(r)Evolution

PSD2, **open banking**
and the **future** of **payment services.**

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Seed is a boutique advisory firm focused on helping clients achieve growth, improved performance and tangible results. Our expertise in tax & corporate structuring, strategy, applied economics and regulatory processes delivers sustained value to our clients.

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This publication aims to contribute to the national debate and to stimulate business and policy leaders to embrace the future and to start working towards a much-needed recovery plan that is anchored around a long-run vision for Malta. The research report complemented by consultations with 18 social partners, 20 business leaders, 15 expert contributions and an economic survey with 385 participants.

Can be downloaded from (https://seedconsultancy.com/agile/)

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Foreword

The way we bank and make payments is changing faster than any other financial services area. New technology and changing customer expectations are shattering the status quo and ushering in a growing number of new players that are challenging the traditional role of banks.

Payment services have been undergoing a constant evolution throughout the years, primarily being driven by fast technological innovation. Significantly though, this innovative drive in Europe has been matched by a key regulatory development in the shape of the Second Payment Services Directive (PSD2), which undoubtedly has the potential to become a revolutionary milestone in this space. This Directive requires banks to provide API software interfaces, allowing financial startups to tap into customer data. This new access to bank data is designed to jumpstart fintech innovation, encouraging the creation of a myriad of innovative, secure and user-friendly services that will benefit both individuals and small businesses.

At Seed, we truly believe in the power of regulation to spur innovation. We also strongly believe in the interplay between technology, regulation and entrepreneurship to not only sustain growth but to add value to consumers, businesses and the economy at large.

As a research-driven advisory firm with a specialist cluster on payment services, we have analysed the implementation of PSD2 by local institutions and get a sense of its impact on local players.

We set up Seed wanting to do things differently. We care about making a difference for our employees, for our clients and the wider community. We believe that through our research reports we can contribute to supporting business leaders in their decision-making and also in policy making. Following the positive feedback of our first publication Agile. Perspectives on the future of Malta's economy post COVID-19 we remain committed to publishing regular reports which are research-based and insights-driven.

Financial services and payments are transforming themselves rapidly. The changes in payments has only just begun and those organisations that lack the agility to adapt at speed to the transformation to come, risk being left behind.

We hope that this publication can contribute further to this area of opportunity.

JP Fabri & Nicky Gouder
Seed

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Abbreviations

AISP	Account Information Service Provider
AML	Anti-Money Laundering
CBM	Central Bank of Malta
CASOSC	Common and Secure Open Standards of Communication
C2B	Consumer to Business
EBA	European Banking Authority
FT	Funding of Terrorism
MFSA	Malta Financial Services Authority
MGA	Malta Gaming Authority
NCA	National Competent Authority
OTP	One-time-password
OB	Open Banking
PSU	Payment Services User
PISP	Payment Initiation Service Provider
RTSs	Regulatory Technical Standards
SCA	Strong Customer Authentication
TPP	Third Party Provider
UKGC	United Kingdom Gambling Commission
XS2A	Access to Account

Executive summary

Payment systems are often taken for granted and underestimated. Current generations have seen the emergence of credit cards, debit cards, online payments, mobile phone payments, contactless payments and other innovative methods of payments. Payment services underpin main street, the wheels of industry, the operation of markets and the existence of government. No other banking activity is as important to either society or business, as payments.

Technology and regulation are driving innovation in payment systems and creating new sources of value. So significant are the changes, that the future payments market will have a profound effect on the structure of today's banking sector and other sectors too.

In 2015, the European Union acted to create a 'digital single market' for payment services in Europe. This move was championed by the EU's Second Payment Services Directive (PSD2) which strengthened consumer rights, introduced new security measures, and provided the regulatory infrastructure for its own form of Open Banking ('OB'). This game-changing Directive opens up consumer bank accounts to third party providers (TPPs), unlocking banks' data-lakes and providing a level playing field with other financial services providers. As such, it represents a fundamental change in the European banking sector, and a significant step towards Open Finance. PSD2 became law for member states in January 2018, and its measures are to become active in stages through to December 2020.

Malta has established itself as a regional financial centre over the years. The growth of key sectors in the financial services space has enabled numerous areas and ecosystems to develop, thereby contributing to the strong economic performance registered over the past few years. However, as Malta continued to develop its infrastucture, the banking sector started to take a more conservative approach due to regulatory and global de-risking efforts. In order to maintain economic momentum and ensure that our ecosystems remain highly functional and adaptable, payment services need to take centre-stage of the policy agenda. The Maltese economy needs to ensure that it has a strong payment infrastructure capable of supporting Malta's economic development. PSD2 creates unique opportunities to spur this innovation and to bring about synergies between already strong sectors such as financial institutions and technology companies.

"Payment services are a key enabler of not only financial services but of the broader economy. Our approach is to ensure that we have a healthy ecosystem that is able to support current industries and also to stimulate the

further diversification of our economy. Innovation in payments is happening at a very fast pace and Malta is also pioneering in its legislative framework especially when it comes to areas such as remote gaming and blockchain. Government believes that by enhancing synergies between sectors and enabling technologies and services such as payments we can further strengthen and diversify our economy. We remain committed and steadfast in our approach to strengthen our ecosystem and international attractiveness.”

Clayton Bartolo

Junior Minister for Financial Services
and Digital Economy

The purpose of this report is to analyse the PSD2 regulation and examine its effects, challenges and opportunities with a focus on the Maltese market. To gauge these and measure the levels of preparedness in the financial world, we undertook a survey of representatives from close to 20 leading credit and financial institutions. We have used the results to inform this report.

In this first chapter we look at what exactly PSD2 is by presenting its main highlights. The following two sections unpacks the concept of OB before focusing more in-depth on the introduction and state of play surrounding its implementation. Innovation is often seen as a key goal of PSD2, and the appetite for innovation in the local credit and financial institutions sector is gauged in the fourth section. With many seeing PSD2 as threatening traditional banks, this question is tackled in the fifth section. The sixth section then goes on to analyse local compliance to the Directive, and perhaps more significantly to its derivative Regulations. The disruptive power of PSD2 and its potential to impact other sectors is presented in section seven, before drawing our concluding remarks and some recommendations.

Payment services have been in evolution since the introduction of cards in the 1950s. As technology and regulatory innovations continue to pick up momentum, we believe that we are on the brink of a revolution in payment services, disrupting banks and other sectors. This publication aims to shed more light and insights on the state of play of the local industry, all whilst contributing to the discussion on the payment ecosystem in Malta.

PSD2. Delays & opportunities

The Second Payment Services Directive, colloquially referred to as PSD2, was heralded as one of the most consequential pieces of legislation to affect the banking sector in recent times. Its highly anticipated introduction back in 2018 was the subject of fear and excitement in equal measure, largely due to its ambitious mandate and potential to open the floodgates to a myriad of fintech disruptors in a sector which had succumbed to a lack of innovation and creativity in recent years.

In a nutshell, PSD2 was rolled out with the intention of shaking up the banking ecosystem by facilitating the introduction of new players intended to bring in added value and economic benefits throughout the payment chain and beyond, whilst maintaining security and consumers' rights at the forefront of its considerations. It sought to achieve this by:

- Integrating and fostering efficiency in the European Payments market;
- Bringing within its regulatory scope payment chain players which were previously unregulated[1];
- Fostering a wider sense of consumer protection by revamping the security arrangements underlying payments within the EU.[2]

However, ever since its promulgation, PSD2's journey has been challenging to say the least. Some jurisdictions have wholly embraced the spirit of the Directive and sought to move heaven and earth in a bid to develop their infrastructure as intended, whilst others have progressed at a much slower pace, viewing PSD2 as a cumbersome compliance exercise rather than an untapped giant which could open the door to various strategic opportunities.

Admittedly, Malta's efforts so far have placed it firmly in the latter category, with official transposition of the Directive occurring on the 2nd of August 2019. This represented an almost 19-month delay from the Directive's intended roll out date, effectively eroding any potential first mover advantage Malta might have had in this space and contributing heavily to the local market's apprehension towards the Directive and its objectives.

[1]TPPs, i.e. AISPs and PISPs

[2]Through enhanced security measures and SCA requirements

The local Banking sector's initial reluctance to truly warm up to the Directive and act as the main driver to OB itself has also been cited as a factor in the delayed development of OB solutions in Malta. Moreover, doubts have also been raised over the local retail consumer's maturity and the willingness, or lack thereof, to share bank-related data with smaller, and relatively unknown fintech companies. Nevertheless, one can strongly contend that due to the staggered manner in which PSD2 is still being implemented across all EU member states, it is yet to fully permeate the sector as originally intended. European jurisdictions such as Malta which have so far lagged behind in developing a widespread OB market are therefore still in time to turn the tide and take full advantage of the innovative tools and economic benefits made available through the Directive. Having established the Island as an ideal destination for Investment Services, Payment Service Providers and Electronic Money Institutions in the past, there is no reason why Malta shouldn't replicate this for the myriad of possibilities PSD2 is currently presenting us with.

“Malta is a a well-established regional financial centre. Over the years we have attracted numerous players operating in the payments sector and we see this continued growth year-on-year. Recent legislation such as PSD2 allows for innovation in this area and we are focused on ensuring that Malta continues to strengthen its service offering to attract new players and to further strengthen its financial services sector. Through innovation and regulatory robustness, Malta can strengthen its positioning as a regional hub.”

Ivan Grech

Chief Operating Officer, FinanceMalta

As of the date of this report, the Malta Financial Services Authority ('MFSA') is yet to authorise any Institution to carry out Account Information or Payment Initiation Services, these being the two new licensable activities introduced by PSD2. Nevertheless, interest in the provision of these services has started to ramp up in recent months, with the MFSA currently reviewing the first batch of applications for authorisation. This has in turn raised realistic expectations for having the local OB waters tested in the very near future through locally authorised players.

Moreover, the need for further innovation in the payments sector has never been more evident than the present. The Covid-19 pandemic has exposed our long-standing reliance on cash and other traditional payment methods which are in desperate need of aligning themselves with newer and more innovative models which have proven to be successful in other EU countries. The right combination of digital drive and technological innovation coupled with a consumer base which is willing to make the leap forward will go a long way towards ensuring Malta's success in this sector.

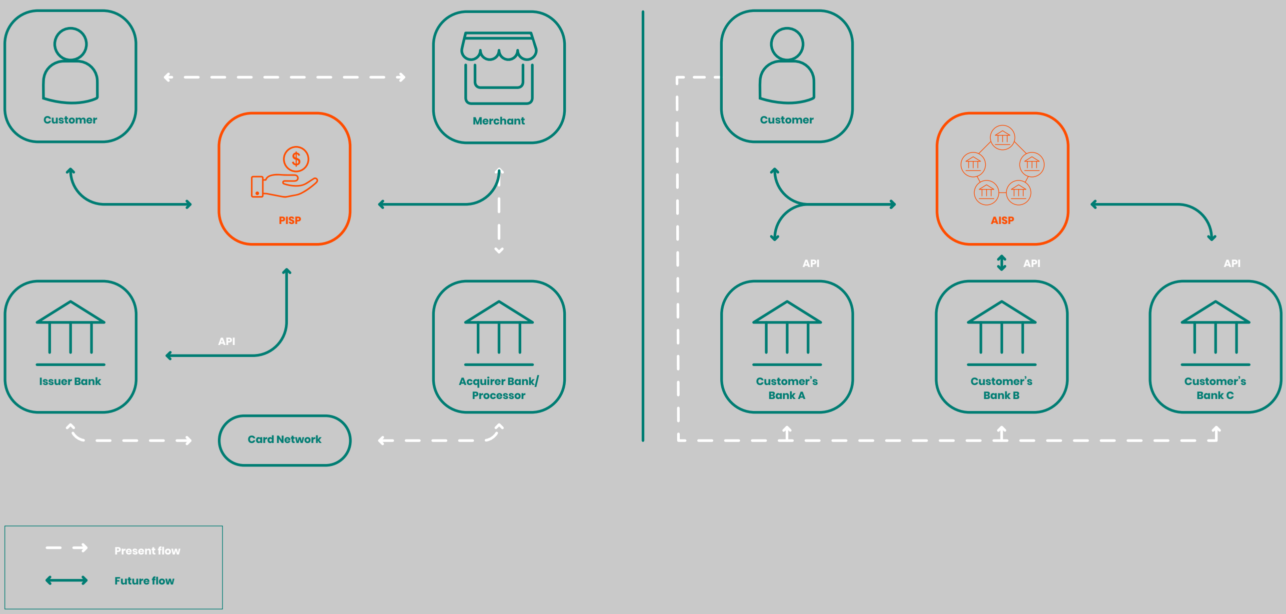
For this to happen, it is vital that both consumers and industry players alike gain a sufficient understanding of the Directive's goals and objectives. Only in doing so will we truly assimilate the benefits therein and unlock the disruptive potential behind the ('OB') concept.

Unpacking Open Banking

Retail banking has faced many a challenge throughout the years, and with each challenge Banks have learned to weather the storm and, for the most part, come out unscathed. The concept of OB, as propounded by PSD2 and other regulatory instruments throughout the world, is however no such ordinary challenge so much so that, if properly embraced, it has the potential to herald a new era in how we view banking services.

The basic tenet behind OB lies in banks making bank-held customer data available to authorised third parties in a safe and secure manner. PSD2 has taken a dual approach in this regard by introducing 'Account Information Service Providers' ('AISPs') and 'Payment Initiation Service Providers' ('PISPs'), both referred to as 'Third Party Providers' ('TPPs'). AISPs are online services which are authorised to extract consolidated information from various different payment accounts held by payment services users ('PSUs'), potentially with different payment service providers. A PISP, on the other hand, is authorised to initiate a payment from a PSU's account in favour of any third party, such as a merchant, by creating software bridges between both accounts and relying on existing banking railways to complete the transaction.

Figure 1: Illustration showing the manner in which AISPs and PISPs operate (future flow) as opposed to the traditional consumer journey (present flow)



PSD2 obliges banks to open themselves up and give access to duly authorised TPPs, thereby supplanting the vertical supply chain through which banks ordinarily develop products and services and make them available exclusively through their own channels. Opening up customer data and making it available to TPPs allows the latter to build innovative products on top of the bank's existing data and infrastructure. Conceptually, a regulatory move in this direction can be justified in a variety of ways, namely as:

- An intention to counteract the perceived lack of competition in the European Union Banking sector;
- A desire to develop more innovative solutions in the European Banking Sector;
- A willingness to bring within the scope of regulation certain players which were already operating in an unregulated manner in the hope of creating a level playing field;
- A means of empowering the consumer by giving him greater control over who can have access to his data and in what ways such data can be utilised.

"By bringing account information and payment initiation services within the regulatory scope of PSD2, the EU has clearly demonstrated its long-term intention to utilize the liberalization of data and Open Banking concepts to revamp and modernize the EU payments market. The challenges now are of a technical nature – navigating security & GDPR requirements and finding middle ground on the standardisation of the banks APIs, so that the regulations will have the desired impact in the market."

Samoil Dolejan

CEO, MoneyMatrix Ltd

The above have served as catalysts not only for PSD2, but for a variety of other legislative and regulatory efforts aimed at formalising the OB phenomenon around the globe. Australia, Canada, New Zealand and perhaps more significantly, the UK, have all developed a strongly regulated environment within which OB platforms can flourish. By implementing their own homegrown regime - the 'OB Standard' - alongside PSD2, the UK is proving to be a leader in this space. In taking this approach, the UK have undoubtedly kept a close eye on any Brexit-related repercussions which could render PSD2 inapplicable to the UK in a short space of time. By developing a homegrown regime, the UK have ensured a stable future for their OB sector in a post-Brexit world which is not reliant on EU community law.

Nevertheless, having the regulatory framework in place is only the first step in creating a functional OB ecosystem. Industry players must then strive to identify consumers' needs and leverage the AISP/PISP regulatory framework to create innovative products and bring them to market. Given the relatively early stages in which the European OB sector finds itself in, adopting a creative approach which merges consumers' expectations with the right technology will be key.

Implementing Open Banking

Treating AISPs exclusively as 'account information aggregators' and PISPs as simply 'payment initiators' would be taking a very narrow view of OB and severely restricting the untapped potential for such Institutions. Indeed, the success or failure of OB platforms lies in the commercialisation of different use cases which can be created by harnessing the technology and the availability of data. Any successful proposal must leverage the regulated service by:

- Identifying a specific solution which adds value to the customer's experience; and

- Combining this with quality user-friendly apps which combine speed, ease of use and security.

"Any digital offering, including those which emerge from Open Banking principles, should be established on two equally important foundations, these being consumer empowerment and ease of journey. In the digital space, customers expect nothing less other than a frictionless experience which can be trusted in terms of reliability and security by its end users. Applying a seamless interface to tools which provide the consumer with increased control of how personal data is processed will facilitate the uptake of such services on a wide scale basis"

Kenneth Farrugia

Chief Business Development Officer,
Bank of Valletta plc

PSD2 has widened the horizon for fintech players and afforded them the possibility of moving on from being minor disruptors picking off selected services ordinarily offered by big banks, into serious contenders potentially owning the primary customer relationship.

Due to their very nature, AISPs are particularly well positioned to leverage the vast swathes of bank-held customer data at their disposal. The Directive states that authorised AISPs shall "*…not use, access or store any data for purposes other than for performing the account information service explicitly requested by the payment service user, in accordance with data protection rules.*' Theoretically, this means that an AISP can utilise customer data for an unlimited number of use cases, as long as its actions do not fall foul of GDPR and data protection principles. In practice, the AISP would need to:

- Obtain specific consent from its customers on how it intends to utilise their data;
- Inform customers of how their data is to be processed in a very transparent manner;
- Take specific measures to protect the data itself; and
- Give customers the ability to revoke consent and have the data erased (right to be forgotten).

Armed with consumer data, AISPs have started to make their presence felt throughout Europe by utilising the regulatory framework to create various novel propositions. Some of the more successful institutions have positioned themselves as money management and budgeting tools – utilising payment account data to provide consumers with visibility over primary expenses and spending patterns in a user-friendly manner. Others have carved a successful niche as credit-scoring and price comparison-based services or as account monitoring systems which set alerts at certain spending markers, thereby helping consumers to avoid overdrafts and offering lines of credit when such markers are met or close to being met.

Box 1: Kontomatic UAB – a pan-European AISP

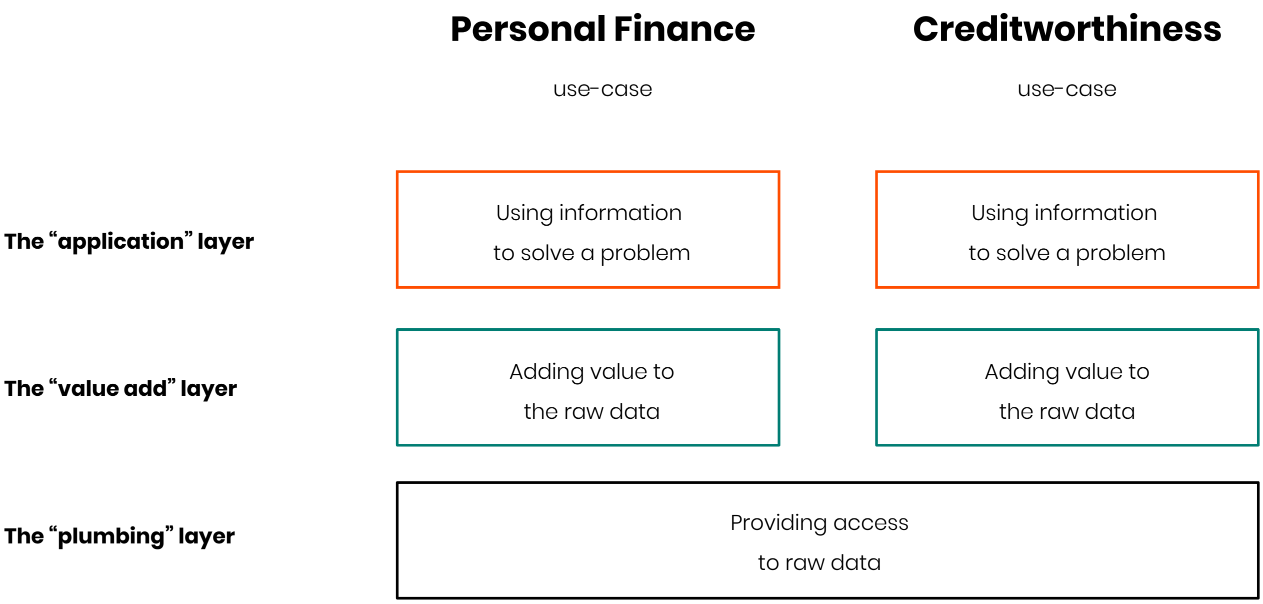
Kontomatic UAB, an AISP licensed by the Bank of Lithuania, is one such company which has taken full advantage of the regulated service. Its business model is geared at providing Banks, lending institutions, fintechs and accounting firms with data aggregation tools which allow its users to:

- Improve risk management by analysing financial behaviour;
- Obtain meaningful insights by having access to credit scoring data; and
- Facilitate manual underwriting processes, as KYC and other required data will instantly be made available.

Moreover, due to the passportable nature of AISP (and PISP) services, Kontomatic has been successful in establishing a footprint in no less than 11 EU jurisdictions.

The value in an OB platform providing AISP functionalities lies not only in its capacity to create standalone products based on the availability of consumer data, but perhaps even more so in its potential to enhance other pre-existing service lines an Institution may already be offering. The UK mortgage market has already come to terms with this reality, with numerous lending Institutions adopting AISP capabilities in the hope of expanding their loan portfolio. By doing so, these Institutions are able to obtain applicant data stored with other banks in an immediate and secure manner, thereby facilitating their own creditworthiness assessments and contributing to a reduction in the time needed to review applications. Leveraging an advantage such as speed within the financing and mortgage sector would dramatically and instantly improve the overall product offering.

Figure 2: Personal Finance and Creditworthiness use-cases'



The potential impact in this space is immeasurable and will continue to grow as long as the sector is able to identify use cases and products which add value to the customer's experience. Inevitably, different players will take up varying positions and carve out niches which fit them best. Perhaps those that will thrive the most are the ones who move quickly to enrich customer data obtained through banks and seamlessly build value-adding solutions on top of such data.

The Covid-19 crisis has seen various UK firms leveraging data and moving quickly to create solutions which:

- Help businesses determine whether they're eligible for grants and tax breaks;
- Provide liquidity calculators generating funding requirement scenarios; and
- Provide impact assessment tools which compare credit quality pre and post Covid-19.

Whilst AISPs tend to take the spotlight when it comes to developing innovative use cases, PISPs are slowly but surely developing under the radar throughout the EU. A PISP's value lies in its ability to initiate Account-to-Account transactions in line with instructions issued by (PSUs). These OB solutions are on the rise, particularly with respect to B2B transactions and in markets where consumers seldom possess, or are otherwise unwilling, to utilise credit cards. In a jurisdiction such as Malta where card penetration is very high amongst consumers, it might come as a surprise to most that as much as 60% of the EU's population does not possess a credit card[1] and is therefore completely excluded from utilising cards as a payment instrument.

Figure 3: Illustration depicting a typical card-based transaction as opposed to a payment initiation transaction powered by an authorised PISP

[1]Quote statistic from ECBsme

Card payments, particularly in the B2B sphere, are widely unpopular for a variety of reasons, chief amongst which are the interchange fees, card scheme fees and processing fees which feature in most card transactions and which often burden the merchant directly. In contrast, payment initiation requests are not dependant on third parties such as acquirers and card schemes. Instead reliance is kept on API calls to initiate transactions which are processed over existing banking rails. This represents, at least on paper, a cheaper and more efficient alternative to traditional payment methods for both consumers and merchants alike.

"When it comes to banking services the expectations of the private sector and consumers are aligned. Businesses and the private individuals are equally ready and expectant of improvements in services when it comes to banking facilities both in terms of the quality of the service provided and it's accessibility in terms of cost. We live in a digital era that has provided room for such expectations but the natural restrictions in the Maltese market as well as traditional settings have resulted in very slow progress on both fronts. On the public front, policy makers are key to facilitate developments in this respect and making space for more players in the market will provide users with more choice and a healthy competitive market."

Abigail Mamo

Chief Executive Officer - Malta Chamber of SMEs

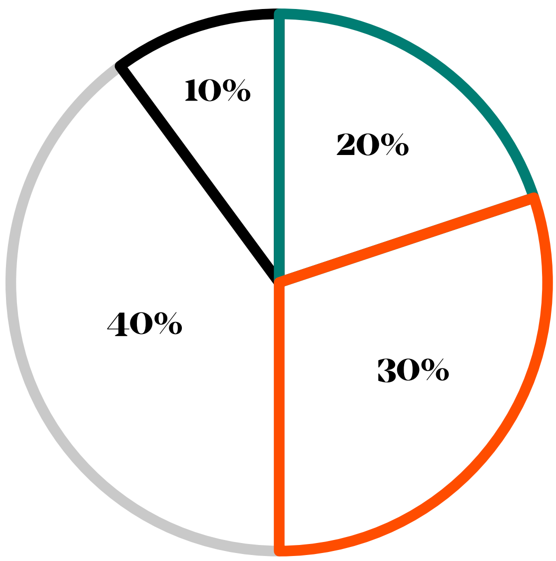
In reality, however, the development of commercialised PISP solutions lags far behind its AISP counterpart, so much so that PISP API calls only contribute for about 1% of total calls made in the UK OB market. This data seemingly indicates that merchants have not yet seen the full value proposition that OB can bring to their business. Moreover, it also shows that payment initiation still lacks some crucial elements, such as regulatory compliant systems which cater for refunds and chargebacks and which are capable of supporting batches of payments, rather than singular transactions which are subject to redirection for each transaction.

Nevertheless, when queried as to what OB-driven products carry the strongest potential in the retail sphere, 40% of respondent FIs argued in favour of consumer-to-business (C2B) payments, whilst 30% replied with peer-to-peer payments. This demonstrates that, when limiting the discussion to the retail sphere, the local FI sector is seemingly more confident in the development of payment initiation products then it is for typical AISP-related use cases such as account aggregation services, which only accounted for 20% of respondent replies.

Chart 1

What Open Banking-driven products does your organisation feel carry the most potential in the Retail sphere?

- Account Aggregation Services
- Peer-to-Peer payment directly from account
- Consumer to buisness payments directly from account
- Other

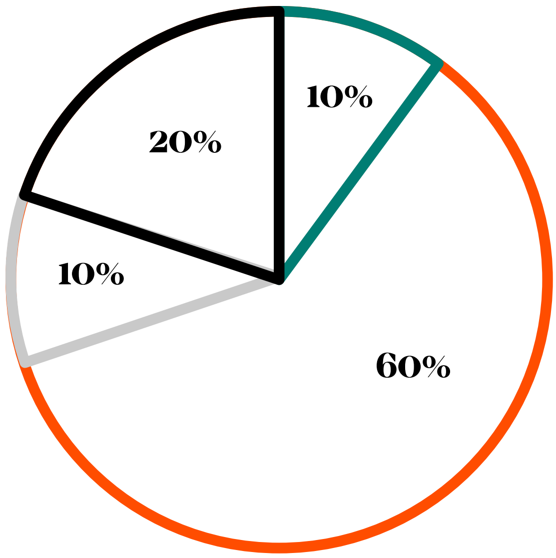


Conversely, when shifting the discussion to the commercial sphere, 60% of surveyed FIs felt that AISP-powered products such as multi-account aggregation and management tools hold the most promise. Significantly, however, 20% of participating FIs argued that no major opportunities exist for OB-driven products in the commercial sphere.

Chart 2

What Open Banking-driven products does your organisation feel carry the most potential in the Commercial sphere?

- Balance Sheet simulation across different accounts.
- Multi-Account aggregation and management tools.
- Risk-scoring tools for lending and other purposes.
- No Major Opportunities



Having established all of the above, it is nevertheless worth noting that, taken in isolation, innovation is of little to no value in this space unless it is matched by a corresponding appetite both from a consumer and an institutional perspective. It is therefore imperative for prospective OB players to gauge sectorial requirements and expectations and develop OB products around such wants and needs.

Does an appetite for innovation truly exist?

Payment services have long been associated with low transaction fees and very restrictive margins, such that commercial success of institutions operating in this space has traditionally been tied to high volumes and market penetration rates. However, when considering the viability of OB products it is imperative to factor in two of the arguments raised in the previous section, that is the notion that OB products are often introduced to enhance the effectiveness of pre-existing service lines, as well as the fact that payment initiation affords institutions more room for higher transaction fees due to there being less actors in the payment chain. Moreover, OB regulatory and setup costs are much more favourable to institutions when compared to most payment services contemplated under PSD2;

Consumer Appetite

Nevertheless, there is no denying that for OB to ever be successful on a significant scale, there needs to be widespread buy-in by PSUs and societies at large. At a European level, various players have already demonstrated that there is a strong appetite for OB platforms, with Trustly acting as one of the standard bearers in this regard[1].

Box 2: Trustly – a pan-European PISP & AISP

Having been established in 2008, Trustly is authorised to provide payment initiation and account information services through its recognition as a payment institution by the Swedish Financial Supervisory Authority. Trustly's service offering is based on the development of account-to-account payment solutions which bypass traditional card schemes, thereby enabling customers to make fast, secure and efficient payments directly from their standard bank account. Since its inception, Trustly has grown significantly to a point in which it is now processing over 9 million transactions per month in over 20 markets, enabling it to reach over 600 million consumers. Its ability to develop efficient payment systems and tailor its solutions to merchants in different sectors serves as a true testament to the potential held by payment initiation firms in the EU.

[1] Trustly has been recognized as the best PISP and AISP (Payment Initiation Service Provider, Account Information Service Provider) at the Merchant Payment Ecosystem Awards (MPE Awards).

As already alluded to above, the UK market is proving to be one of the most mature OB ecosystems. As displayed in Table 1, a total of 237 TPPs are currently registered, with 69% of all registrations being AISPs and 31% registered as PISPs. Very similar figures also apply with regards to OBIE registrations whereby from a total of 181 registrations, 71% are registered as AISPs and 29% registered as PISPs.

FCA Registrations		**OBIE Registrations**	
Type	Amount	Type	Amount
TPP	**237**	**TPP**	**181**
AISP	**164**	**AISP**	**129**
PISP	**73**	**PISP**	**52**

Table 1: List of FCA and OBIE Registered TPPs by type

A UK-based study has shown that consumers are relatively keen to ob solutions offered by non-traditional players[2]. In fact, a majority of retail banking customers prefer to utilise digital means when it comes to making domestic transfers of funds or checking their balance/monitoring their accounts. These are both functionalities which can be carried out by TPPs. Acceptance rates are even higher when surveying SMEs rather than individual PSUs.

Other studies[3] involving multiple member states have shown that roughly one third of surveyed consumers are strongly interested in at least one of the more prevalent OB services currently on the market. Nevertheless, a majority of users would much rather have these services provided by their trusted bank, with most respondents suggesting that they would be wary of sharing sensitive payment account data with other banks or TPPs. On a more encouraging note, respondents seemed to express a willingness to change their payment methods, if the

2 - https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/financial-services/deloitte-uk-open-banking-how-to-flourish-in-an-uncertain-future.pdf
3 - https://www.mobeyforum.org/open-banking-open-minds-consumer-appetites-for-new-banking-services/

alternatives provided combine financial incentives, convenience and trustworthiness.

TPPs must therefore find ways and means of building strong reputations and slowly but surely gain the trust of the wider public if they are to ever strike a lasting relationship with a consumer base which has spent years moulding relationships with established banks. TPPs must take full advantage of their size and agility when compared to banks, often seen as slow movers, and develop their products in a way which would encourage the right demographic to take the leap. In doing so, as is always the case with innovation, a more mature customer will gradually develop.

Maltese consumers have so far lagged behind their European counterparts when it comes to utilising electronic means of payments, with cash still serving as the predominant inclination for many individuals when purchasing goods and services. This notion, along with its possible underlying rationales, was further analysed through a recent study on local payment habits conducted by the Central Bank of Malta (CBM)[4]. This study delved deeply into four main facets which were considered to have the strongest impact on the Maltese population's payment habits, these being:

1 - Accessibility to Payment Instruments and Channels

2 - Preference of Payment Instruments and the rationale behind each choice

3 - Expected use of alternative payment channels in the next five years

4 - How consumers perceived the notion of security of different payment instruments

A survey was conducted over 500 Maltese households, analyzing various payment instruments and channels whilst making reference to different types of transactions which these same instruments may be used for. The instruments included cash; mobile banking; online payments; internet banking; direct debit; pre-paid card; credit card; debit card and cheque books whilst the transaction types analysed included wellness; groceries; consumables; utility and non-consumables[5].

The overarching theme behind the study shows that whilst accessibility to alternative means of payment has increased for all listed payment instruments when comparing 2018 with data collected five years earlier, the trend still sways heavily towards the use and preference of cash for the majority of the transaction types mentioned above. This is further accentuated when analysing the older age groups in society, whereby individuals aged 55 and over use cash more than any other alternative means of payment, whilst younger individuals between 25-34 as well as 35-44 years of age demonstrate a relatively equal balance between the use of cash and other means of payments when transacting. However, as portrayed in the figure below, it is worth noting that 54.2% of the entire population does not conduct any e-payments whilst 91.1% does not use mobile payments. Finally, 50.3% of the population is reluctant or completely against participating in a cashless society, indicating that the other half would be more willing to adopt such alternative methods of payment for their overall daily consumption patterns.

4- https://www.centralbankmalta.org/file.aspx?f=72428

5 - Definitions for what constitutes as wellness products, groceries, consumables and non-consumables are provided in the study

Table 2: Attitudes of Maltese households towards payment servives (% households)

54.2% do not do e-payments

50.3% will not participate in a cashless system

91.1% do not use mobile payments

Source: Central Bank of Malta

When it comes to usage of cash, the figure below shows that the predominant use case for cash is mainly directed towards the consumption of wellness goods and services, with 95.6% of the Maltese population opting for cash as the preferred means of payment. This is seconded by groceries (86.7%), followed by consumables (69.1%), paying for utility bills (59.3%) and lastly non-consumables (46%). These figures present the argument that as transactions increase in value, the convenience of using cash dissipates.

Table 3: Attitudes of Maltese households towards payment servives (% households)

86.7% Groceries

69.1% Consumables

46.0% Non-consumables

59.3% Utility bills

95.6% Personal wellness

Whilst this may not be particularly surprising and may indeed mirror the habits amongst similar age groups in other European countries, the rationale as to why certain payment instruments are used over others is key for TPPs to gain a better understanding of the local demand for OB-related products, whilst enabling would-be market entrants to focus more on configuring their products to best meet PSUs' needs. This study highlights that convenience ranked first (60.2%) as the most important characteristic for the use of alternative means of payment, followed by efficiency (36.7%) and then safety and security (30.7%), amongst other characteristics.
In fact, a vast majority of respondents (92.4%) to this study claimed that cash is mostly preferred due to its ease of use and convenience. However, the interesting caveat to this is that whilst a large percentage of respondents (46%) believe that cash is a secure or very secure means of payment, most were unable to answer when asked about their perception of security with electronic means of payment such as prepaid cards, direct debits, credit transfers, mobile and online payments respectively.

"The Maltese consumer is largely unaware of the existence and implications of Open Banking and thus its benefits. The sooner the topic is placed on the consumer's agenda, the sooner shall he/she start to understand these benefits and build them into his/her expectations from the sector. Once that happens, Open Banking solutions should become widely offered and thus adopted simply through sheer consumer expectation or demand."

Dr. Kari Pisani

Consultant-Financial Services

At this juncture it is important to note that the building blocks on which most OB products are developed, whether these are introduced as alternative means of payment or otherwise, are indeed convenience, efficiency and security, with the consumer's overall journey taking an ever increasingly important role in the development of recent OB products taken to market. Having therefore established this convergence between the consumer's wants and needs and the underlying principles on which OB products are built, one can clearly postulate that consumer education will be fundamental in ensuring the successful introduction of OB products to the Maltese consumer and the sector's prolonged success in the jurisdiction.

Institutional Appetite

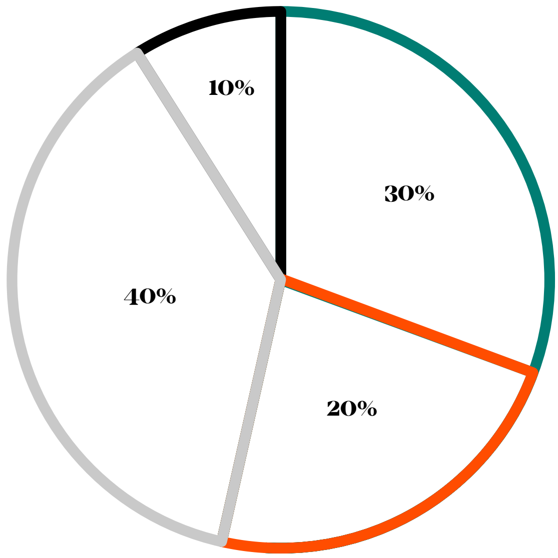
However, whilst the consumer's appetite towards OB products is still somewhat of an unknown quantity, the local FI sector has predictably been quicker to assimilate the benefits and opportunities created through PSD2. When queried as to whether their organisation had considered how OB solutions could enhance their operations and service lines, 90% of participating FIs replied in the affirmative, with 44.44% claiming that they intend to adopt OB solutions in the future. The remaining 55.56% of respondents stated that whilst their organisation had no immediate plans to integrate OB products into their current service offering, they may do so in the future.

It is also very apparent that the Directive has the potential to unlock differing benefits to FIs in accordance with their business models and the manner in which they choose to position themselves in the market. When asked what key benefits can PSD2 unlock for FIs and other fintechs, 40% of respondents felt that the main value is derived from the potential collaborations with banks and other Institutions. A further 30% cited increased revenue opportunities as a determining factor, whilst another 20% chose to value additions to their current service portfolio above all else.

Chart 3

What key opportunities do you feel can PSD2 and Open Banking unlock for Financial Institutions and other Fintechs?

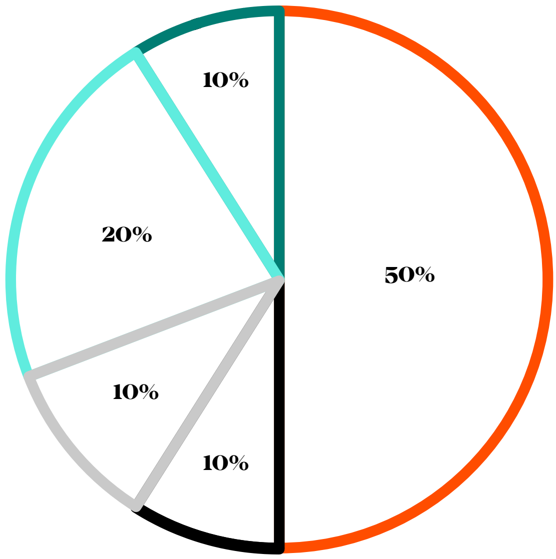
- Increased Revenue Opportunities
- Additions to current service portfolio
- Potential collaborations with Banks and other Institutions
- Other



Notwithstanding the above, the local FI sector is also very conscious of the obstacles it faces when developing OB products or services and bringing them to market. Whilst most institutional and regulatory stumbling blocks tend to sort themselves out over time, operational issues often persist unless tackled effectively. When questioned over the nature of the principal barriers to entry in the OB space, half of the respondents felt that finding the right partners was their primary concern. This sentiment is wholly understandable, particularly when one factors in the technical and IT integrations required to gain a foothold in the OB world. Finding the right partners and creating the necessary strategic alliances might spell the difference between success and failure. Other concerns cited by industry players such as lack of knowledge in the field; difficulties in determining a comprehensive strategy; and even challenges in developing sustainable and cost-effective products are arguably initial teething problems which the sector will inevitably overcome as literacy and knowledge on the subject matter are slowly built up.

Chart 4

What does your organisation feel are the
primary barriers to entry in the
Open Banking space?



- Other
- Determining a Comprehensive Strategy
- Creating sustainable and cost-effective products
- Finding the right Partners
- Lack of Knowledge/skill in the field

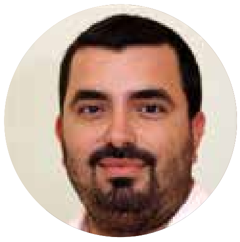
Whilst the general sentiment is that innovation in the OB space will be largely driven by FIs and other fintechs, the role which banks will inevitably play in the local OB ecosystem cannot be understated. Whether they choose to restrict themselves to 'data providers' or else postion themselves more proactive players by bringing their own OB products and services to market, there is no doubt that the sector will be greatly influenced by the manner in which banks shall continue to develop their approach towards the Directive and OB in general.

PSD2 and Banks. Friends or foes?

When PSD2 was initially launched and the concept of OB started gaining traction at a European level, the banking sector was initially very apprehensive to embrace the required changes, with numerous players maintaining that stance till this day. Some justified their position by citing the costs associated with regulatory compliance, such as developing the necessary APIs to grant access to authorised TPPs. Others viewed TPPs as a threat to their continued existence, advancing the bleakest of scenarios that banks would be left with nothing more than a utility role and be relegated to background deposit-takers, should TPPs flourish as first expected.

Similarly, the local banking sector was initially very reticent towards OB and PSD2. This was arguably influenced by the lack of regulatory pressure and urgency exhibited by local authorities in launching the sector, as well as the fact that PSD2 implementation was seemingly not on the Island's agenda back in 2018. In addition, this initial hesitance has been compounded by the fact that no domestic-facing TPPs have so far been authorised to operate in and from Malta, thereby providing little to no motivation for local Banks to invest heavily in APIs other than the regulatory framework obliging them to do so. Those banks which did make the necessary investment towards ensuring that their data is accessible to authorised TPPs in an efficient and consistent manner would undoubtedly be eager to obtain assurances that their investment did not go to waste.

"The majority of local Credit Institutions have so far not felt the need to modify their established business model, particularly in recent times when the sector has been largely dominated by de-risking strategies. Moreover, the perceived lack of buy-in from the TPP (third-party provider) sector has reinforced this stance, with most banks not seeing value in developing complex PSD2 compliant APIs due to the low projected call rates."



Dr. Stefan Berry

Chair, Financial Institutions Malta Association (FIMA)

Vice-Chair, Malta Compliance Officers Association (MACO)

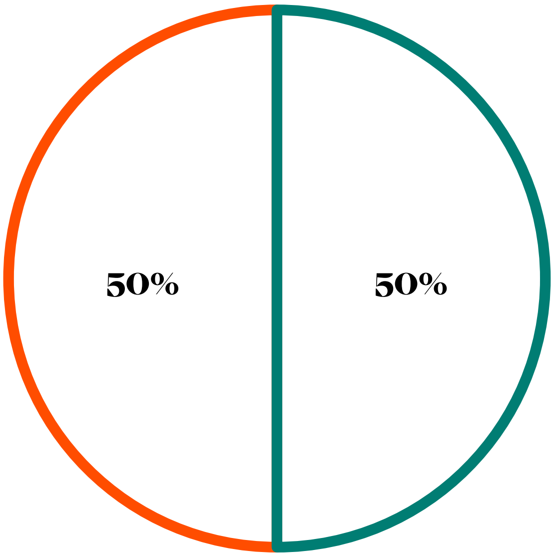
The fact that 50% of local banks interviewed for this report stated that they approached PSD2 and the implementation of OB requirements as regulatory obligations, with a further 25% viewing them as inevitable changes, the sector must learn to embrace and only 25% recognising the Directive as a strategic opportunity, reinforces the above assertions that banks have generally been very slow to warm up to PSD2 and OB in general. Moreover, all surveyed banks stated that they had not yet considered developing their own OB products, even if they may reconsider their position in the future.

Nevertheless, local banks appear to be fully cognisant of the Directive's potential to introduce new players in the market and the impact these could have on the banking sector in its entirety. When queried as to whether PSD2 and the advent of OB threaten the traditional banking model, two thirds of respondent banks replied affirmatively, with the remaining third stating that they were unsure of what impact this might have. When questioned further on the nature of the main threats identified by their organisation, half of the respondents cited the creation of new services and products which disrupt traditional payment methods, whilst the other half chose to single out the loss of consumer interface in favour of TPPs.

Chart 5

As a Bank, what has your organisation identified as the main threat brought about by PSD2 and Open Banking?

- The creation of new services and products disrupting traditional payment methods.
- Loss of customer interface in favour of Third-Party Providers



"PSD2 increased competition while at the same time strengthened payment security and improved consumer protection. This required financial institutions to develop their technology to grant third-party providers secure access to their data. Being compliant with regulation was the main driver, however, banks need to move to the next phase and start developing business ideas and innovate their digital banking proposition to attract new customers through the open banking concept."

Gordon Gilford

Head of e-Channels APS Bank

Many do however argue that PSD2 creates as many opportunities for banks as it does for TPPs, perhaps even more so if one considers banks' strong brand recognition, general high percentage of customer retention and enormous concentrations of consumer data which have been compiled over decades of operability. The 'threat' posed by TPPs should have, at least in theory, encouraged banks to develop new OB-related products and service lines for their customers by pressing home their inherent advantages and providing means of analysing consumers' financial health, spending patterns, investment plans and more, through user-friendly and practical solutions.

Figure 4: Strategic options for Banks in an Open Banking world

STRATEGIC OPTIONS

Compliance with PSD2

- Complying with mandatory PSD2 requirements
- Providing TPPs with minimal access to data through rudimentary API integration

Developing AISP and PISP Products

- Developing AISP-based products which leverage consumer data
- Identifying alternative channels through which consumer data can be monetized
- Reaching out to merchants and integrating PISP-based payment options

Expanding Ecosystem & Partnering with TPPs

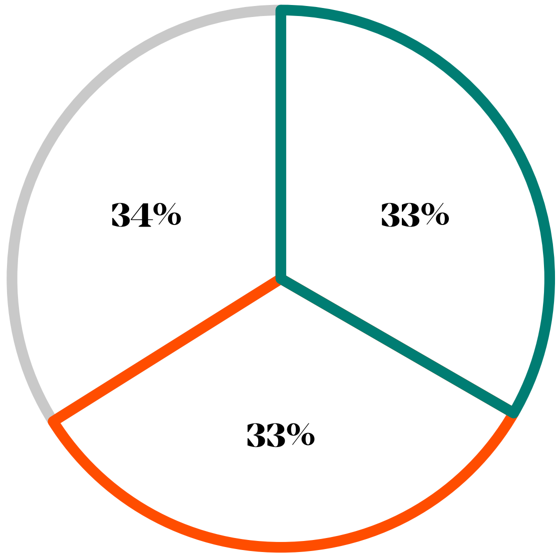
- Creating a self-sustaining OB ecosystem by partnering with TPPs
- Centralizing consumers' financial and non-financial needs
- Exploiting TPPs' agility and technological flexibility

Moreover, banks should not necessarily be faced with the moral dilemma of developing new technologies and products at the risk of losing touch with their consumer base. An alternative option exists through which banks may develop strong APIs and partner up with TPPs who themselves would build the OB services on top of the bank's data, with the final product being presented as a joint cooperative effort. This would represent a strong win for both the banking sector and fintechs alike, with the former generating novel revenue streams and reinforcing consumer confidence and the latter by creating new alliances. Whilst this represents somewhat of a contentious strategy which might not appeal to all organisations, a third of surveyed banks stated that they would consider adopting a similar strategic course of action.

Chart 6

Has your organization considered, or would it ever consider, partnering up with a Third-Party Provider, such as a financial institution or even another bank, in order to deliver a co-branded OB product?

- Yes
- No
- Unsure



As mirrored in other jurisdictions, a gradual and cultural change needs to occur within the banking sector over time. As the institutional foundations of the financial services sector, local banks should modify their approach to no longer perceive APIs and OB as a costly compliance exercise, but rather an opportunity which may be commercialised in their favour. Only then can we speak of having truly embraced OB principles on a jurisdiction-wide basis.

Are we compliant?

The manner in which local Institutions, particularly banks, relate to OB has been largely shaped by their experiences in striving to achieve timely compliance with the Directive and its derivative Regulations. Consequently, one cannot hope to have an exhaustive discussion about the state of PSD2 implementation in 2020 without considering the experiences of local operators in adopting Common and Secure Open Standards of Communication (CASOSC) and, perhaps even more importantly, without delving deeply into the phenomenon of Strong Customer Authentication ('SCA'), itself undoubtedly one of the pillars on which PSD2 is structured.

"PSD2 will pave the way for new products and service lines which will add a lot of security to how we offer our services to the community. In time, people will see the extra value in these products and learn to embrace them."

Margrith Lutschg Emmenegger

Co-Founder and CEO at Octet Europe Ltd

Strong Customer Authentication

Conceptually, SCA owes its inception to one of the Directive's overarching goals, that is the elimination, or at least reduction of instances of fraudulent payment transactions. The concept has evolved drastically since the promulgation of PSD2, with the European Banking Authority ('EBA') being mandated to flesh out the necessary regulatory requirements which have undoubtedly proven to be taxing on various players in the European payments market. Against this backdrop, one can easily go as far as saying that SCA represents the most topical regulatory and compliance requirement presently being played out.

SCA essentially revolves around an Institution's obligations to build-in additional authentication measures into its checkout flow. Each transaction therefore needs to be authenticated on the basis of at least two out of the following three elements:

Knowledge - Something the Customer Knows;

Possession - Something the Customer Has; and

Inherence - Something the Customer Is.

SOMETHING YOU OWN

Something only
the customer owns.
Example: a phone

SOMETHING YOU KNOW

Something only
the customer knows.
Example: a pin code

SOMETHING YOU ARE

Something that characterizes
only the customer.
Example: a fingerprint

PSD2 lays down the instances when strong customer authentication measures are required. It states that a payment service provider is bound to apply SCA whenever a payer:

- accesses its payment account online;
- initiates an electronic payment transaction;
- carries out any action through a remote channel which may imply a risk of payment fraud or other abuses.

This provision was purposely drafted in a manner which lends itself to a very wide interpretation, such that the general consensus is that SCA measures are applicable both to traditional payment service providers as well as the newly recognised players (AISPs and PISPs), essentially bringing most e-commerce transactions within the scope of SCA requirements.

As part of the research undertaken for this report, a number of local Credit and Financial Institutions were asked whether SCA-enabled solutions strike an acceptable balance between the need for additional security and the overall consumer experience. Surprisingly, and particularly so when considering the difficult journey SCA implementation and enforcement has had across the EU as discussed further below, the majority of local Institutions feel that the solutions implemented by the market do indeed strike such a balance and therefore fulfil one of the Directive's overarching goals without compromising or creating unnecessary burdens on the consumer's journey.

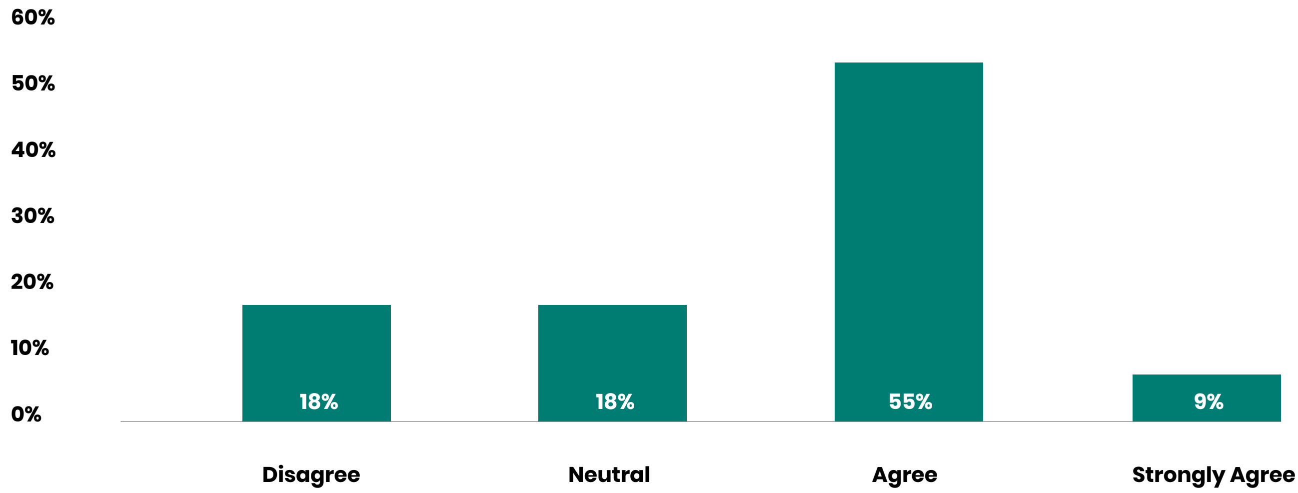
"Through open banking, service providers can create truly frictionless user experiences, give customers access to richer and more actionable data, and fully automate key payment processes. As with our approach to SCA, we will continue to balance exceptional security and innovative user experience as we realise the potential of open banking"

Mark Anthony Spiteri

Acting CEO and COO, Ixaris

Chart 7

How strongly do you agree with this statement: "SCA-enabled solutions strike an acceptable balance between security and customer experience and will lead to decreased rates of cart and transaction abandonment."



Common and Secure Open Standard of Communication

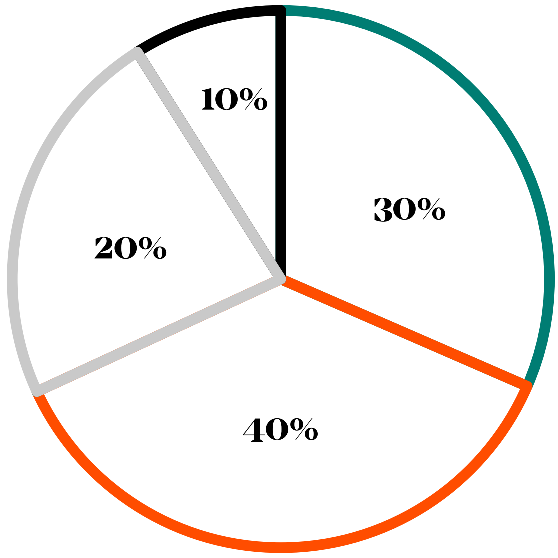
The EBA, through its now infamous Regulatory Technical Standards ('RTSs'), which were formally taken up by Commission Delegated Regulation 2018/389 (the 'Regulation'), went a step further than the Directive insofar as fleshing out these requirements and developing them into their current format. At this juncture it is also worth noting that the Regulation does not only speak about the implementation of SCA requirements. It also lays down further obligations, such as those relating to Common and Secure Open Standards of Communication (CASOSC). Every OB transaction, be it a request for account information or alternatively a payment initiation transaction, is based on the requirement for the account holding institution ('ASPSP') to grant access (access to account, or 'XS2A') to licensed and identified players (AISPs/PISPs). The requirements for CASOSC therefore dictate the manner in which this relationship is established and the conditions under which such access should be granted. The Regulation gives ASPSPs two options in this regard, that is establishing a 'Dedicated Interface' through the use of APIs, or alternatively to operate what has come to be known as a 'Modified User Interface'. These provisions came into force on the 14th September 2019, by which time all ASPSPs had to demonstrate compliance with the Regulation to their respective National Competent Authority (NCA).

Local Credit and Financial Institutions were also questioned on what they considered to be the primary obstacles they encountered when implementing the Regulation's provisions on Access Interfaces and Open Standards of Communication. Given the nature of the requirements, it was not surprising that 40% of respondents identified 'IT-Related Issues' as their main stumbling block, with 30% of Institutions citing 'Resources and Budgeting Concerns'

Chart 8

What did your organisation consider to be the principal obstacle/s when implementing the Regulation's provisions on "Access Interfaces" and "Open Standards of Communication"?

- Resources and budgeting Concerns
- IT-related Issues
- Uncertainty over the regulatory requirements
- Lack of Testing opportunities by third-party providers



What is perhaps more interesting to note is that only 10% of surveyed Institutions felt that 'Lack of Testing Opportunities by TPPs' was their primary concern in achieving compliance. This statistic is arguably as surprising as it is encouraging, seeing that local ASPSPs were mandated to adequately test their interfaces in a jurisdiction which is yet to authorize a single TPP. It is also worthwhile noting that the Regulation requires those ASPSPs which have opted for a Dedicated Interface to also have in place a modified customer interface as a fall-back mechanism in the event that the former is down. ASPSPs may however request an exemption from having to do so if they can demonstrate that their primary interface has been subject to adequate stress-testing and does not create obstacles in the costumer journey. In assessing applications for such exemptions, the CBM has given careful consideration to these two conditions, ensuring that:

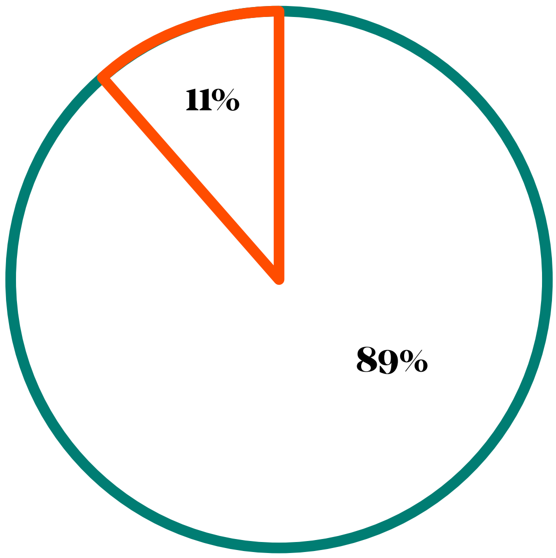
- Stress-testing has been performed using assumptions based on the real usage of the customer interface; and
- The interface does not present obstacles which may deter consumers from utilising TPP services.

Even so, PSD2 has undoubtedly caused some friction amongst the majority of ASPSPs which have chosen to implement an API-enabled interface. An overwhelming majority (88.89%) of surveyed Institutions remarked that the Directive's failure to set out common API standards has stifled the development of the EU's OB sector and rendered compliance with the Regulation unduly cumbersome. By foregoing a standardized approach and focusing exclusively on technical framework conditions, the Directive allowed the market to take up varying standards such as the Berlin Group, the STET and the UK Open Banking standards. The sector is however equally confident that standards will converge over time, a sentiment which was echoed in an API working group set up by the CBM, wherein the general consensus by most participants was that, going forward, the intention was to follow the Berlin Group API standards.

Chart 9

Unlike PSD2, the UK's Open Banking Implementation Report (OBIE) sets out common API Banking Standards for Institutions obliged to provide access to their systems and data through access interfaces. Does your organisation feel that PSD2's lack of a standardised API approach has stifled the development of the EU's Open Banking sector and rendered compliance with the Regulation unduly cumbersome?

- Yes
- No



Enforcement **Timelines**

Nevertheless, even though all of the provisions introduced by the Regulation were originally intended to come into force on the 14th September 2019, it subsequently became amply clear that not all obligations included therein were realistically achievable by the stipulated deadline. As detailed under two separate EBA Opinions, dated June and October of 2019 respectively, SCA requirements in particular create various onerous obligations on Credit and Financial Institutions alike, with most operators having been mandated to migrate to new technologies which are SCA compliant. The greatest burden in this regard has been felt by the card-based e-commerce sector[1], where issuers of cards have been obliged to issue SCA compliant products, whilst acquirers have been forced to ensure that their merchants integrate SCA-compliant technologies.

[1] Alternatively referred to as 'card-not-present transactions' or 'remotely initiated card payments'

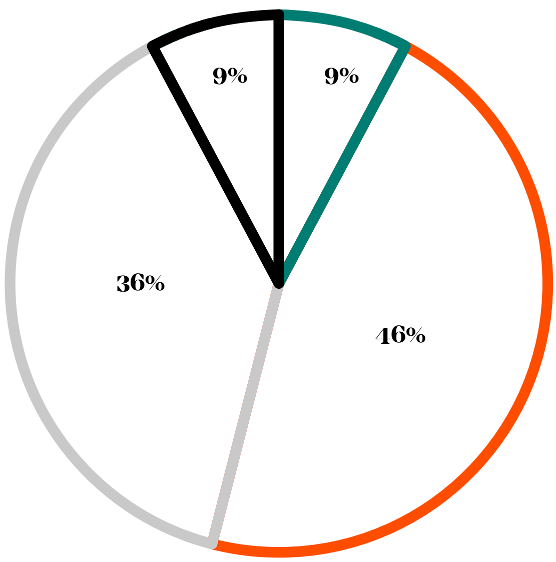
Consider for instance one of the more prevalent methods through which e-commerce payments are currently authenticated, i.e entering card details on a merchant website followed by a one-time-password ('OTP') received by SMS or Email. This can no longer be considered as an acceptable authentication method as it does not adhere to the new SCA regulatory framework. Card Issuing Institutions, ranging from established multi-national banks to regional PSPs, have to navigate this new regulatory landscape and find practical ways of aligning their products therewith. Card Acquirers on the other hand face the daunting task of migrating hundreds, if not thousands of merchants, to novel systems intended to overhaul their checkout mechanisms. Data which is essential to the acquiring of online card payment transactions is exchanged on IT infrastructures based on 3D-Secure protocols, the earlier versions of which (such as the various iterations of V.1) are also non-compliant with SCA requirements. Acquirers have therefore been obliged to ensure full migration of all the actors in the payment chain to newer versions of the 3D-Secure protocol, a process which is no mean feat considering the significant time which is required to ensure all necessary integrations are adequately aligned. For these and other reasons, it had become invariably clear that the initial roll-out date for SCA compliance had proven to be wildly unrealistic.

As evidenced in Chart 10, the majority of surveyed Institutions have had at least a moderately challenging experience when implementing SCA measures, with 36.36% of respondents describing their experience as 'challenging' and a further 9.09% as 'very challenging'.

Chart 10

How challenging has the implementation of SCA measures throughout the payment chain proven to be for your organisation?

- Fairly Easy
- Moderate
- Challenging
- Very Challenging



Against this backdrop and following mounting pressure from the different NCAs and various stakeholders, the EBA proposed, through the aforementioned October Opinion, to delay enforcement of SCA measures with respect to e-commerce card-based payment transactions until 31st December 2020. The EBA was quick to point out that its recommendations should not be interpreted as a delay in SCA application date, but merely a 'grace period' during which NCAs would be afforded a high degree of supervisory flexibility allowing them to refrain from issuing sanctions against PSPs' failure to fully implement SCA measures.

Whilst this move may have granted some well needed breathing space for PSPs, a closer look at the EBA's Opinion reveals some telling details in relation to the delayed enforcement, namely due to the fact that:

- It only applies to SCA requirements, such that all the other provisions set out by the Regulation (such as the CASOSC provisions) still came into force as originally intended on the 14th September 2019 and non-compliance was therefore subject to enforcement as from that date; and

- It only applies to SCA measures with respect to e-commerce card-based payments. This means that other payment services and methods of online payments which exclude the use of cards, such as online banking and payment initiation, fell outside the scope of the Opinion and should have therefore fully implemented SCA mechanisms as from 14th September 2019.

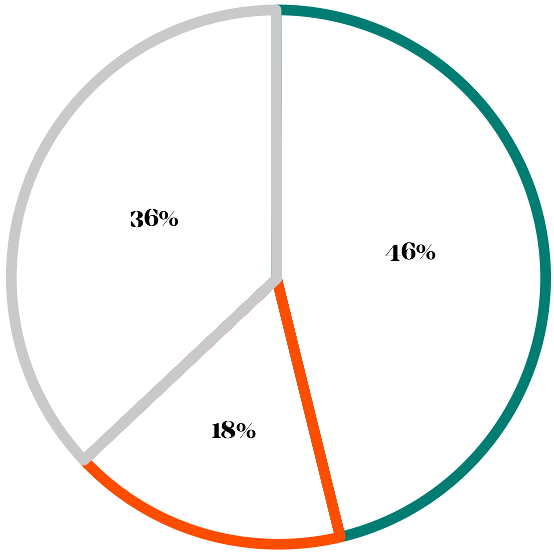
Nevertheless, some EU member states have maintained their dissatisfaction at the revised timeline and have set out their own roadmap for full implementation of SCA requirements. The Danish FSA and the UK FCA have proposed March 2021 as their deadline for full SCA coverage and enforcement, whilst the French regulator aims to have a clear majority of its supervised services SCA compliant by December 2020, with full migration expected to be completed by mid-2022. The Covid-19 pandemic and the sector-wide delays which have been caused as a direct result thereof has only reinforced these stances taken by EU regulators.

From a purely local perspective, more than 45% of surveyed Institutions felt that the Covid-19 pandemic warranted a further extension to the enforcement of SCA requirements in the card-based e-commerce sector. Nevertheless, 91% of participating Institutions stated that they were confident of having all elements of the payment chain for which they are responsible SCA-ready and fully compliant by 31st December 2020.

Chart 11

In view of the Covid-19 crisis, does your organisation feel that a further extension to the current deadline is warranted with respect to the enforcement of SCA requirements for card-based e-commerce transactions?

- Yes
- No
- N/A for my Organisation



The CBM has echoed these sentiments and has acknowledged that whilst the pandemic has had an impact on the projected timelines for some Institutions, most operators remain on track to meet the 31st December deadline. Consequently, unless a formal communication is issued by the EBA or the European Commission recommending another delay, it is highly unlikely that the CBM shall be extending the deadline any further.

With implementation and compliance to the regulation nearing completion, there now needs to be a focus on rolling-out of open banking products and services by local operators. Much has been said on the power of PSD2 to unleash a next wave in the evolution of payment services. Its power to innovate is seen as extending well beyond the banking sector and has been described as a revolutionary force in other sectors too.

Disrupting other sectors.

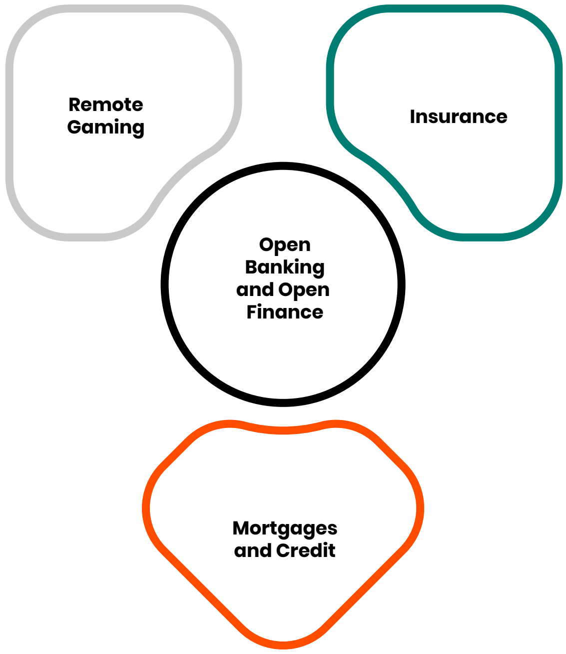
As already highlighted throughout this report, OB is increasingly being seen as the principal driver of innovation in the payments sector and beyond. The capacity for industry players to build effective and consumer-centric solutions around OB concepts and the PSD2 regulatory framework has already had a significant cross-sectorial impact around Europe. This drive will inevitably continue to re-shape not only the payments sector in isolation, but effectively any sector which is able to extract value through the monetization of available consumer data. By applying the principles which underpin OB to other sectors, the availability of such data acquires the potential to deliver transformational experiences for consumers and operators alike in various instances outside of the traditional banking sphere, leading to the development of the Open Finance phenomenon.

> *“Payment, banking and financial services are undergoing a lot of disruption and technological innovation. Regulations like PSD2 have ushered in a wave of technology innovations that is disrupting various traditional industries. Malta is well-placed to act as an innovative hub in this area given its strong credentials in technology and ICT as evidenced by the latest Digital Economy Index. Tech.MT is focused on supporting such innovation in Malta.”*

Dana Farrugia

Chief Executive Officer, Tech.MT

As discussed earlier in this report, the AISP functionality of an OB platform allows lending institutions to process mortgage or other credit applications in a fraction of the expected time. The insurance sector could also reap similar rewards, with companies leveraging increased visibility over consumer data to better assess their clients' behaviour and their applicable risk profiles, thereby having the possibility to set more accurate premiums and provide tailored advice.



"In a modern world where insurance market players leverage on the existing tech opportunities to provide a personalised service, the PSD2 provides an added opportunity of new cross-selling potentials by identifying changes in the customers' living style and on-demand needs. This is possible through the access of customers' profile, payments information and pre-defined triggers."

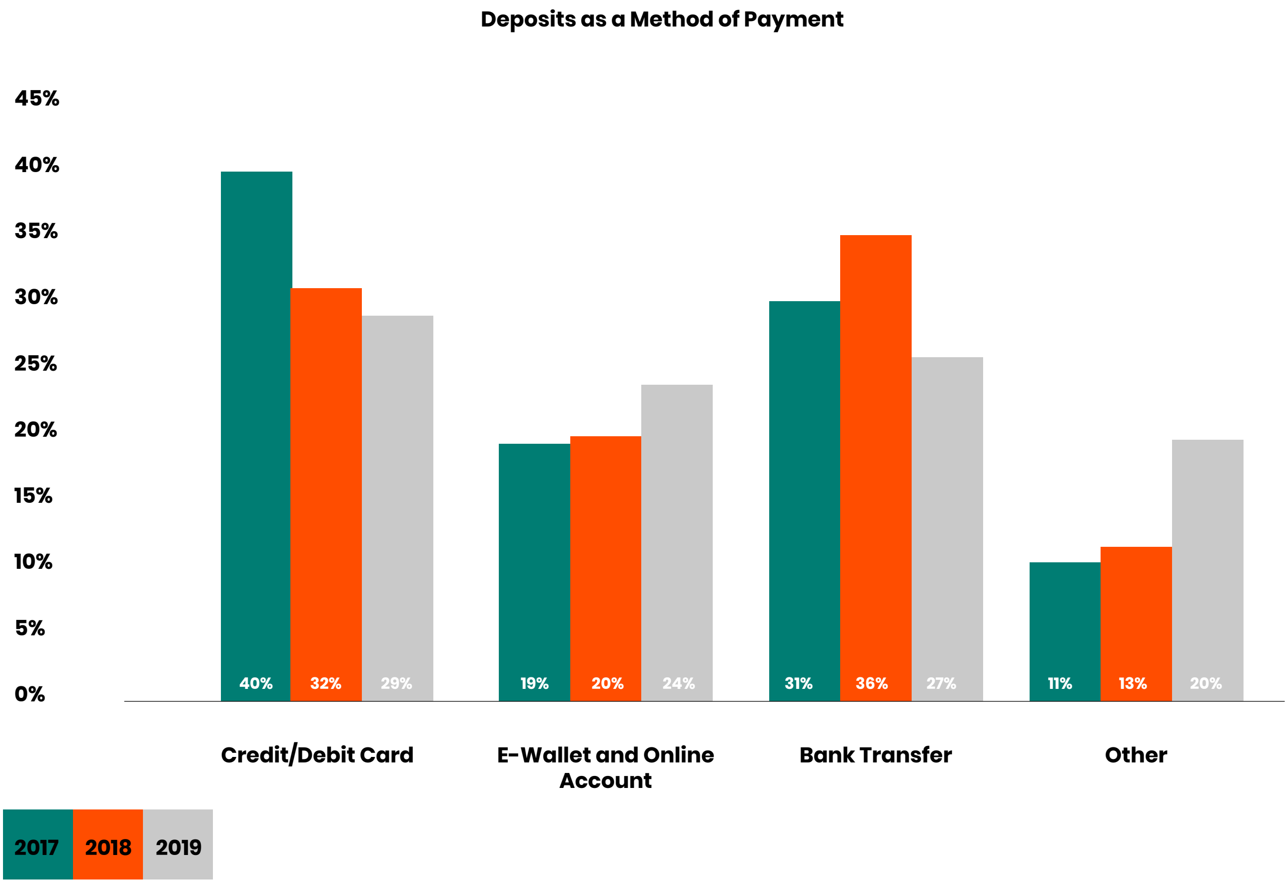
Andre Farrugia

Assistant Lecturer, Department of Insurance, University of Malta

Another sector in which a strong impact could be felt in the coming years is the remote gaming industry, where the standards around payment methods utilised by consumers is subject to continuous scrutiny by regulators and operators alike. Malta is no stranger to this sector, with the jurisdiction accounting for 284 active online gaming companies by the close of 2019.

In its 2019 Annual Report, the Malta Gaming Authority (MGA) reported that as many as 28.8% of all consumer deposits with MGA licensed operators occurred through credit and debit cards, with bank transfers and e-Wallet/Online Accounts accounting for 26.9% and 24.4% of all payments respectively.

Figure 5: Predominant deposit methods utilised by customers of MGA-licensed companies between 2017 and 2019



Bearing in mind that e-Wallet and Online accounts are often used as proxies for loading funds through cards, it is clear that the latter still represents a widely popular payment option with local operators.

Nevertheless, it is also worth noting that almost 27% of all funds were loaded directly through consumers' bank accounts, thereby bypassing cards and all other intermediary payment instruments.

Even so, the downsides to each of the aforementioned payment methods are widely acknowledged. As discussed earlier in this report, card-based payments are synonymous with numerous transaction fees due to the presence of various third parties which are required to authenticate the transaction and ultimately settle the funds at their destination. Moreover, credit card gambling bears the risk of irresponsible betting through players effectively gambling on debt, leading to foreign regulators such as the UK Gambling Commission (UKGC) to formally ban the use of credit cards in online gambling as from April 2020. Bank transfers on the other hand, whilst generally perceived to be a safer payment method, are still dependent on online banking portals, most of which lack the technological infrastructure to offer a quick and efficient payment experience to consumers on a widescale basis.

“The evolution in payments and associated technology, especially through the introduction of open banking, is set to unleash a wave of innovations in remote gaming too. With customer experience, data analytics and AML/KYC dominating the agenda, open banking can support gaming companies achieve multiple targets and Malta’s regulatory framework and broader eco-system allows the strong gaming sector to embrace these developments in payments. The synergies between different sectors continue making Malta attractive to the global gaming community.”

Eman Pulis

Founder, Sigma Group

Against this backdrop, OB-powered payments are extremely well positioned to flourish in the remote gaming space both in the short and long-term, as evidenced by numerous international operators who have recently started offering payment initiation options for consumers wanting to load funds. An OB platform providing PISP functionality enables seamless account-to-account transfers between the player and the gaming operator, without the need for the former to authorise the transaction through his/her banking portal. Each transaction is securely authorized by the respective bank with which the consumer's account is held and which receives the payment initiation request, with no third-party involvement at any stage of the transaction.

In this way, OB platforms are able to maintain the simplicity of card payments and combine it with the security offered by bank transfers. Moreover, given their very nature, OB enabled payments also ensure that transaction fees are significantly minimised and that the risks associated with debt gambling are effectively mitigated as players would no longer be able to gamble on debt but only with funds which are available in their account.

Having established all of the above, it should be noted that the value which gaming operators can derive from OB is not simply limited to an alternative means of payment. An OB platform's AISP functionality may further provide gaming companies with solutions aimed at achieving regulatory compliance, or even a competitive advantage over other operators. Having direct access to consumer data could facilitate a gaming company's ongoing AML/CFT compliance obligations as well as provide the necessary monitoring tools to ensure a responsible gaming experience across its organisation.

PSD2 has the potential of transforming various sectors as this section has shown. Apart from introducing new products and services in the banking sector, PSD2 is allowing innovative companies to further integrate payments within their existing services and products. In addition, it allows companies to extract and analyse additional customer data which in turn can lead them to offering more personalised products and services. These possibilities have been allowed through the innovative features of the regulation but also thanks to the developments in technology. It is now up to industry players to embrace these developments and to leverage them in order to innovate further and stay ahead of the curve.

Concluding Remarks

PSD2 is an attempt by European lawmakers to facilitate the creation of a new ecosystem to drive competition and innovation in the payment services market. However, it is just the start – the full readiness of an overall ecosystem is essential.

Regulatory innovation is a key enabler in the creation of new services. However, from our analysis of the state-of-play, it is evident that other factors need to come together in order to ensure a revolution in payment services. These include:

- ***Simplicity:*** innovations which allow customers to utilise payment services in a single tap or automatically by leveraging connectivity.
- ***Interoperability:*** most innovative payment solutions are not restricted to a single payment method, allowing customers to manage and use a variety of credit cards, debit cards or bank accounts for payment.
- ***Value-add services:*** many innovative solutions offer value-add functionalities in addition to payments, enabling merchants and financial institutions to interact more closely with customers and deliver additional value.

We believe that PSD2 and OB will significantly change the financial services value chain, with stronger data-oriented views on banking services.

According to our research, it is evident that traditional credit and financial institutions are under pressure at the client interface, a process that PSD2 is already accelerating. Our survey shows that local institutions have taken little proactive or strategic action towards OB, preferring instead to adopt a wait-and-see approach. However, we expect these efforts to gain momentum in the near term. This is also true for major players in other key sectors which are seeing the opportunities that PSD2 and OB have ushered in. If you are a business leader in an industry that can be disrupted through PSD2, we highly recommend that you take a strategic and adaptive approach.

The **future** of **payment services**

This is especially needed because various innovations spurred by PSD2, technology and consumer behaviour are continually pushing the envelope with respect to payment services. The following are increasingly being seen as the key drivers behind the future of such services:

- ***Cashless*** - more cash will be displaced by electronic transactions as payment innovations make it beneficial for customers to use mobile and other alternative means of payments even in small denomination transactions.
- ***Engagement*** - as payments and mobility becomes more integrated, the importance of payment transactions as a potential customer interaction point will increase for merchants and financial institutions alike.
- ***Data-driven*** - with greater adoption of electronic payments, more data will be accumulated from payment transactions, allowing financial institutions, service providers and merchants to gain a greater understanding of customers and businesses.
- ***Increased access to loans*** - as more payments are processed through electronic rails, financial institutions' visibility into individuals' and businesses' cashflow and spending patterns will increase, improving their ability to extend loans to customers previously less understood.
- ***Reduced costs*** - since innovative solutions build on the existing infrastructure, which has very low variable costs, the cost of making electronic transactions will fall as electronic payments gain more volume.

Further **disruption** and **disintermediation**

These forces, together with regulatory and technology innovations, will usher in a new era of customer control. With the appropriate permissions, customers will be able to centralize their account information and payment options into one unified mobile application, enabling them to conduct day-to-day banking on the platform of their choice, provided by their bank or an innovative fintech.

The obvious threat for banks is one of disintermediation, with fintechs potentially owning the customer relationship, while traditional banks simply maintaining the infrastructural architecture.

We believe that credit and financial institutions can approach the changing regulation in one of two ways:

- they can do exactly what is required to demonstrate compliance and remain broadly competitive, or
- they can turn the regulation into a competitive advantage by becoming the customer's trusted integrator and service provider.

PSD2 as a **competitive advantage**

We see a massive opportunity here for local credit and financial institutions to turn the regulation – and the broader shift towards OB – into a competitive advantage. For example, banks could create their own AISPs and PISPs and provide their customers with aggregated access to their other bank account data, as well as integrated payment methods, all within one (branded) mobile app. They could partner with fintechs to use that data to identify trends and create new targeted customer propositions. In addition, other companies from other sectors also have the potential to integrate the functionalities and instruments of PSD2 to customize their products and services whilst adding value to their current clients.

Those that take a more strategic view may also find that the shift towards an OB environment acts as a catalyst in rethinking how the organization uses data and how that influences the digitisation agenda.

Recommendations for **business leaders**

From our discussions and research, we believe that business leaders in credit and financial institutions and other sectors with a strategic interest in embracing the changes in payment services should:

- Elevate the discussion to a strategic, C-Suite and Board level so executives can determine how they want to respond, what opportunities OB creates and what risks are created through inaction;
- Financial institutions need to focus on creating partnerships with fintechs to make the most of the opportunity. Speed to market is of the essence.
- Banks need to assess their own IT infrastructure, processes and controls to ensure they are capable of not just complying with the regulations but maximizing the opportunity.

While the regulations are focused on Malta and EU-based banks for now, this is clearly a global issue. Ultimately, we believe that the shift towards PSD2 in the EU will spark a competitive race across global banking markets centered around owning the customer relationship. Our analysis suggests that early movers who more broadly innovate their payments practice will gain a competitive advantage in both innovation and customer centricity.

Policy recommendations

PSD2 represents a valiant effort to balance the interests of various stakeholders. Whether it will end up as a success or failure depends on its implementation. Successful implementation requires the following measures:

- ***Impose strong common API standards*** – fragmentation of standards required for access to bank data represents a threat. The standards should be harmonised across the EU.
- ***Expand scope*** - PSD2 covers only payment accounts, not savings or other financial accounts. It should be expanded to cover these additional accounts in conformity with sufficient privacy protections. The expansion will strengthen the access of data required for innovation.
- ***Clarify GDPR issues*** – the availability of significant personal data through OB raises some privacy concerns and therefore a discourse on the boundaries and limitations created by GDPR over OB and other PSD2 related services. Is warranted.
- ***Global discussions*** – the EU should examine with its major trading partners the possibility of global API standards. This would speed up payments innovation and allow for more consumers to be included.
- ***National sandboxes*** – the Maltese regulators should launch and develop a number of sandboxes to spur the innovation within existing institutions whilst attracting new players to the island.
- ***National strategy*** – Malta requires a national payments strategy which will enable the development of a payments ecosystem whilst supporting other economic sectors.
- ***National payments infrastructure*** – in line with a national strategy for payments, Malta needs to invest in a national payments infrastructure which is future-looking and is also based on a digital identity.

Regulations, emerging technologies, changing consumer behaviour and competitive dynamics are fundamentally altering the payments landscape. These changes are already posing major threats to the traditional competitive advantages, customer relationships and revenues enjoyed by banks. Now PSD2 is set to heighten and accelerate these disruptions.

Despite the uncertainties and challenges, there are significant opportunities for banks, financial institutions and other incumbents to redefine their business and operating models to unlock new value and provide innovative customer propositions. These opportunities will be realised primarily by forward-looking companies who gain a first mover advantage—but achieving this will require clear decision-making now over the different strategic options.

As Seed, we are convinced that the future is one of an open banking world. But we are equally convinced that only those players that proactively shape their own future will succeed in it.

PSD2 laid the regulatory foundations of such a new world – now it is up to business leaders to realise this.

The evolution in payments has the potential of kickstarting a revolution.

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