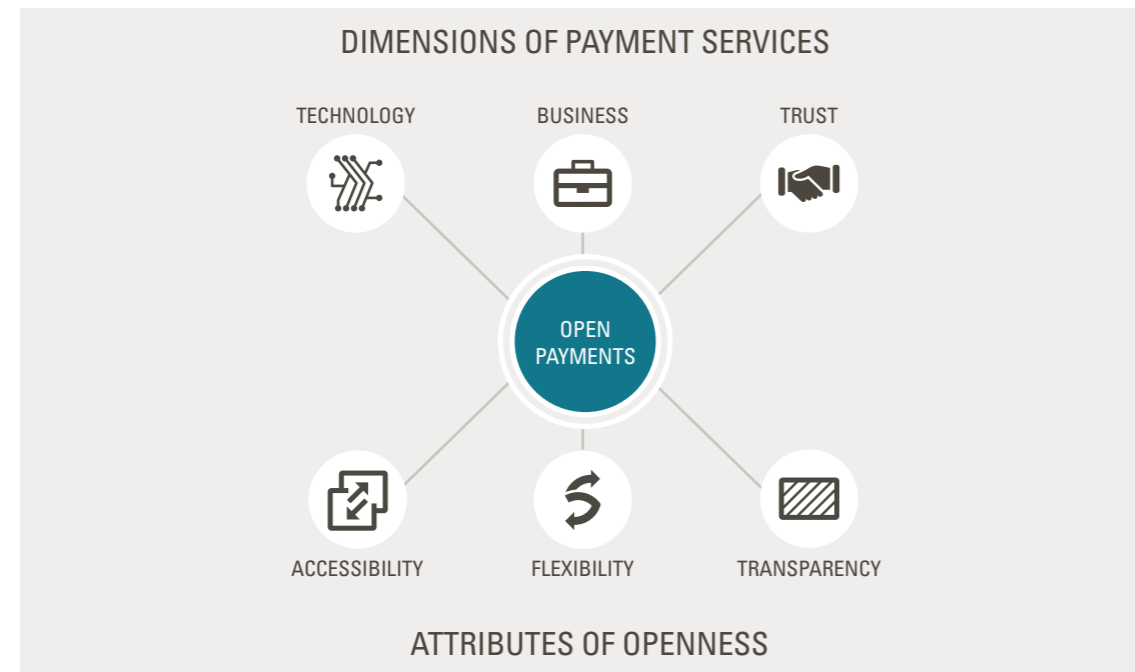


Figure 1: The interaction of payment dimensions and **Open** attributes

**Open** payments take on many forms, depending upon which **Open** attributes and dimensions of payment services are interacting. Table 1 shows exactly what it means to have flexible technology (RESTful software), accessible business practices (quick and easy sign-up), transparent trust methods (publicly available resources), and other elements of **Open** payment services. These elements are what businesses need to adopt to offer **Open** payments and are further discussed in section 4.

		PAYMENT SERVICE DIMENSIONS		
		TECHNOLOGY	BUSINESS	TRUST
OPEN ATTRIBUTES	ACCESSIBILITY	<ul style="list-style-type: none"> <li>• APIs or other easy-to-use integrations</li> <li>• Non-proprietary interfaces and standard formats</li> </ul>	<ul style="list-style-type: none"> <li>• Non-restrictive availability</li> <li>• Quick and easy sign-up</li> <li>• Global</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusive, not restricted by company type</li> <li>• Minimal necessary accreditation</li> </ul>
	FLEXIBILITY	<ul style="list-style-type: none"> <li>• Do-it-yourself</li> <li>• Modular services</li> <li>• RESTful</li> <li>• SaaS / web services</li> <li>• SDKs</li> <li>• Sandboxes</li> <li>• Build to combine and stack</li> </ul>	<ul style="list-style-type: none"> <li>• Partnership focused</li> <li>• Collaborative distribution models</li> <li>• Unbundled services</li> <li>• Multicultural, multicurrency, multilingual</li> </ul>	<ul style="list-style-type: none"> <li>• Tailored accreditation requirements</li> <li>• Global and collaborative standards</li> </ul>
	TRANSPARENCY	<ul style="list-style-type: none"> <li>• Interactive and robust documentation and product guides</li> <li>• Developer forums</li> <li>• Open-source code</li> </ul>	<ul style="list-style-type: none"> <li>• Clear commercial terms</li> <li>• Minimal traps and lock-ins</li> <li>• Strong feedback loop for customers and partners</li> </ul>	<ul style="list-style-type: none"> <li>• Publicly available resources, documentation, and reporting</li> <li>• Foster a community</li> </ul>

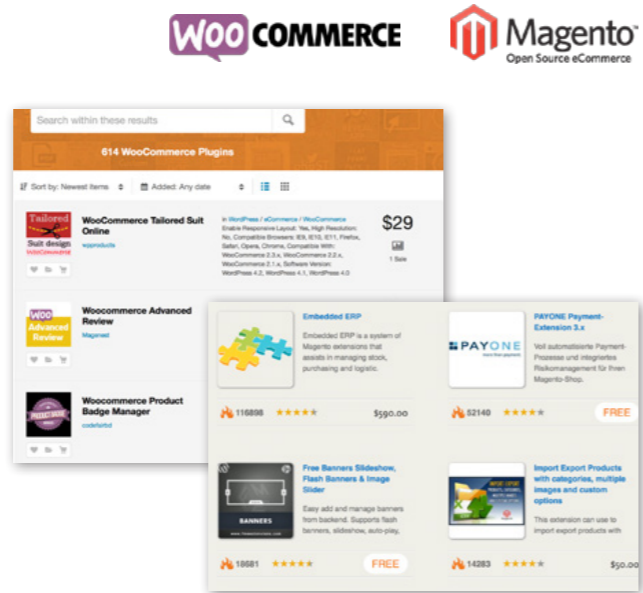
Table 1: Elements of **Open** payment services

Three examples from outside the payments industry will illustrate some of the elements of Open payment services. Despite being from other industries, they highlight how the attributes of Openness and the dimensions of payment services are interacting to drive change.

**Openness in technology: Magento, WooCommerce**

Magento and WooCommerce are Open source e-commerce platforms. Both offer a free version of their software that targets SMEs (small and medium-sized enterprises) and provides a wide variety of extensions to add specific functionality to the core platforms. Some of these add-ons are Open source while others are provided only after purchase. Together, Magento and WooCommerce cover about 45% of all active e-commerce websites.<sup>3</sup>

The popularity of both platforms should be attributed to the fact that it is free (for the SME segment) to start a website, that the platforms are Open to develop further and customize through third party extensions, and that they are based on common building blocks and standards. This makes the platform easy to join, adjustable to any specific retail segment, and scalable.



**Openness in a business model: Salesforce**

Open business models use external resources to create value, which Salesforce enables by sharing certain assets with other companies. Their main product, the customer relationship management (CRM) solution, can be combined with an array of third-party add-ons that cater to specific end-customer needs.

Salesforce also shares their technical infrastructure with their community of partners. Under the label Force.com, Salesforce offers what was initially developed for internal use as a platform as a service (PaaS). Salesforce decided that the internal platform was most useful for other parts of clients' businesses.



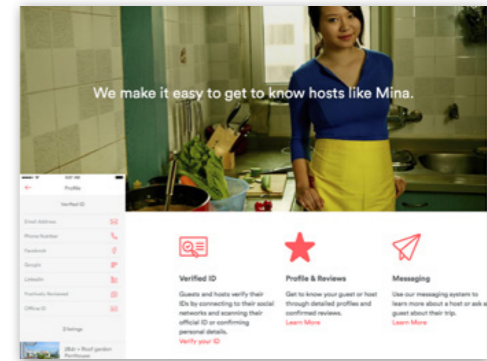
<sup>3</sup> E-commerce Platforms market share in the Alexa top 1M. <https://www.datanyze.com/market-share/e-commerce-platforms/>. Retrieved Q2, 2015.

**Openness through networked trust: Airbnb**



Airbnb, a company that enables people to rent out spare rooms or apartments to paying guests, is an excellent example of an Open trust model. Becoming a host requires minimal accreditation but trust is brought into the network through guest reviews. Airbnb puts significant effort into review generation: the value of their service relies on it.

Conversely, hosts can rate and review guests to stimulate considerate behavior. Airbnb facilitated a new business opportunity by relying on its customers to create a trusted accommodation network.



**1.1. OPENNESS IN TECHNOLOGY**



Accessible services are those available anytime, anywhere, and on a do-it-yourself basis. Clients or partners need real-time access to services and APIs that are quick, convenient, and have few restrictions are a place to start.

The payments industry relies on the secure exchange of data that is increasingly complex, voluminous, and threatened by fraudsters. At the same time, the data needs to be shared with a growing number of trusted partners. Therefore, technical Openness is an important element in payments. To be Open technically, a service provider must make its service accessible, flexible, and transparent without compromising security.

This contrasts sharply with how the payments industry operated in the past. Data flowed through siloed legacy systems that worked in closed groups. The digital revolution increased flexible data sharing and communication, but many legacy systems that process large volumes of payment data are unprepared to take advantage. Bridging the gap between these two worlds may prove the main challenge to the development of Openness.

Flexibility means rich functionality via component services designed for individual consumption, developed both in-house and through third parties who build on top of basic products. Partners choose components to suit their business model and combine with other services as appropriate.

The payments industry is quickly becoming specialized and although some clients will always prefer a one-stop shop, relying on one-size-fits-all solutions is no longer sustainable. The needs of businesses vary too widely to be addressed by a standard, undifferentiated product.

Payment providers are increasingly differentiated based on the strength and uniqueness of their technical interfaces and supporting tools. This is particularly true for payment providers that specifically target developers. This client segment often bases decisions on word-of-mouth and will pay a premium, or settle for more basic feature sets, in exchange for a superior technical environment.

To keep up with tech-savvy newcomers, some banks are making serious efforts to stay ahead of the curve by opening their assets up to utilize the creativity of third parties. The Spanish bank BBVA has chosen to differentiate itself by deploying several technology-based initiatives to enhance their service.

### Experimenting with technological Openness in banking



BBVA is a prime example of a European bank striving for **Openness**. BBVA actively encourages innovation through its incubator BBVA Ventures which will invest \$100 million in start-ups looking to transform financial services. BBVA also leads the banking industry in **Open** technology provision; the suite of **Open** APIs it offers as part of a broader developer center is one example of its efforts

#### APIs

Via its Data API, BBVA exposed a customer dataset so that others can experiment with new solutions. The set includes anonymous data from commercial card transactions such as payment statistics by age and gender, demographic segments, and temporal patterns of shopping.

The experiment was a success: BBVA saw high uptake and a number of successful applications built upon its APIs. BBVA is now considering exposing a broader set of APIs.


#### Developer support

BBVA's initiative also includes an online developer center featuring content, samples, downloads, design inspiration, videos, and other resources to help developers integrate into the BBVA APIs.


The developer center's forums and interactive contact options provide users with the support to fully utilize the available tools. In addition, BBVA frequently hosts hackathons and developer challenges to promote and co-create APIs. During these events BBVA receives tangible feedback and robust API testing which they use to improve their products. BBVA's app marketplace, BBVA 4U, currently features 97 apps built on top of BBVA's APIs. The marketplace has a developer community with forums and an event calendar.

## TOOLS THAT ENABLE OPEN PAYMENTS


There are basic tools that enable Open Payments technologically. These components have simplified complex elements and make payment services more accessible for non-specialists. They also ensure clients and partners can easily access services regardless of their underlying system architecture, where they are located, or the time of day.

 An **API** (application programming interface) is a set of routines, protocols, and tools for building software applications. An API expresses how a software component interacts through its operations, inputs, outputs, and underlying types.


In the payments industry, programmers can build APIs directly onto programs that are Open. These APIs facilitate payment processing and outsourcing to specialist providers in fraud prevention, currency conversion, and more.


 **REST** (representational state transfer) is a set of best practices and architectural conventions that enable cooperation between different software. Web services that adhere to REST architectural constraints are considered RESTful. RESTful services are fully independent of each other and include all necessary information in each request so that servers need not remember details.

In addition to easier and faster integration, RESTful interfaces facilitate the unbundling of payment services into separate components for specific business needs.


 A user interface (**UI**) **component**, or **widget**, is the user interface for a set of web services. They usually use JavaScript-based web components and enable a user to perform a function or access a service from external sources.

In the payments industry, widgets help balance Openness with security by providing effortless connections to anti-fraud and other external service providers.

 **Documentation and help** are tools for external developers integrating an API or other software. Through interactive and collaborative developer forums, online documentation sites, and helpdesks, developers test and learn how to integrate software.

 An **SDK** (software development kit), or **API Library**, is a set of software development tools to guide the creation of applications for certain software packages, software frameworks, hardware platforms, computer systems, operating systems, or similar development platforms.

In the payments industry, SDKs connect a consumer to an API, bridging the technological gap between the consumer's software and the API's standards. Strong payment APIs typically include security, parallel regulation handling, and error handling features.

 A **sandbox** is an interactive testing environment that isolates untested or experimental code from the software's production environment. Developers test programs or code in a separate space where the software's functionality has been replicated.

In the payments industry, sandboxes provide developers with a place to test code and gauge the time and effort it will take to integrate systems and software. Sandboxes protect live servers and their data by drawing a clear line between test and live environments.

Legacy providers that are opening their services via APIs include MasterCard and Visa. Both are increasing their API-based services and developer centers so that processors, PSPs, and financial institutions can directly access the schemes' services via modern technology rather than strict legacy file formats.

### Technological Openness: MasterCard Developer Zone



#### What is it?

MasterCard Developer Zone makes certain data services available in real time via APIs. A portal provides developers with technical documentation, software development kits (SDKs), sample source code, reference guides, and virtual sandboxes for testing.

#### Vision

MasterCard, like many payment schemes, aims to be a platform where others develop end-services; to be the rails for commercial services. A recent example is MasterCard's wallet proposition, MasterPass, where third parties build branded wallets through MasterCard's acceptance network.

#### In practice

At the moment, MasterCard offers APIs for payment, security, and data services. The payment API, MasterPass, streamlines the checkout process. Non-card issuers use MasterPass to offer a wallet that includes other providers' payment services.

The security APIs provide risk-scoring data to merchants or merchant information to acquirers.

The data services APIs are among the best examples of **Openness**. The APIs provide information about local payment availability – where customers can use cards or where the nearest ATM is – and is used by issuers like Qantas Cash and Belfius, as well as third party developers integrating the data into their apps.

Hackathons are a visible form of developer engagement. Although less traditional, they are examples of Openness that financial service providers leverage to innovate, remain relevant, generate new product concepts, and market a platform. They inspire budding developers and utilize collective creativity. Such events can increase a company's subject awareness and challenge internally developed ideas and assumptions, increasing overall competitiveness.

### Technological Openness through hackathons: payworks



During the 2014 MPE (Merchant Payments Ecosystem) Conference in Berlin, the German POS (point of service) gateway provider payworks organized a hackathon.

Over 24 hours, teams created innovative POS experiences; the winning team created a self-checkout solution that retailers now operate in local stores.

The internet is the core of modern, open technology and its many permutations enable **Open** technology to exist and function. Payments are increasingly internet-based, whether deployed on web service technologies such as APIs, riding internet-based communication networks, or communicating with customers via HTML. Information is now safely exchanged across inexpensive and open communication networks that circumvent closed and expensive proprietary networks.

The movement of payments to the internet and the growth of web services have allowed new products and operating models to emerge, including:

- **Specialization:** Payment providers combine services with partners and no longer process everything in-house.
- **Unbundled services:** Services that are sourced from different vendors to be sold directly or through distribution partners.
- **Outsourcing:** End users source and combine payment services from different providers for their specific needs.

This internet-induced paradigm shift is most noticeable in e-commerce and m-commerce payments. Yet the internet is also becoming the backbone for traditional POS (point of sale) payments that leverage APIs and other technological tools. Increasingly, applications reside in the cloud, diminishing local data storage. New POS devices use encrypted internet protocol (IP) communication, bypassing the old terminal-to-host protocols that are a hurdle for **Openness**. Terminals that interact over the internet and in common protocols accelerate innovation at the point of sale. Many initiatives that serve the needs of merchants by integrating payment terminals with the internet are ongoing.

Although important, payments only represent one part of the interactions between consumers and merchants that now occur in the cloud. Customer service, loyalty programs, apps, marketing, and other interactions are integrated with payments to create a single, real-time exchange medium.

Technology plays a key role in **Open Payments** as tools such as web services and IP-based communications allow dynamic and open business models; a concept discussed in the next section.

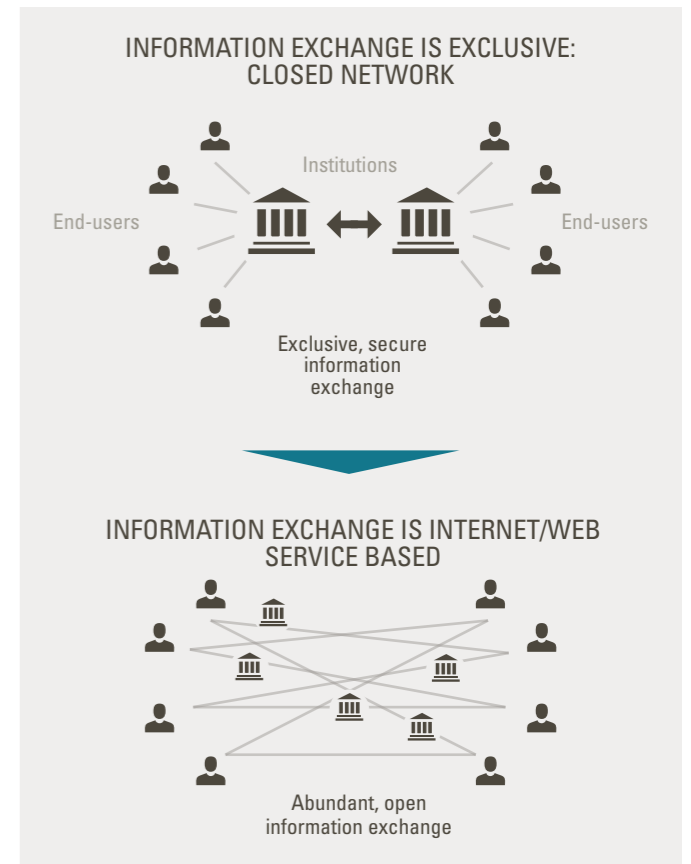


Figure 2: The impact of internet technologies on the exchange of information



Figure 3: Payments are one part of merchant-consumer interactions facilitated by the cloud.





## 1.2. OPEN BUSINESS MODEL

“Open for business” is an old and well-worn adage, but being **Open** commercially requires more than lip service. To be open for business, companies must first accept their limitations and the value of partnerships. When speed to market often determines success, all businesses need partners: product partners who provide the building blocks or distribution partners who help to market and sell. It is much easier to be “open for business” if you are easy to work with. **Openness** requires globalization; boundaries and cultures should not impede access. **Openness** also requires flexibility and commercial transparency.

Therefore, a few key elements comprise commercial **Openness**:

- Widely available – Not restricted to certain user groups, except for certain security considerations.
- Fast and easy – Few commercial restrictions.
- Global – Unconstrained by local requirements, languages, or currencies.
- Available to cooperate with partners in both product and distribution.
- Transparent and unrestrictive commercial terms.
- Networked trust – Foster a business community so your partners and customers can cooperate through you.

Fast and easy global access is particularly important for digital services because speed to market is crucial and they potentially have worldwide scale from the outset. Payments are frequently the bottleneck in those services, and accessibility is often a key differentiator.

Flexibility and collaboration are essential to **Open** business. Companies add value for end users by combining in-house parts and services with those sourced on a white label basis. Selling through distribution partners or directly to end users also adds value. Offering services as separate components instead of a package provides flexibility for partners. More and more combinations are possible due to the free flow of data. Those combinations are crucial to a clientele that is increasingly varied across geographies, segments, and merchant verticals.

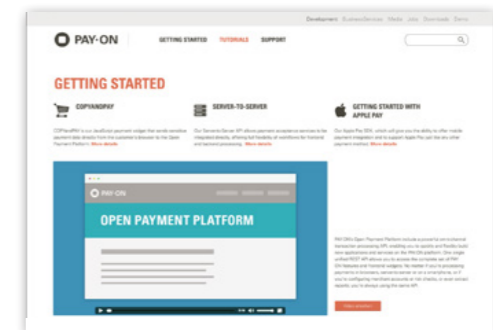
An **Open** business model must be transparent so that partners and consumers know what to expect and how the service is evaluated and valued. Offering a clear and predictable fee structure that charges for real use or performance is integral to a modern, transparent proposition. Partners involved in product development should understand the value for them and not focus on the lowest pricing alone.

### Payments through **Open** technology and an **Open** business model: PAY.ON



PAY.ON, through its **Open** Payment Platform, provides easily implemented and fully available white label payment gateway services. This is a good example of both **Open** technology and an **Open** business model. The Platform features one RESTful API for simple integration, an interactive user interface, and collaborative documentation and help tools.

The **Open** Payment Platform acts as the technological payments foundation for clients. Customized modules, software, plug-ins, and APIs easily stack on top. Once connected to PAY.ON, clients are part of a network of interconnected service providers, all benefiting from the others. By encouraging customizable use of its platform, PAY.ON effectively offers **Openness** and its benefits to its customers and partners.



### Opening up card acceptance for SMEs: Square

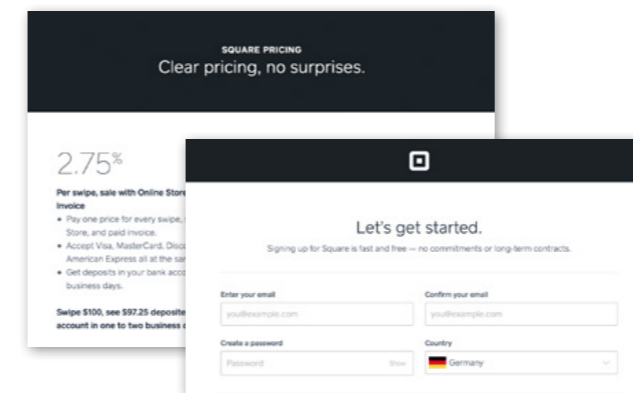


Square, a market disruptor in card acceptance, introduced its “mobile POS” as an affordable way for SMEs (small and medium-sized enterprises) to process cards. SMEs typically process a small number of card transactions making regular terminals cost-prohibitive. Square circumvented the terminals by introducing a dongle, a small card reader that can be mounted on a smartphone.

Square’s success, however, has more to do with its principles of **Open** and easy business than its dongles. Square’s fundamental mission is to enable payment acceptance for everyone; from “prosumers” selling crafts on the weekend to large retailers looking for new in-store experiences.

Square enables this vision by streamlining the burdensome sign-up process for acceptance services. By providing a simple application, numerous distribution channels, and a tiered accreditation process, Square made it easy to onboard new merchants even for the smallest user segment.

Square also uses transparent, simple pricing in a market overrun by small-print fees. Square is now eyeing the entire merchant ePOS, a sector in need of more **Openness**.





### 1.3. TRUST THROUGH OPENNESS

Rules and compliance are not generally associated with **Openness**. However, **Openness** cannot exist without trust, of which rules and compliance are necessary ingredients.

Consumers and merchants need to have trust, both in the system and the individual players, for payments to work properly. To ensure this trust, access to the payment chain should be limited to accredited parties. In parallel, the many actors involved must adhere to a set of rules to promote fair behavior and avoid disputes. Someone must define these rules, and rules developed collectively are usually less restrictive and more easily supervised. EMVCo is a good example of a successful standard-setting body which is fundamentally **Open**.

Although a degree of control is necessary, establishing and protecting trust does not require a closed and restrictive end state. Payment systems can be both secure and **Open**. Regulatory interference can be a challenge for European industry players, but that does not need to be the case. Recent policy initiatives provide excellent examples of how **Openness** can be encouraged by:

- Stopping localization from trumping standardization.
- Providing open access to all minimally accredited service providers.
- Eliminating rules that restrict the free flow of consumer choice.

The Payment Services Directive in Europe<sup>4</sup> and related legislation has opened up the European payments market and fostered new means of payment, new service providers, and new business models.

Visa and MasterCard helped establish the type of global network that is **Open** to developers, service providers, and others, as shown in the example on the right.

The migration towards trust through **Openness** is still nascent in the payments industry. Despite many years of ongoing debate and adaptation to come, the **Open** trend will likely persist as the next sections illustrate.

#### Trust through **Openness**: EMVCo



EMVCo manages the EMV suite of payment card standards. Ownership in the company is shared by the large card schemes: Visa, MasterCard, American Express, Discover, JCB, and China UnionPay. EMVCo's first standard was a worldwide chipcard for payment terminals.

EMVCo is a place where competitors cooperate to increase safety, security, and interoperability.

Resources from EMVCo are publicly available for other schemes to utilize.

#### Open trust models: Visa Ready



Visa Ready and Visa HCE (host card emulation) are examples of **Open** models of trust. In both cases, Visa is not providing a product, but rather a set of standards designed to encourage trust in the marketplace.

##### Visa Ready

Visa Ready is an accreditation program under which solutions from members can be tested and given a stamp of certification.

Visa's process for members to acquire this accreditation is based on a set of requirements and tests. There are separate

processes for mPOS solutions and HCE programs (Visa cloud-based payments). More than 30 European banks are utilizing these standards for their NFC wallets. Alongside the standards, Visa also provides an SDK to help members develop their HCE wallet solutions.

By focusing on standards, rather than specific solutions, Visa allows its members to customize their own products while ensuring each product provides secure and high-quality payment transactions.

<sup>4</sup> Directive 2007/64/EC of the European Parliament and of the Council. November 13, 2007. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0064&from=EN>

# 2 THE EVOLUTION OF OPEN PAYMENTS

The payments marketplace is transitioning from a closed system to an **Open** one. This process is happening gradually. Today, the market is **semi-Open**, a clear advancement from the closed days of the past, but years from a fully **Open** future. The **semi-Open** present was achieved by updating tools; the future will consist of tools revolutionized to the extent they become almost unrecognizable to today's industry.

## 2.1. THE LEGACY OF CLOSED AND INCONVENIENT PAYMENTS

Twenty years ago, before the growth of the internet, payments were characterized by:

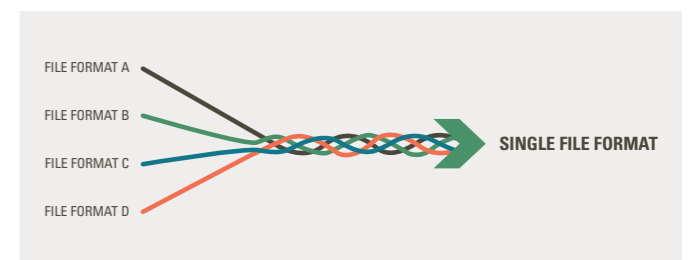
- **File formats** – Every major European and U.S. processor had its own card file format; card schemes such as Amex and Diners could not interact. Virtually every major domestic market, and sometimes banks within that market, had its own standards for bank transfers. Just as with languages, payments were local and varied.
- **Access** – Only a small number of authorized parties, mainly banks and a few service providers, were permitted access to payment schemes.
- **Channels** – Payments were not integrated with other services; they were purchased and technically enabled separately. Additionally, consumer payments occurred at a cash register or terminal because few other payment channels existed.
- **Architecture** – Systems used in the payments value chain resided on premise within financial institutions.
- **Geographic coverage** – Visa and MasterCard credit cards could be used in many major global markets and expensive international money transfers were possible, but generally speaking, payments were almost entirely domestic.
- **Media type** – Paper exchange was the primary method to initiate and confirm bank transfers.
- **Infrastructure** – Payments were processed via expensive point-to-point analog phone lines and modems. This necessitated batch processing and limited the number of supported use cases.

These restrictions barred rapid market expansion and the ability to form product and go-to-market partnerships, the characteristics of **Open** business models. Since trust could not be built through technology, trust was achieved by restricting access, ceding the market almost entirely to banks.

## 2.2. THE CURRENT STATE: SEMI-OPEN

Over the past 20 years the payments industry evolved and became significantly more **Open**, although much progress remains to be made. The internet and all its associated means of enablement led to a more **Open** payments industry, as described below:

- **File formats** – Even more file formats exist in the global payments industry today than 20 years ago. However, there is some movement toward common standards, ISO 20 022 being one example. More importantly, many highly capable PSPs/processors work with a number of different file formats. Format conversion is now widely accepted and effective. Tools such as XML have eased the burden of working with multiple and new formats.



- **Access** – Payment institutions can now compete or partner with banks in Europe, the U.S., Australia, Japan, and many other payment marketplaces. In these markets, it is accepted that any properly accredited institution can act as a payments provider. However, many geographic markets have not yet embraced this concept and the burden of accreditation remains fairly high.
- **Channels** – E-commerce and mobile commerce are driving multi-channel enablement. Online purchases with in-store pickup or in-store purchases via a home delivery app are now common. Tracking transactions and payments across channels is possible, albeit far from perfect. Payments services across channels are often entirely separate and sourced from different suppliers, although consumers usually cannot tell. Integrating and reconciling data presents significant challenges for even the most advanced merchants. Merchants increasingly obtain payment services as part of a broader package.
- **Architecture** – The industry is moving towards software as a service (SaaS) solutions. Hosting on-premise is no longer a requirement for most systems.
- **Geographic coverage** – Virtually all major card brands can be used worldwide, and cross-border bank transfers are increasingly inexpensive and fast. E-commerce has driven payments away from domestic to regional and global enablement. Within Europe, 14.5% of e-commerce is cross-border.<sup>5</sup> PayPal and other providers are exploiting this market segment as new corridors of online trade develop.
- **Media type** – Paper is on its way out. Internet banking, new payment schemes, digital documents and signatures, mobile payments, and other technologies are eliminating paper in both mature and developing markets. Checks have virtually disappeared from most mature markets and cash is being replaced by contactless payments.
- **Infrastructure** – Infrastructure is increasingly internet-based and alternatives to the traditional card and banking networks are emerging.

<sup>5</sup> Why we need a Digital Single Market. Eurostat. [http://ec.europa.eu/priorities/digital-single-market/docs/dsm-factsheet\\_en.pdf](http://ec.europa.eu/priorities/digital-single-market/docs/dsm-factsheet_en.pdf). 2015

The current market is semi-Open which leads to strategic challenges in the marketplace. Most of these challenges have a clear set of partnership-themed solutions that are further discussed below.

## CHALLENGES OF SEMI-OPENNESS

### Leveraging Open front-ends while riding on the rails of legacy systems.

Current payment propositions are characterized by modern front-end interfaces and applications supported by legacy back-ends. This balance provides the benefits of modern interfaces while delaying the need for difficult wholesale network migrations. Despite the recent technical innovations, mainframe-based legacy networks are still highly inefficient. Additionally, there is tension between those reliant on legacy networks and those attempting to improve them via specialized and modern architecture. Therefore, successful innovation in the medium term will demand clever combinations of efficient, proven technology with modern front-ends.

### Balancing innovation and adaptation with economies of scale.

Business models in the payments industry often have high fixed costs and good leverage so suppliers and customers benefit from scale. Thus, incumbent providers have a strong incentive to scale products to competitive positions. At the same time, end-users are demanding greater innovation and specialization. There is tension, therefore, between scaling and innovation. One way to deal with this tension is via partnerships where innovators benefit from their partner's scale, while scale players benefit from their partner's market adaptations.

### Internationalization.

Customers and partners now demand global solutions. Internationalization, however, is far from easy. Acquiring a "payment institution" license and launching local operations is a \$10 million or more investment. Furthermore, adapting to new languages, cultures, currencies, and market structures takes time and increases the risk of failure. It is not surprising that partnerships are utilized for rapid, yet low risk international expansions. The PSP marketplace, where payment acceptance service providers utilize global partners' networks to deliver merchant solutions, typify this trend. Payvision is an example of a payment provider that delivers global solutions through a network of partners.

### Succeeding in an Open competitive landscape.

Regulators and other forces are opening payments marketplaces to new and different forms of competition. The forthcoming updated Payment Services Directive (PSD2) is a good example of this trend. After PSD2 is implemented, experts envision world payments becoming almost completely open and any accredited payment service provider accessing any account to perform any standard service via an API. This powerful vision calls for a reexamination of current business models. Business models that rely on restricted access are vulnerable to the inevitable opening of the marketplace.

Over the past two decades the payments marketplace evolved from being closed, to being semi-Open. Increased Openness brings opportunities and challenges, many of which can be optimized via partnerships.

### Global payments via partnerships: Payvision



Payvision is a payment institution which provides card processing, acquiring, and risk management services to global e-commerce merchants. It provides global services to its merchant, acquirer, and PSP customers through its interconnected network of partners. This partner network consists of acquiring and BIN partners, technical enablers and gateways, and other value-added service partners. By offering one single high-end reporting interface for

worldwide transactions, Payvision's partner-based strategy gives it global coverage, something virtually impossible to achieve for any single company. Payvision's partner-based strategy gives it global coverage, something virtually impossible to achieve for any single company and is only possible through a degree of Openness that enables strong coordination among partners.

## PAYMENT SERVICES DIRECTIVE: TIERED REGULATORY REGIME FOR FINANCIAL SERVICES

In Europe, the first Payment Service Directive (PSD)<sup>6</sup> of 2007 introduced Payment Institutions (PIs). PIs are an intermediary between non-regulated businesses and banks. This development opened payment services from an exclusive business area for banks into a broader sector for a range of regulated companies.

The introduction of PIs brought clarity to the industry, lowered the bar for regulated activities, and removed regional differences that obstructed the roll-out of services across the EU or competition within markets.

With fewer entry barriers to the payment services market, competition has increased and end-customers have more options. It is also easier to combine services into a targeted, client-specific package.

<sup>6</sup> The Payment Services Directive ([http://ec.europa.eu/finance/payments/framework/index\\_en.htm](http://ec.europa.eu/finance/payments/framework/index_en.htm)).

This directive explicitly mentions a list of activities that fall under the definition of Payment Services and require the relevant license.

## 2.3. THE FUTURE OF OPEN PAYMENTS

Where will payments be 20 years from now? How will **Open** payments change the marketplace? Modern technology and **Openness** have introduced a future of virtually limitless business opportunities. The following developments are shaping the future of the **Openness**-driven payments marketplace:

### Interoperability of everything

In the future, interoperability of any channel, country, or device will be universal. Interoperability will be enabled via a combination of universal standards and the capabilities of intermediaries who thrive on **Openness**. The omni-channel approach will not be a custom-made construction of individual channels and data, but rather integrated components acting in concert. E-commerce, mobile technologies, and **Open** business models will lead the revolution towards the interoperability of everything.

### Frictionless, invisible payments

Payments will become frictionless and effortless for consumers via **Open** platforms. Consumers will not need to authenticate their identities. If they do, it will be virtually effortless, through one touch biometric authentication or similar solutions. Payments will invisibly flow in parallel with broader commercial interactions, such as one-click tailored offers.

### Business stacks and ecosystems

Services will be constructed based on the open sharing of capabilities among partners. Product stacks based on custom-made partnerships will morph into business ecosystems where participants freely use other network members' capabilities, possible due to open connectivity and trust between participants. Distribution and marketing will be **Open** because information regarding capabilities and credibility will be readily available. Access to common building blocks will allow greater specialization and tailored payment services for consumers and merchants.

ThreatMetrix provides an example of a company which thrives on componentized services. Merchants can make use of their complete proposition, but also access discrete data points for making their own anti-fraud decisions or combining it with others.

### Free-flowing global competition

Global regulators will adopt common standards that enable access for any credible party, not just the few local, legacy players. Natural commercial forces will drive globalized competition as consumers shop anywhere and multi-national merchants demand global service providers. In an open marketplace where barriers to entry are diminished, competition will be defined by strategy and natural advantages such as specialization, speed, productivity, and scale. Competition will be based on vertical, rather than geographic, markets.

### Future aspects of Openness now: Threatmetrix



ThreatMetrix is a supplier that helps merchants make decisions on the trustworthiness of individual consumers in online contexts. At the time of transaction, ThreatMetrix gathers a variety of different parameters on the consumer and uses these to calculate a risk score. Examples of parameters include geo-location, device identifiers, nature of the connection, operating system, languages, browsers, etc. ThreatMetrix offers services to control risk in e-commerce transactions, but also for other transactions like logging in and creating new accounts.

ThreatMetrix demonstrates a number of **Open** principles in the design of their service and go-to-market approach:

- Services are modular and flexible – Data and tools can be used in a number of different forms or combinations including approaches designed for a variety of different users and market sectors.
- Product stacking and partner distribution – ThreatMetrix services are often contained inside other services and distributed by others.
- Global and multi-channel – ThreatMetrix can be utilized across channels, use cases, and global markets.

### Data access and transparency

All data that is not specifically private will be widely available, which will generate transparency across payments ecosystems. Consumers and merchants will clearly see risks and make decisions accordingly. Transaction reconciliations will be automated and effortless. Costs will no longer be a source of confusion. Most importantly, the payments ecosystem will facilitate intelligent marketing by merchants because consumers will readily grant access to their payments identities and other data.

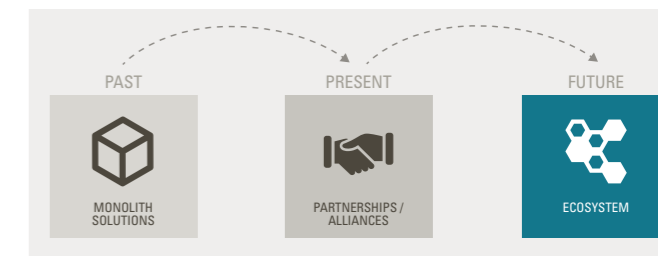


Figure 5: The evolution of business ecosystems

### Trust augments and/or replaces accreditation

Risk management, from the standpoint of consumers, merchants, and account owners, will shift from being a front-loaded exercise to one based on data transparency and shared trust. Interactions will carry risk scores openly created by and shared among all actors. Feedback loops will facilitate knowledge accumulation and increased transparency. Trust will be shared to the extent that the partner accreditations will be fully leveraged by others. There will be no need for endless compliance checks. Signing-up for services will become easier, driving free-flowing competition.

Over the next 20 years, **Openness** will reshape the payments marketplace to the betterment of its participants. Easy and effortless payments will be provided by suppliers who fully embrace **Openness**.

# 3 WHY OPEN PAYMENTS MATTER AND HOW THEY ARE CHANGING THE MARKETPLACE

Why does **Openness** matter to the payments marketplace? This section discusses the impact and implications of **Open** payments.

## 3.1. OPENNESS IS EMBEDDED, INVISIBLE, GLOBAL, AND OMNI-CHANNEL

### Embedded payments

Payments have migrated from being tightly integrated with banking services to being materially independent. Today, many merchants and consumers obtain payment services independently and there is an ongoing debate about how important acquiring or credit cards are to banking. It is increasingly accepted that banks are not the sole providers of payment services.

Below are examples of companies reintegrating payments.

### Shopify Payments



Shopify, a leading e-commerce platform solution, provides turnkey payments to its merchants via partnerships with Stripe for the U.S., Canada, and the UK, and via Paymill for several European markets. When a merchant initiates

its e-commerce business with Shopify, they are often not seeking payment services discretely, but simply opt in for Shopify's turnkey offering. Thus, payments are wrapped within a broader commerce solution.

### Intuit QuickBooks Payments



Intuit is a leading provider of financial and business management software for small businesses. They provide a range of simple, easy-to-use payment solutions such as

card acceptance, e-commerce, e-invoicing payments, and recurring billing, all tightly integrated into Quickbooks.

### Android Pay



Android Pay promises to enable effortless payments across a spectrum of channels and use cases including in-store payments via NFC, in-app payments, online payments,

Google Buy, and direct payments via Gmail, among other methods.

Incumbent payment service providers (PSPs) face significant challenges when payments are increasingly embedded, such as the loss of direct control over distribution. PSPs are either part of the broader solution or out of the game. This trend is currently most visible in mature payment acceptance markets where PSPs and acquiring services are frequently distributed via independent software vendors (ISVs) and value-added resellers (VARs). In the UK and US, most e-commerce merchants go to web developers or commerce platform providers for payment services, not banks, acquirers, or independent sales agents.

### Providing excluded merchant segments access to professional payment services: WePay



WePay is a payment service provider that allows marketplaces and other intermediaries to offer payments as part of their proposition, without the challenges that come with being a payments aggregator. WePay's business model demonstrates two important trends in an increasingly **Open** marketplace:

- Payments are packaged in a broader service.
- Payment services are becoming more specialized.

WePay makes complex payment services accessible to merchant segments looking for simplicity, and which are often consumer-centric by nature, for example: professionals, charities, or micro-merchants that are often selling or interacting through marketplaces.

WePay sees its position as a layer on top of traditional payment providers which opens payments to those segments not otherwise well served by the traditional providers and products.

WePay's operating model involves a degree of risk-sharing and a series of innovations related to onboarding in which they automate the process, retrieve key information through their distribution partners, and add data elements that are typically ignored by others. This allows WePay to make superior risk management decisions, based on social or contextual data, thus enabling a level of trust between their merchant base and payment processors.

**Invisible payments**

Payments are becoming more invisible to the consumer. Buying music on iTunes or Spotify, using an Uber taxi, or buying a product with an Amazon Prime account no longer involves incremental efforts to send payment. Merchants are driving this development because it reduces friction and eliminates cumbersome check-out processes. Most of these examples simplify payments via card vaults. As **Openness** progresses, app-based wallets will accelerate the invisible payments trend.

There are important implications regarding the shift toward invisible payments. First, the focus shifts from each transaction to the moment of sign-up and set-up. Payment products providers should focus their efforts on this sign-up and set-up to make it as smooth and secure as possible. A second implication is that consumer-facing payment services will become increasingly embedded into technical solutions such as mobile phones.

**Convergence of payments and commerce marketplaces**

Commerce solution and service providers are increasingly competing in payments because these lines of service run parallel, enabled by **Open** payments. When payment services are increasingly API-based and **Open**, they become easier to integrate.

Payment service providers must not only seek partnerships with commerce solution providers, but also explore ways to capture part of the broader commerce value chain and revenue pool. Monetizing payment data and competing for commerce solutions are two options. The tablet POS market is a good example of this trend, where payment companies such as First Data, via their Clover solution, are expanding beyond payments into the broader commerce marketplace.

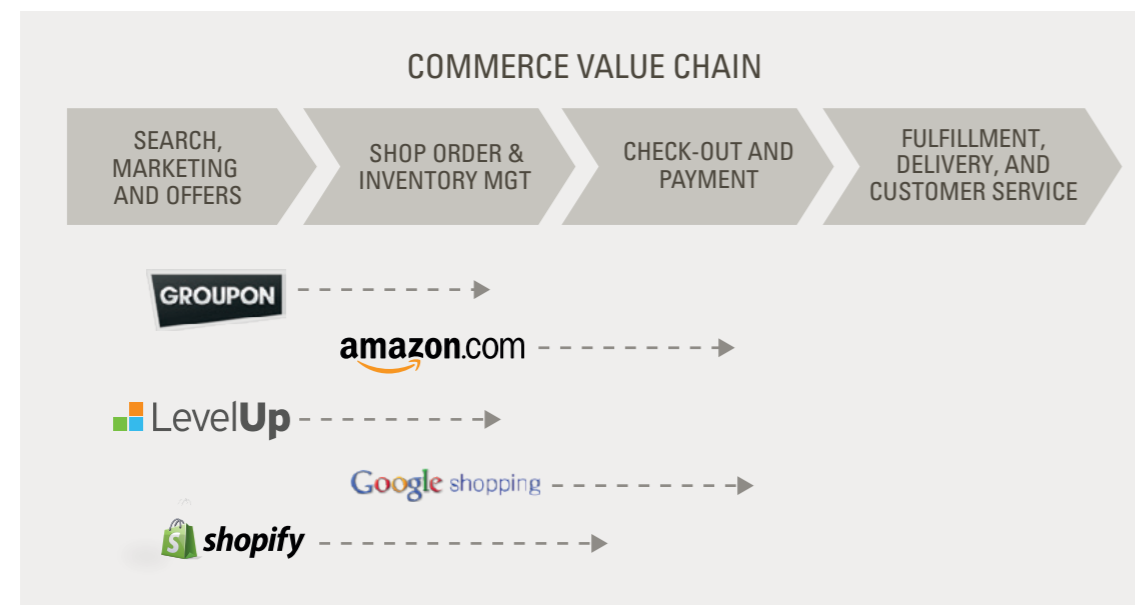


Figure 6: The encroachment of commerce and payment services: providers of commerce solutions are integrating payments into their proposition, expanding along the value chain.

**Globalization requires Openness**

Commerce is becoming global. Companies such as Etsy, AliExpress, and others are redefining how and where transactions occur. Cross-border commerce is growing rapidly, and merchants – particularly those focused on digital goods and services – are increasingly global. Global commerce requires **Open** payments. Global multi-nationals want service providers that can simplify the technical and operational complexity of payments via increased **Openness**.

Peach Payments is an example of a provider that simplifies payments complexity across several African markets via a simple, **Open** service interface.

**Simplifying payments: Peach Payments**



Peach Payments combines its payment gateway capabilities with commercial acquiring and acceptance relationships in various African markets. It then adds functionality specifically aimed at the business needs of African retailers.

Peach Payments embraces local payment patterns, languages, cultures, and currencies in Sub-Saharan African markets with an **Open** commercial proposition and easy-to-use technical interface.

According to Peach Payments, they create value for end-customers by applying standardized components in such a way that they suit the business needs in local markets.

**Omni-channel requires Openness**

**Open** payments are a key part of attaining the goal of omni-channel payments, which are currently more promise than reality. Most omni-channel use cases involve only single channel payments or a series of workarounds. Payments infrastructure and providers are still usually siloed into channels. However, **Openness** is changing this dynamic. Payment services are increasingly based on the same standards of **Openness** – API-based, self-served, flexible, and adaptable – regardless the channel. Mobile commerce, in particular, is driving legacy channels toward **Open** technologies and business models.

## 3.2. OPEN PAYMENTS CREATE REAL VALUE

**Open** payments create real value by reducing time to market, the cost of development, enhancing ease of use, driving incremental sales, and by improving business model flexibility.

### Reduced time to market and cost of development

**Openness** reduces time to market through faster product construction and broader distribution. Previously, companies spent decades expanding globally in the payments sector, but now companies such as Klarna do so in a matter of years. Rapidly expanding company valuations are also a testament to **Openness**; Square and Stripe achieved market valuations of over \$1 billion after less than five years in the marketplace.

In addition to reducing time to market, **Open** payments also make it possible to develop more efficient products and services, since components can be re-used and stacked.

### Enhanced usability drives incremental sales and better customer experience

Payments enabled by **Open** technologies are easier to use which drives incremental sales and better customer experiences. Technology is not always perfect, so merchants and payment product issuers must be conscious of the complexity created by more technically advanced payments. However, the overall value of easier payments is undeniable; consumers are more likely to make more purchases while benefiting from richer data and improved security.

### Business model flexibility

**Open** payments also create value by enhancing business model flexibility for payment service providers. **Openness** allows PSPs to expand their services – into acquiring services or fraud management, for example, or their geographic markets. The following are examples of **Openness** driving business model flexibility:

- Using product components developed by others
- Leveraging a more knowledgeable partner to enter a new geographic market
- Shifting from a direct business model to an infrastructure provider model

In a dynamic and competitive marketplace, adaptation is the key to survival and an **Open** approach increases flexibility.

## 3.3. BENEFITS FOR STAKEHOLDERS

The trend toward **Open** payments is not a zero sum game; there will be more winners than losers. Many stakeholders can and will benefit from **Open** payments, but for different reasons and to different degrees.

### Consumers

Consumers are the ultimate beneficiaries of **Open** payments; they will enjoy seamless user experiences, lower costs, and more convenience across all channels. Yet technical innovation may frighten some consumers. These consumers may be wary of digitized and invisible payments. Stakeholders must help these consumers understand all the benefits of **Open** payments.

### Merchants

Merchants will benefit from more accessible, flexible, and transparent payment services because they will provide more choice and lower long-term costs. Embedded and invisible payments will also increase conversion and lead to additional commerce channels.

### Banks

Banks arguably have the most to lose, although loss is not inevitable. Banks have a unique position in the payments marketplace that can be used to their advantage even in the context of **Open** payments.

Today, banks are losing some control over payments and impending shifts such as PSD2 further threaten their foothold. Banks face a quandary because **Openness** does not fundamentally align with pressures to become more secure, more compliant, and less expensive; yet failure to embrace **Openness** will lead banks to lose out to technical solution providers that do. Banks, therefore, must find ways to embrace **Openness** in spite of these challenges and move to a more partnership-oriented approach. There are many examples of partner-led approaches to **Openness** and innovation today. For example, Santander invested in iZettle, BBVA funded SumUp, and Private Synchrony invested in LoopPay before it was acquired by Samsung.

### Other incumbents

Many other incumbents across the payment value chain will be impacted by **Open** payments, including payment networks and acquirers. There is a natural tendency to assume the impact of **Openness** will be negative. Yet history tells us that incumbents often benefit the most from technical revolutions such as **Open** payments. For example, telecommunications providers thrived during the mobile phone revolution because it greatly expanded the volume of both phones and traffic over their networks. **Open** payments will drive more volume, more products, and more partnership opportunities towards incumbents. **Openness** is likely to pressure smaller legacy providers who fail to adapt; but those legacy providers that have the resources to evolve and embrace the business opportunities created by **Open** payments should benefit. Visa and MasterCard, for example, look to benefit from growth in new payment solutions such as Apple Pay, Android Pay, and Samsung Pay, all of which elected to approach the market using the legacy rails provided by the card networks.



### 3.4. THE GATEWAY PLAYS A KEY ROLE IN THE EVOLUTION TO OPEN PAYMENTS

The gateway (the PSP service) sits at the heart of **Open** payments, at least as it relates to payment acceptance. PSPs, therefore, will become more vital to the marketplace over time as primary providers of **Openness**.

Gateways provide connectivity, which simplifies the lives of their customers and is at the heart of **Open** payments. Gateways also led the transition from legacy, closed protocols and interfaces, to modern, **Open** technical interfaces. These providers will continue to play a key role as stakeholders seek out global reach and payment service suppliers look toward partners for new solutions.

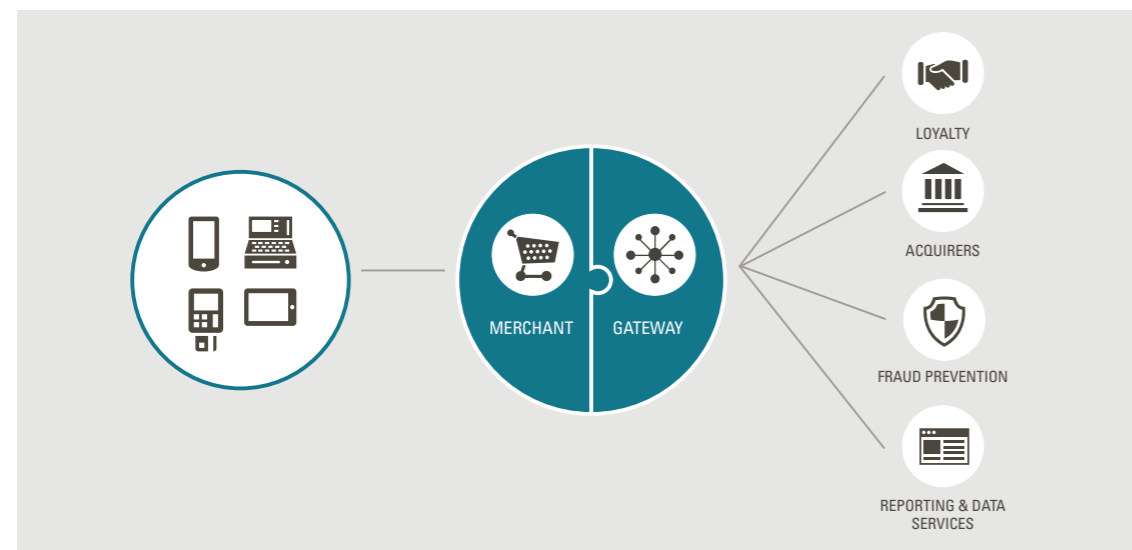


Figure 7: The gateway plays a central role in making all kinds of specialized and sophisticated services available to retailers through one integration.

# 4 PRACTICAL INSIGHTS FOR EMBRACING OPEN PAYMENTS

**Open** Payments are a call to action. All payment services stakeholders must seek to become more accessible, flexible, and transparent to apply the principles of **Openness** across their technology, their business model, and their approach to trust.

This final section examines practical means for payment service providers to apply **Openness** to their respective products and business practices.

## 4.1. BE ACCESSIBLE

All players in the ecosystem should ask “Is my product accessible?” by considering the following criteria:

- **Easy sign-up** – For acquirers and other merchant service providers, an easy onboarding process is critical. Acquirers often make the sign-up process too difficult, driving customers and partners towards alternatives. The most common item on the wish list of PSPs working with acquirers is a synchronized and digital accreditation and onboarding process. Account owners or issuers of payment services must also strive for easy sign-up and set-up.
- **Modern technical interfaces** – Providers of acceptance services must use modern, RESTful APIs and similar technologies to interact with customers and partners who are themselves technically savvy and expect the same from their providers. Players such as Stripe demonstrate that the quality of the technical interface is a key factor in winning business.
- **Open-to-all** – It behooves service providers to have a targeted strategy since they should strive to be non-restrictive in their marketing. PayPal and others have proven that non-restrictive business access finds value where others assumed there was none.
- **Global and local** – Multi-national merchants are demanding a hybrid of global and local payment services. An **Open** environment provides this capability via partnerships and product coalitions.
- **Inside** – As payments become more embedded, payment service providers must find ways to position themselves inside the broader set of commerce solutions such as mobile wallets, integrated POS, and marketplaces.
- **Balanced accreditation** – Payment systems cannot be successful if they are not secure; so accreditation and related measures are necessary. However, payment service providers must strike the proper balance between security and convenience, relying on smart and fast data-driven processes.





## 4.2. BE FLEXIBLE

The payments industry is changing more rapidly each day. Payment service providers must maintain a degree of flexibility, for example:

- **Self-service** – Payment service providers should build services which can be used independently anytime, anywhere. Services that require intervention are not flexible enough for customers or partners that want self-service.
- **Modular services** – Customers and partners do not want black boxes, rather, they want a clear set of services which can be used in combination or on their own. Payment service providers should be flexible to alternative uses of their services.
- **Flexible technology** – Payment service providers must recognize that users often operate on different platforms. Strong providers embrace this dynamic and support customers with a range of SDKs and developers' tools to enable easy use within any number of environments.
- **Multiculturalism** – Assuming that all prospective customers are local is a mistake. Providers should embrace an expansive customer base by enabling use in different languages, currencies, and cultures. Although market structure places practical limitations on global expansion, flexibility to new customer types is possible with less effort than previously required.
- **Partner-based distribution** – Winners in [Open](#) payments will embrace distribution partnerships that require a flexible approach to product and business constructs. Providers must recognize the needs of different partners and offer a proposition that can be adapted accordingly.
- **Creative branding** – Payment invisibility means providers must seek creative ways to build brand visibility; in particular, by working with partners to achieve mutually beneficial brand outcomes. For example, Apple Pay initially posed a threat to issuers who feared becoming invisible. Apple Pay found a way to keep the issuing bank visible and thus could count on cooperation that helped them achieve mass penetration in months.

## 4.3. BE TRANSPARENT



Trust is increasingly an element of success in the marketplace, and it is increasingly a function of transparency. Within reason, providers should seek to be transparent with their customers and partners, for example:

- **Open standards** – All stakeholders need to strive for better standards for interoperability and competition within payments. This means taking an active role in shaping standards and embracing and adopting standards that are market-ready. Legacy and disparate standards remain an obstacle to advancement, but embracing barriers to entry is not a viable long-term strategy.
- **Clear terms** – Years of fine-print dealings are giving way to market positioning based on clear and simple business terms. Being honest with your customers is an easy way to establish long-term credibility.
- **Feedback loops and communities** – The internet and social media have created an exceptional environment to gather customer data and encourage knowledge sharing across an ecosystem. Payment service providers can apply best practices from other industries to encourage customer feedback and foster knowledge-sharing communities. The future of [Open](#) payments is one in which all actors have access to full information, and one in which those that best embrace this concept are more likely to be winners.

For all stakeholders across the payments marketplace, the principles of [Openness](#) should act as cues that set the scene for the future of payments.

# 5 CONCLUSION

Open payments are here. Although arriving to payments later than most, [Openness](#) is now prying the industry, for lack of a better word, open. Although this paper posits the payment industry is only partially [Open](#), both newcomers and legacy providers are taking advantage of the possibilities [Openness](#) offers, as evidenced through the many examples in these pages. Of course, [Openness](#) alone does not guarantee success. But without it, payment companies will become less competitive over time.

While the idea of [Openness](#) is simple, applying it to business and payments is more complex. This paper defined three [Open](#) attributes (accessibility, flexibility, and transparency) and three business dimensions (technology, business model, and trust). Where these attributes and dimensions intersect is where companies take [Open](#) payments from an idea to action. Table 1 on page 8 shows exactly what companies should do to become more [Open](#). Technologically, companies should offer accessible APIs, modular services, interactive developer guides, and other options. From a business perspective, an [Open](#) payment provider will focus on partnerships, offer clear commercial terms, not restrict product availability, and be truly global. To develop trust, businesses should require the minimal accreditation possible, follow collaboratively-created standards, and make resources publicly available. Implementing these elements of [Open](#) payments will take dedicated, comprehensive effort across an organization. But it will be worth it, because companies that are [Open](#) will be more competitive, now and in the future.

To say the payments industry is constantly changing is cliché. Yet it is also true. Payment providers must be ready to adapt to an ever-changing market and [Open](#) businesses are inherently flexible. Yet [Open](#) payments offer more than the ability to evolve to a changing market. With them payment providers will have convenient and secure services for consumers, provide significant offerings through extensive partnerships, and make substantial gains from joining the revolution early. Payment providers that hesitate will become isolated and lack worthwhile services, slowly fading away.

The time for payment providers to move towards [Openness](#) is now. Ideas and concepts are still developing and nascent but will soon become more established. Players can now learn from early successes and failures, but there is still room for new innovation. The window of opportunity is [Open](#) and businesses should enter it soon to be well-positioned for the future.

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## ACRONYMS

<b>API</b>	application programming interface
<b>CRM</b>	customer relationship management
<b>IP</b>	internet protocol
<b>ISV</b>	independent software vendor
<b>mPOS</b>	mobile point of sale
<b>NFC</b>	near field communication
<b>PaaS</b>	platform as a service
<b>PI</b>	payment institution
<b>POS</b>	point of sale
<b>PSD</b>	Payment Services Directive (2007)
<b>PSD2</b>	forthcoming revision of the Payment Services Directive, expected in late 2015
<b>PSP</b>	payment service provider
<b>REST</b>	representational state transfer
<b>SaaS</b>	software as a service
<b>SDK</b>	software development kit
<b>SME</b>	small and medium-sized enterprises
<b>VAR</b>	value-added reseller

## GLOSSARY

### **Application Programming Interface (API)**

A set of routines, protocols, and tools for building software applications. An API expresses how a software component interacts through its operations, inputs, outputs, and underlying types.

### **Elements of Open payment services**

In this paper, they refer to the characteristics of Open business as they apply to payment services.

### **Hackathons**

Events where groups of developers collaborate on projects to create new software in a limited amount of time.

### **Independent software vendor (ISV)**

A business that develops and sells software products.

### **Mobile point of sale (mPOS)**

Paying for purchases using a mobile device in a merchant's physical location. It usually refers to portable point of sale card terminals.

### **Near field communication (NFC)**

A suite of technical standards that enable the secure interaction of devices, notably smart phones and payment terminals, over very short distances.

### **Omni-channel**

Trading across various channels simultaneously and seamlessly.

### **Openness**

A term used for doing business accessibly, flexibly, and transparently.

### **Payment institution (PI)**

A regulated entity that has a license to perform one or more payment services as described in the Payment Service Directive.

**Platform as a service (PaaS)** - A set of services that enable the creation and hosting of web applications without the need for proprietary infrastructure.

### **Point of sale (POS)**

Payments that occur at the merchant's physical location.

### **Payment Service Directive (PSD)**

The 2007 European Directive that sets the regulatory framework for Payment Services in the EU.

### **Payment Service Directive 2 (PSD2)**

A forthcoming revision to the Payment Services Directive, expected in the second half of 2015.

### **Representational state transfer (REST)**

A set of best practices and architectural conventions that enable cooperation between different software.

### **Software as a service (SaaS)**

Software hosted at a remote location and provided by subscription.

### **Software development kit (SDK)**

A set of software development tools to guide the creation of applications for certain software packages, software frameworks, hardware platforms, computer systems, operating systems, or similar development platforms.

### **Value-added reseller (VAR)**

Business that adds features or services to an existing product.



## CONTACT US

Get in touch to find out how easy it can be to expand your business with the most advanced and reliable payment solution on the market.

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Our core payment gateway provides cross-border payment processing, PCI-compliant merchant boarding, and access to more than 300 domestic and international acquirers and alternative payment methods. Modular solutions are configured to specific business cases, with additional fraud prevention tools, monitoring and reporting, and business services. PAY.ON enables payment providers to rapidly increase international revenues, reduce costs and risk, and accelerate market expansion. Headquartered in Munich, PAY.ON has subsidiaries and representation in New York, Hong Kong, Salzburg, Manila, London, Paris, Umea, and Sydney.

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