Cabinet Office

Changes to the UK's payments systems – the opportunities for "government as user"

Contents

1. Context and purpose

This paper describes anticipated improvements and changes in the UK's automated payments systems that are in prospect over the lifetime of this parliament. It considers how government's *business processes could benefit* from those changes and how government could and should use its influence as the major user of those systems to ensure that such changes bring maximum benefit not just to its own business but to the UK's citizens – *individual and corporate* – whose interests it represents.

This paper provides an overview of:

- the evolution of technology that moves payments from being an end process to a key way that we interact with and manage our world,
- the changing expectations of the citizen and business as consumers of payment services, and
- changes within the payment sector.

This paper presents the view of Government 'as a user' of the payment systems and presents how Government sees that its processes and the services that it provides to the citizen and private sector might benefit from a focused effort of the industry to harness and channel these changes.

This paper provides a focal point for the sector, a view of how Government uses the payment systems as part of those discussions taking place through the Payment Strategy Forum (PSF).

2.Challenges and opportunities

2.1. What is changing around the payment systems?

Automated Payments used to be a process that bore little consideration, the last step in the chain of buying goods and services that happened in the background, cheques took 7 days to cash and that was how long it took, money appeared to shuffle from one bank account to another. The automated payments system was trusted to move salaries, pay invoices and settle purchases.

Then the world moved, driven by the needs of the citizen, and by the innovative drive of technology companies; payments became the start of a process, the enabler to purchases, to travel, to settle a dinner payment with a friend.

Companies providing digital wallets provided swifter and more secure ways to pay for online goods, in a world where quick access to our money allowed us to bid for a product at the best price. Paper tickets for the tube, gave way to oyster cards, gave way to contactless payments using a credit card, gave way contactless payments using a phone gave way to digital wallets maintained on mobile electronic devices such as apple pay and Google wallets, gave way to mobile money – where payments can be made with just a phone number, and in a world of increasing online transactions between strangers, continents and banking systems, apart arose secure payment systems that didn't even need banks, such as Bitcoin, and blockchain technology, supporting greater assurance of payments. All of this developed to allow the citizen to have more control of what and how and when they spent,

away from the cheque and the card so that one could leave the house with no more than a phone and be able to make every purchase one wished to make.

In the background operated the automated payment systems.

But the commerce of the citizen is now more instant, and more varied, engaging with more people; it asks for the security and transparency that a payment is made to the correct account, it expects to access and use the funds it receives, not after 7 or 3 days clearing, but when the payment is made.

In a world of variable work patterns and incomes, people want better control and better management of their payments, rather than trying to manage the issues that fixed payment scheduled direct debits bring. People want better management, better assurance, reduced effort and frustration, greater confidence in the payment systems, and provisions to reduce fraud that all of this can bring. Not only do they want this from their day to day transactions, but they expect it form their Government, when they pay their taxes, when benefits are paid to them, when companies are paid for goods and services.

The sector has struggled in the past to have a coordinated approach but the PSF consultation is an opportunity for the industry users, and government as a user to organise approach to this in the sector.

This paper is written so that those involved in the future proposed changes recognise and understand the government user needs. By clearly providing this framework for future operations, as the largest single user of the UK's payment systems, *government can be a focal point for change*[1].

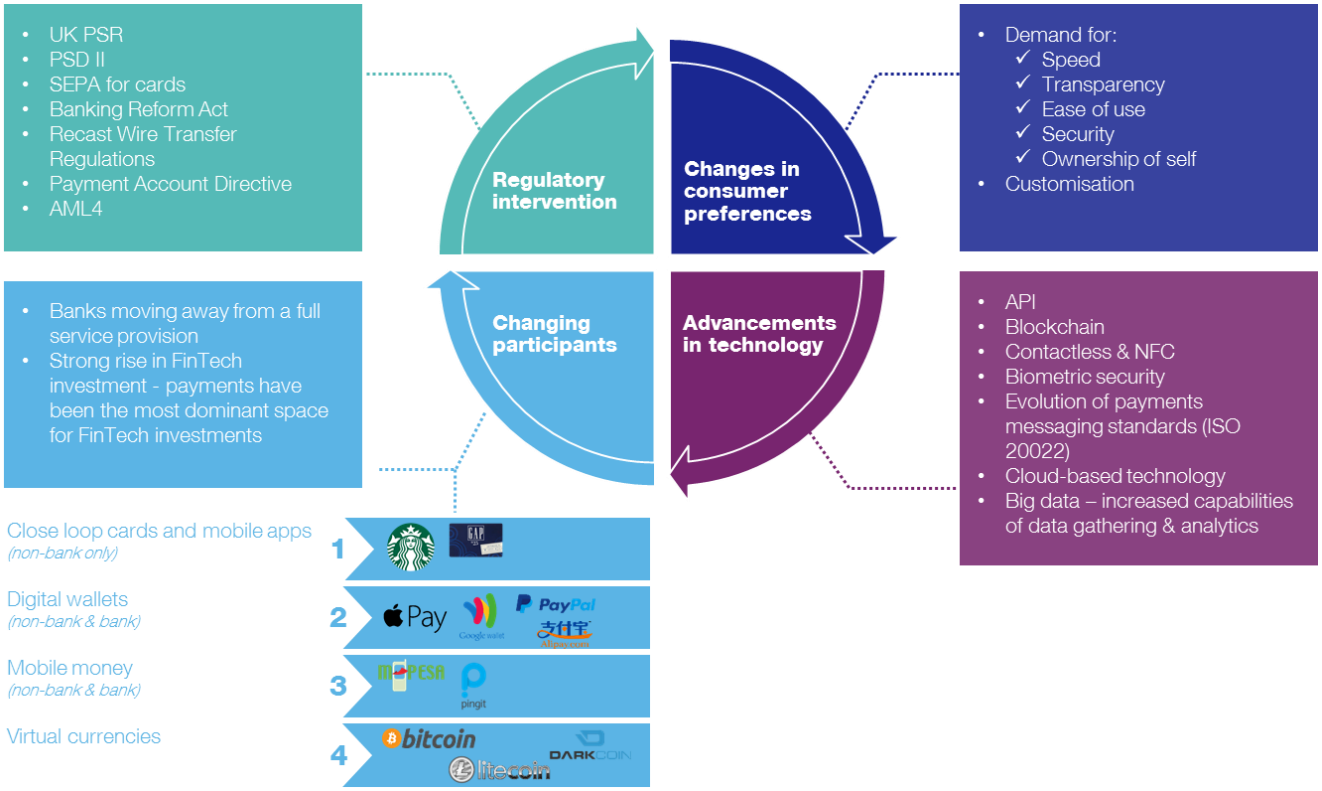
[1] See Accenture report "Digital Innovation" commissioned by the Payment Systems Regulator. It suggests that, world-wide, meeting government requirements has been a driver of innovation in payment systems in 20% of cases. Compare that with their conclusion that restricted access to markets is a barrier to innovation in only 4% of cases.

The use of payment systems sits at the heart of government operations. Through the collection of tax and other imposts and *distribution of* pensions, welfare, salaries, procurement, grants and interest payments it is involved in over £1tn of payments which equates to over £3.8bn each working day. All these activities involve the UK's payments systems to some degree. In concord with this, government should continue to be a current and prospective influence on designing and implementing improvements.

2.2. What are the opportunities?

How payments are handled in the future will change with the broader adoption of the new payment channels and digital wallets (such as PayPal), new payment mechanisms (block chain and other distributed ledger protocols), and virtual currencies (such as Bitcoin).

As shown in the diagram below, these changes in the payments landscape are being driven by: evolution in consumer preferences; advancements in technology; new participants; and regulatory intervention.



Consumer preferences – Citizens' expectations of their interactions with governments are changing too – perhaps best evidenced by the advent of the Open Government Partnership (OGP), launched in 2011 to provide an international platform for reformers committed to making governments more open, accountable, and responsive to citizens. The UK government was one of the initial tranche of countries to join the OGP.

Changing participants – The government recognises the crucial role FinTech (Financial Technology) can play in increasing competition in financial services and boosting innovation and has already taken significant steps to support the sector. These include:

- appointing Eileen Burbidge as Special Envoy for FinTech to promote UK FinTech at home and abroad;
- supporting the regulators in creating a regulatory system which recognises the benefits that innovation can bring to consumers and competition, through Project Innovate, the Innovation Hub and the regulatory sandbox;
- working with industry to develop an open banking standard, which will allow third-parties to use bank data to provide a range of value-added services to consumers; and
- Supporting the peer-to-peer lending sector through the creation of a bespoke regulatory regime, the introduction of the Innovative Finance ISA, as well as support through the tax system to level the playing field between peer-to-peer and other investment asset classes. These measures are helping to create more competitive business and personal lending sectors.

Technology – A recent report from Sir Mark Walport, the government's Chief Scientific Advisor, argues that distributed ledger (block chain) technology could be used by government departments to reduce the cost and complexity of tasks in the fields of data collection, taxation and procurement. Going a step further, advancements in the deployment of technology such as contactless card, including Oyster, e-wallets, and the emergence of Smart Contracts, are all enablers for an evolving payment landscape.

2.3. How is Government adapting

Government has already implemented projects to deliver benefits from more intelligent use of the payment systems. A flagship government policy reform has already benefited from re-use of the payments systems to get reliable real time financial data. Universal Credit (UC), which combines six previous benefits into one and applies to those both in and out of work, relies on a flow of PAYE earnings data to Department for Works and Pensions (DWP) from Her Majesty's Revenue and Customs (HMRC) – broadly in real time (known as RTI). Collecting PAYE information on a payment by payment basis and having that information corroborated by the payments systems has allowed automated calculation of the UC benefit to be paid. DWP effectively receives a copy of the payslip from the employer and a copy of the statement from the bank as part of the same process. The citizen benefits from receiving accurate welfare support, the employer benefits from rationalised payment and reporting processes, and government benefits from an automated supply of real time corroborated data.

At an individual level, we are experiencing rapid changes in how we can pay for goods and services. Whether it is the increasing use of contactless payments, PayPal, Apple Pay or Android Pay, there is greater choice and

innovation, which again translates into benefits for the private sector and citizens.

The private sector is already responding by creating broad payment strategies and identifying payment champions. Non-bank financial services companies are seeing how proposed payment changes can place customers more effectively at the heart of their operations. And traditional banks are beginning to show details about the participants of a transaction on statements thereby reducing contact about what a transaction relates to.

Through all of these sector changes government would seek to harness their benefits to improve the way it engages with citizens and the private sector. The scope may be present to reuse the existing core national payments infrastructure that is secure, reliable and ubiquitous, and continue to leverage private sector investment to maintain the UK's reputation for leading the way in financial services.

3.Other drivers for change

Alongside the technological change that has driven changes to payment systems and services in recent years, there have been a number of important regulatory and policy developments.

In April 2015 the government launched the Payment Systems Regulator (PSR) as the new economic regulator for the UK's payment systems industry. The PSR has statutory objectives to:

- ensure that payment systems are operated and developed in a way that considers and promotes the interests of all the businesses and consumers that use them;
- promote effective competition in the markets for payment systems and services; and
- promote the development of and innovation in payment systems.

Recognising the importance of coordination across the payments sector, the PSR established the Payment Strategy Forum to bring together stakeholders from across the sector and involve them in planning the future of the UK's payments systems.

The draft strategy and consultation that the Forum has published, and into which this paper contributes, is built around the themes of:

- responding to consumer and business needs;
- improving trust in payments;
- simplifying access to promote competition; and
- a new architecture for payments.

The draft strategy recognises that other aspects of UK policy and EU legislation are also driving changes to banking and payments, particularly around giving bank

customers greater access and control over the account and the opportunity to use third party firms, including FinTechs, that provide value-add services. The drivers of this include:

- the revised EU Payment Services Directive (PSD2), which opens up access to customer's payment accounts and gives customers new rights to use third party payment service providers;
- the Open Banking Working Group (OBWG), which reported to HM Treasury on the design for an Open Banking API standard; and
- the provisional remedies of the CMA retail banking market investigation, which include recommendations for banks to introduce an Open Banking API standard linked closely to the requirements of PSD2.

4. What does this all mean for Government

At a time when the Payment Strategy Forum has opened a consultation on the strategy for the sector; Government as a user of the payment systems recognises the potential benefits of these changes to both citizens and private sector especially in the areas where they interact with government and government services

4.1. The Government

Government has recognised these changes and undertaken research with citizens and the private sector as well across its own departments. This has provided a number of insights (which are listed in 4.5). These include:

"I don't understand what I've been paid."

"Why do I receive calls from several different departments asking the same questions?"

"I don't know what's happening to my claim."

Why does it take so long to be reimbursed?"

"Lots of calls I receive are citizens chasing progress with their claim or payments."

"I spend lots of time chasing up evidence."

It is clear that current payment processes create inefficiencies and frustration for government, and those dealing with it (citizens and the private sector). Key findings included:

1. **Control and assurance when making a payment** is insufficient in today's system. In an economy where earnings via regular monthly salary payments is less and less common and where invoice payments do not flow in a timely basis from the receipt of goods and services, the standard direct debit- same amount, same day, each month- is less suitable to individuals. Technology supporting request to pay services can provide greater financial security and better cash flow management. Equally when an individual makes a digital real time

payment, they often have no feedback loop to confirm that they have paid the intended amount to the right person. Enabling them to verify the identity of recipient before making a payment and to control the timing of their outgoing payments should improve their whole payments experience. Though HMRCs Making Tax Digital processes will confirm payments and provide details on how liabilities have arisen, for government in general as payer and payee such flexibility and control would reduce frustration and remediation at both ends. In addition, it should help all citizens and Global multinational enterprises (MNEs) manage cashflow, financial controls and forecasting better, providing widespread benefits especially for SMEs.

2. **The separation of a payment from related information combined with limited payment data** delays the updating of citizen or private sector records by limiting the ability to automate key activities. For a citizen, this can lead to financial hardship or time spent agreeing balances with a government department. For the private sector, it requires investment in people and systems to reconcile payments and deal with manual queries. Government needs to invest in people and systems to manage these inbound queries.

   An example of this situation is presented in the 'Use case section, under 'outbound payments – Providing information about payment to citizens.' The case presents the situation of a citizen who receives a payment from DWP, which varies from that expected. Currently the payment and the explanation or breakdown of the payment cannot be presented together to inform the citizen. As presently there is no system that can support the information flowing automatically with payment, they are required to phone in with an enquiry, and await mailed confirmation.

At present, government has around 480 full time employees who are dedicated to handling payment query call, where the annual staffing costs is almost £12m.

3. **Different departments are unable to share relevant information,** which often results in citizens having to provide the same information to different departments. This also prevents a citizen, or the private sector, having a single view of their financial position with the government.

   For instance, DWP issues 4 million notifications per year to HMRC to report a claim for benefit that are classed at taxable earnings. This information is required by HMRC to estimate a citizen's tax liability.

4. Extractive **fraud and error,** happens where corporate profits which have been reported (taxes paid, share values adjusted), have been reduced by concealing business activity (diverting income, falsifying receipts and/or invoices). These activities require associated payments which will typically be electronic. The payments system is therefore the final control and the central place in which to focus anti-fraud effort. Developments in the payment system: will allow for greater transparency of payments, will make corporate accounting easier, whilst reducing the opportunity for fraud and error. Government invests significant effort in applying key controls to reduce fraud and error. In addition it requires citizens and the private sector to invest significant effort in providing evidence of payment.

A recent National Audit Office (NAO) report estimated that the total annual cost of fraud and error could be in the range of £15-22bn.[2]

[2] Fraud landscape review - https://www.nao.org.uk/wp-content/uploads/2016/02/Fraud-landscape-review.pdf

In its role as a user Government recognises that some of the changes (such as linking payment information to the payment) could be of direct benefit to each group, whereas others (such as confirmation of payee) would be of use to only two of them. There could be a third group of benefits which will affect only one specific user (such as government in its dealing with citizens to understand financial positions across different departments).

4.2. The citizen

Citizens have a complex set of interactions with payment services based around their circumstances and usage. Their payment experience is constantly changing – whether it is using public transport, buying coffee or checking their banking activity.

Despite these changes, their engagement with government is relatively unchanged – itself a cause of frustration.

A range of existing and start-up companies are investing significant sums to understand and deliver customer demands: the ability to make phone to phone payments, to track all accounts and all bills from a single point of mobile access, the ability for an SME to receive payments for goods and services on the go rather than needing fixed til points. At present there are no standards on how or what these services could look like, although there is a growing consensus around the broader requirements. These include:

- Access to real time information
- Quick and convenient payments and settlement
- Better insight over current and forecast cashflows and to therefore budget more proactively

4.3. The private sector

Given the variety of payment standards, MNEs and their banking partners are exploring opportunities to improve their payment processes in conjunction with their key system vendors. However, a clear standard is not emerging and banks

are under pressure to both maintain existing legacy systems and invest in a range of new service capabilities. The PSR will decide what role to play in supporting the design of new standards.

If implemented right, system vendors can provide those services as and when they update their key financial systems rather than having to provide immediate (and costly) one off updates. Given the significant investment required, it is expected that these implementations would take place over a period of time as dictated by market forces.

4.4. Emerging themes

From all of this activity, four areas of interest for investigation are emerging from across the sector:

1. **Creating a common Application Programme Interface (API) framework** (a common standard for machine to machine communication that delivers the ability to provide the other 3 mechanisms and enables companies to provide new services and insights over payment behaviour more quickly)
2. **Enhancing payment data** (to allow sufficient information to be provided with a payment to remove the need to query a payment and to enable auto-reconciliation)
3. **Providing Control and Assurance** (to provide greater visibility and control over the timing of outbound and inbound payments)
4. **Enabling ID Verification** (to enable details of a payee or payer to be corroborated)

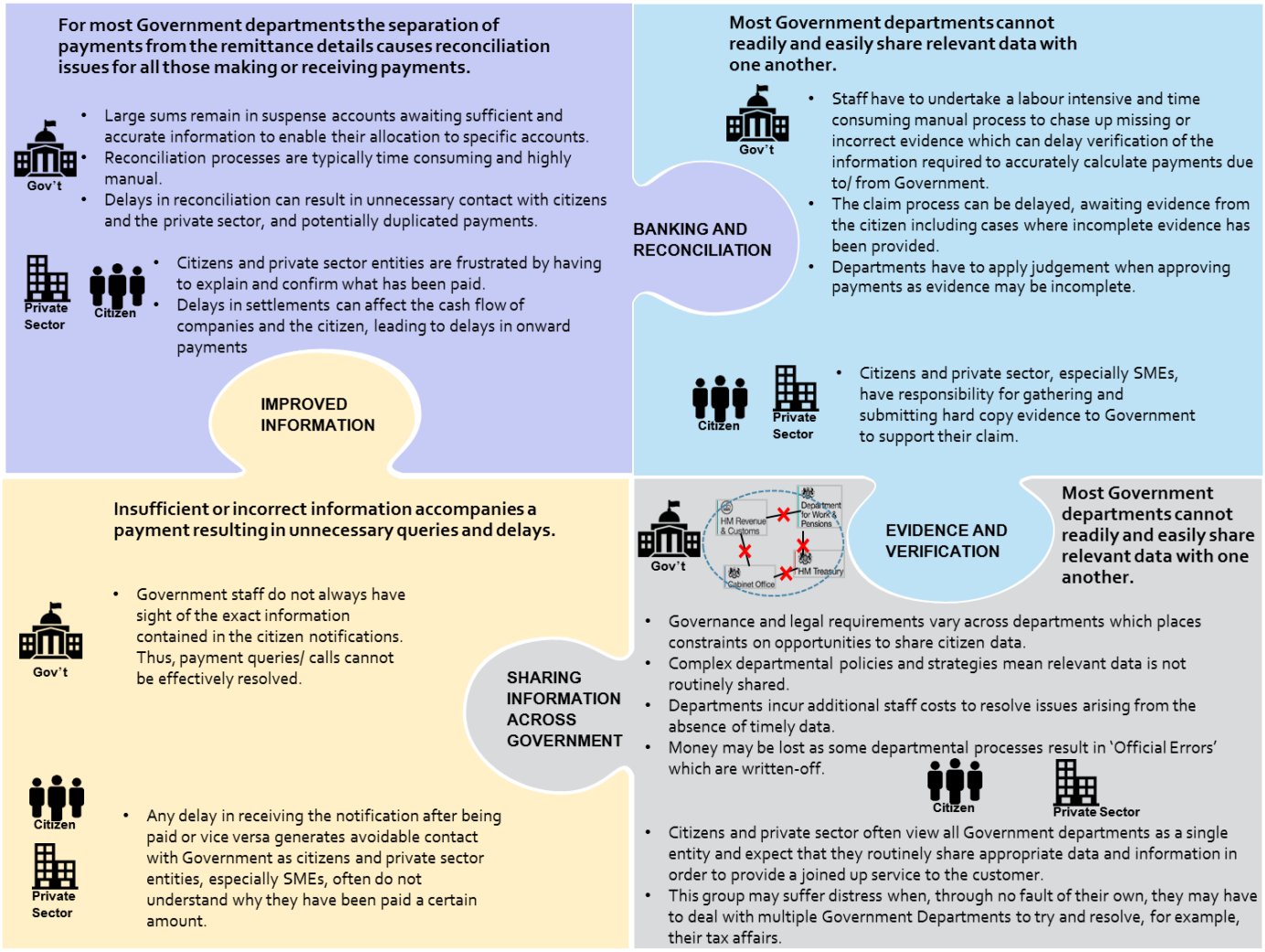
The impact of the 4 key objectives are viewed across the following headings:

1. Improved information
2. Banking and reconciliation
3. Evidence and verification
4. Sharing information across government departments

These are used in the succeeding diagrams at the end of this section and

throughout section 4.4 'Key Desired Outcomes.'

The diagram below provides a summary of the key challenges from the perspective of government, the private sector and the citizen.


For most Government departments the separation of payments from the remittance details causes reconciliation issues for all those making or receiving payments.
Gov't
Large sums remain in suspense accounts awaiting sufficient and accurate information to enable their allocation to specific accounts.
Reconciliation processes are typically time consuming and highly manual.
Delays in reconciliation can result in unnecessary contact with citizens and the private sector, and potentially duplicated payments.
Private Sector
Citizen
Citizens and private sector entities are frustrated by having to explain and confirm what has been paid.
Delays in settlements can affect the cash flow of companies and the citizen, leading to delays in onward payments
IMPROVED INFORMATION
Most Government departments cannot readily and easily share relevant data with one another.
Gov't
Staff have to undertake a labour intensive and time consuming manual process to chase up missing or incorrect evidence which can delay verification of the information required to accurately calculate payments due to/ from Government.
The claim process can be delayed, awaiting evidence from the citizen including cases where incomplete evidence has been provided.
Departments have to apply judgement when approving payments as evidence may be incomplete.
BANKING AND RECONCILIATION
Citizen
Private Sector
Citizens and private sector, especially SMEs, have responsibility for gathering and submitting hard copy evidence to Government to support their claim.
Insufficient or incorrect information accompanies a payment resulting in unnecessary queries and delays.
Gov't
Government staff do not always have sight of the exact information contained in the citizen notifications. Thus, payment queries/ calls cannot be effectively resolved.
SHARING INFORMATION ACROSS GOVERNMENT
Citizen
Private Sector
Any delay in receiving the notification after being paid or vice versa generates avoidable contact with Government as citizens and private sector entities, especially SMEs, often do not understand why they have been paid a certain amount.
Gov't
HM Revenue & Customs
Department for Work & Pensions
HM Treasury
Cabinet Office
EVIDENCE AND VERIFICATION
Most Government departments cannot readily and easily share relevant data with one another.
Governance and legal requirements vary across departments which places constraints on opportunities to share citizen data.
Complex departmental policies and strategies mean relevant data is not routinely shared.
Departments incur additional staff costs to resolve issues arising from the absence of timely data.
Money may be lost as some departmental processes result in 'Official Errors' which are written-off.
Citizen
Private Sector
Citizens and private sector often view all Government departments as a single entity and expect that they routinely share appropriate data and information in order to provide a joined up service to the customer.
This group may suffer distress when, through no fault of their own, they may have to deal with multiple Government Departments to try and resolve, for example, their tax affairs.

4.5. Key desired outcomes

Based on Government research with citizens, the private and public sector, the following wider outcomes for key stakeholders have been identified:

4.5.1 Desired outcomes for government

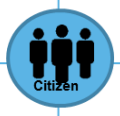
4.5.2 Outcomes for citizens

Improved Information

- Fewer queries from government departments
- Fewer queries for government
- Ability to manage finances more effectively
- Reduced need to give similar information to different government departments
- Opportunity to set off payments to and from government
- Better understanding of an individual's situation

Banking and reconciliation

- Fewer queries from government departments
- Fewer queries for government
- Ability to manage finances more effectively
- Opportunity to set off payments to and from government
- Better understanding of an individual's situation
- Faster settlements



Support sharing information across Government

- Fewer queries from government departments
- Fewer queries for government
- Ability to manage finances more effectively
- Reduced need to give similar information to different government departments
- Opportunity to set off payments to and from government
- Better government understanding of an individual's situation

Evidence and verification

- Fewer queries from government departments
- Fewer queries for government
- Ability to manage finances more effectively
- Reduced need to give similar information to different government departments

4.5.3 **Outcomes to private sector**

Improved Information

- Opportunity for e-invoicing to enable straight-through processing of supplier payments
- Real-time visibility of incoming payments and receipts to enable better cash management
- Reduced administrative costs through the ability to automate key processes or enable software (such as robotic process automation) to read and allocate payment information
- Reduced effort involved in query management
- Improved controls resulting from reduced manual intervention
- Improved working capital management through greater accuracy of the settlement date for payments and receipts
- Ability to manage payments with less manual intervention or reporting
- Opportunity for third party providers (including banks) to submit tax information on behalf of the company using data already collected.
- Opportunity to simplify pension administration

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- Reduced effort involved in query management
- Improved controls resulting from reduced manual intervention
- Ability to manage payments with less manual intervention or reporting
- Opportunity to reduce payment costs through the remittance of a single payment to government without increasing the reconciliation effort
- Opportunity for third party providers (including banks) to submit tax information on behalf of the company using data already collected
- Opportunity to simplify pension administration

Sharing information across Government

- Reduced administrative costs through the ability to automate key processes or enable software (such as robotic process automation) to read and allocate payment information
- Reduced effort involved in query management
- Opportunity for third party providers (including banks) to submit tax information on behalf of the company using data already collected.

5.How this could affect government payment processes

5.1. Overview

The government is a key user of UK payment systems, originating an estimated 25% of volume in all payment-related activity. As a result, any proposed changes could *significantly impact government processes and how it engages with the private sector and citizens*. This is an opportunity to support the PSF in the formation of a strategy using the leverage of Government's position as the largest user of the payment systems.

As the largest spending departments, DWP, and the Cabinet Office have undertaken significant research over the last few years to understand what benefits could be expected from a transformation in how payments are made in the UK. They have also been engaging with HMRC to understand how changes to the payments systems may have a positive impact for taxpayers as part of the already well developed 'Making Tax Digital' project.

5.2. Outcomes

Based on their analysis, the benefits arising from the four key activities include:

1. *Improvements to payment information to enable faster reconciliation*
    - Enabling the direct alignment of supplementary data to payments to support automation and acceleration of the reconciliation process for government, and large and small businesses
2. *Enabling improvements to banking and reconciliation*[3]

- To support clearer and faster allocation of payments across multiple invoices or citizen debtors' accounts,

[3] Acknowledging the limitations placed on banks by modified wire transfer regulations due to be implemented by Q1 2017.

enabling "real-time" visibility and improving accuracy of accounts

- To aid any aggregation of payments to suppliers without creating added complexity
- To provide faster settlement of payments, instil greater confidence in the payment systems and financial security

3. *Supporting the provision of evidence and verification*

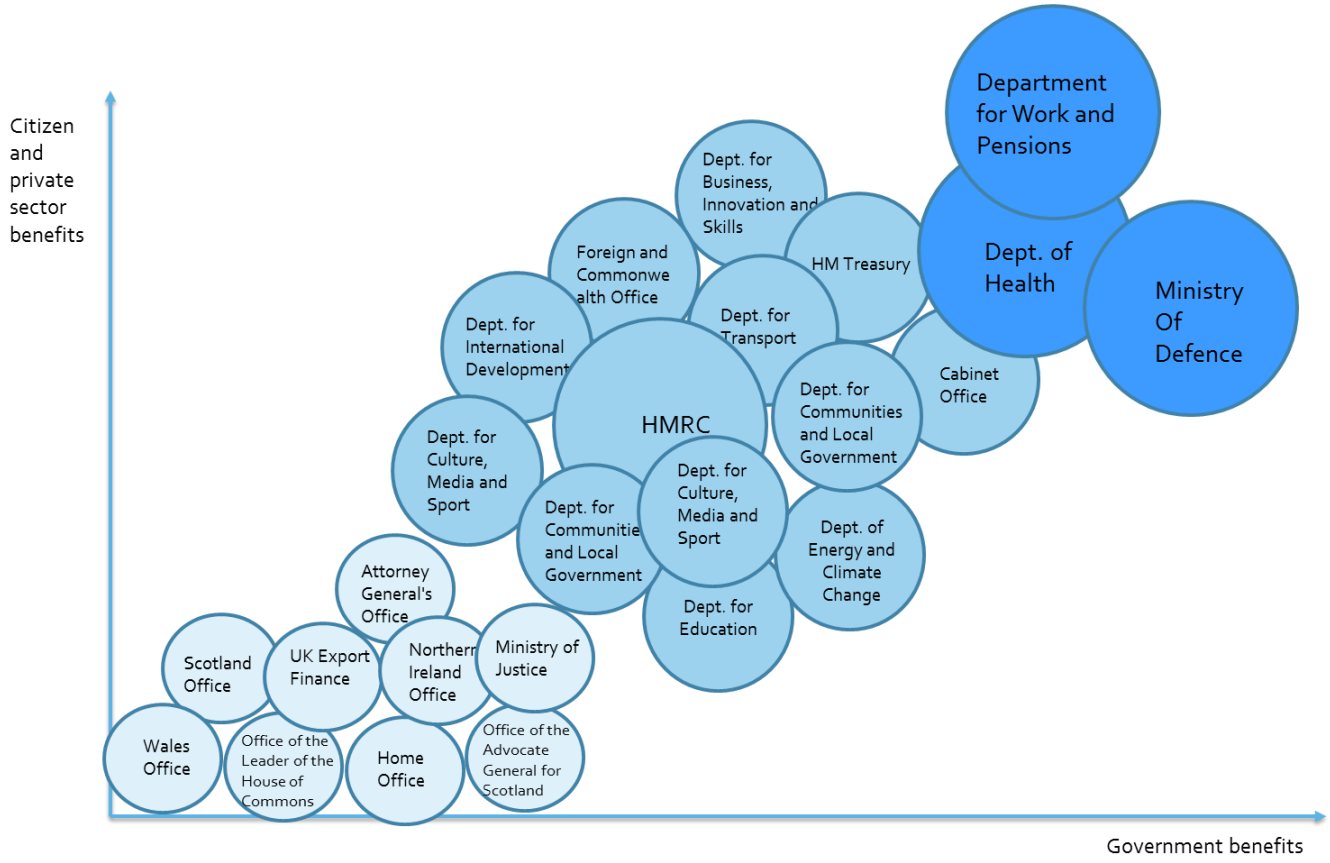
    - Reducing the burden of citizens to provide financial evidence
    - Improving the effectiveness of entitlement testing
    - Reducing errors in payments
    - Reducing fraud prevention activities

4. *Enabling the better sharing of information across departments*

    - Enable citizens to provide data once rather than multiple times to each individual department
    - Provide greater clarity of a citizen's payment interactions across all departments
    - Providing for greater clarity on credit risk with private sector companies; such as in support of procurements
    - Driving harmonisation of governance and legal requirements across departments for citizens

By extension and in principle, it is expected that a majority of other departments will also derive benefits from an improvement in the efficiency, transparency and effectiveness of its service and policy delivery.

The diagram below provides an overview of the extent to which these benefits could be applied across other government departments



Benefits have been grouped into the main government processes: outbound payments, grants and inbound payments

5.3. Inbound payments

HMRC is the largest recipient of inbound payments across government as a result of tax payments including VAT, Corporation Tax, PAYE, pensions and self-assessment.

The quality of the data accompanying these receipts is often incomplete, resulting in delays in applying receipts to customer accounts and significant manual intervention. HMRC, citizens and the private sector frequently find this a time consuming and frustrating experience. (See section 5.2 for use cases illustrating real life examples.)

Where inbound payments impact outbound payments (such as Universal Credits), this delay in allocating receipts can result in incorrect award calculations, anxiety and potentially unnecessary hardship.

5.3.1 Engaging with citizens

HMRC is transforming its engagement through Making Tax Digital, there is however scope throughput the proposed changes to help citizens and companies in their dealings with HMRC

The key foundations of Making Tax Digital are:

1) **Tax simplified** – HMRC will not ask taxpayers for information it already has or can acquire from third parties;

2) **Tax in one place** – taxpayers will be able to see a single picture of their liabilities and entitlements;

3) **Making tax digital for business** – the private sector will be able to track tax expenses in real time rather than waiting until the end of the tax year; and

4) **Making tax digital for individual taxpayers** – individuals and small business will have access to a digital tax account giving them a personalised picture of their tax affairs.

5.3.2 Engaging with private sector

In addition to the four areas noted above, "Making Tax Digital" will require the collection of corroborating data (such as bank and building society reporting interest on customers' savings, eliminating the need for businesses to report this in a tax return). Proposed changes to payment processes, as advocated under PSD2, (such as leveraging API technology) should increase competition and innovation in the sector - enabling access of information from third parties.

Similarly, DWP has significant operational difficulties recovering debt (£1.3bn recovered in 2014/15). The ability to have controls over the timing of payments

would represent a major improvement to current processes as it would enable government to negotiate re-payment schedules.

5.4. Outbound payments

DWP and the Cabinet Office are responsible for the largest element of government spending activity and many of these processes are centralised. However procurement is not, resulting in a wide range of different processes, a variety of ways of working and the application of different operating controls. Poor quality data relating to suppliers and their invoices results in significant manual intervention and a delay in paying invoices (which affects how quickly payments can reach SMEs and citizens). (See section 5.2 for use cases illustrating real life examples.)

The changes in the payment systems provides an opportunity to standardise these activities and deliver procurement processing synergies across government departments.

Capturing comprehensive data with each payment should help the validation process and reduce fraud. It could also proactively identify areas of poor quality or incomplete data. Improving this data should facilitate the passing of data in a controlled manner, to be available to all departments subject to appropriate access being granted. It could allow the government and private sector to take on a role as an "*intelligent data broker*", delivering *corroborated real time, rich financial data in one place for all time within a robust controls infrastructure.*

5.4.1 Engaging with citizens

The current engagement with citizens can be frustrating both for the individual as well as government. Citizens and government still rely on paper based processes which can result in lost or incomplete information. Awards can take time to be granted or updated and may require manual intervention to request further information or to provide more information in relation to an award. Even when awards are made, the current delays in settlement can create gaps in

the ability of the recipient to critical pay bills, causing undue stress.

DWP will benefit from how Universal Credit operates by enabling PAYE benefits to be flagged. This would provide more accurate and timely information, enabling DWP to update awards correctly and more quickly.

More broadly, citizens would benefit as their records can be updated from a range of different data sources and calculations and settlement can be made more quickly. Different benefits can be considered without requiring individuals to submit information already provided. Allowing citizens to understand their financial relationship with government more clearly. This could support a more proactive engagement during periods of financial stress. Reducing occurrences of unnecessary hardship for a citizen and time consuming effort by the citizen and government to resolve.

5.4.2 Engaging with the private sector

Currently government engages with many large and small suppliers who each use different invoicing systems. Vendors may issue several invoices on a regular basis and departments will settle these in aggregate on 30 day terms. Departments may also receive credit notes against previously issued invoices.

The current process requires significant effort for the department and suppliers to reconcile the payments received against the sums due. This can lead to processing delays and error. The time taken to process the information and provide an up-to-date position often results in delays collecting overdue sums, creating difficulties for companies to assess their outstanding receivable position, this complexity can be compounded by delays in settlement. There is the expectation that once money has left an account and has been receipted, that it is then in the account of the recipient. These delays can easily affect SMEs by disrupting their operations.

Improving the richness of data and attaching it to a payment should deliver significant benefits. It could enable automation software to reconcile a large percentage of payment activity, reducing the effort required and speeding up the overall payment process. This could reduce the level of query management and enable staff of both departments and suppliers to be redeployed to more valuable activities.

In addition, enhanced payment data will effectively complement the introduction of electronic invoicing, following recent legislation that ensures that public sector contracting authorities must be able to receive electronic invoices. By doing so government would have access to VAT data across a high percentage of MNE's and SMEs, allowing real-time monitoring and modelling of VAT. This should reduce fraud and errors.

There would be a reduction in fraud and error as a payment could be auto-applied without manual intervention. Greater scrutiny could then be applied for any manual payment to include a check for duplication.

For HMRC, changes in the payment systems should indirectly support its strategy of **Making Tax Digital by 2020/21** (to end paper tax returns, and transform tax administration) by making it easier for taxpayers to collect data from their own payments. Through these improvements the private sector will benefit on payments out of government, much in the way the citizen does for payments in: simplified tax, tax in one place and making tax digital, as presented in section 4.3.1.

5.5. Grants

The grants process is characterised by a significant flow of information requirements which are separate from the timing and amount of the sums paid. Recipients are required to provide evidence of sums paid out to support previous payments or to enable the release of funding. Payment information

and the submission of evidence is a time-consuming process and receipts are often missed resulting in processing delays. (See section 5.3 for use cases illustrating real life examples.)

Delays in the reimbursement may lead to real working capital problems for grant recipients.

The level of assurance for grants expenditure is generally proportionate to the value of the grant and based upon perceived risk, so for relatively small grants, assurance is reliant on monitoring at varying degrees. Unless irregularities are identified, a full audit is unlikely, meaning losses or inappropriate expenditure can be missed.

A proportion of the total grant is often paid up-front, to cover set-up or capital costs, and payments tracked by financial returns submitted in arrears by grant recipients. The degree to which these are scrutinised would depend on the value of the grant. Statements of grant usage and performance returns are used to monitor expenditure, usually by pre-defined payment category. In some cases the receipt of these returns is linked to the release of future payments.

A relatively large degree of trust is placed in grant recipients to provide accurate returns, which gives rise to a fraud risk. This is mitigated through due diligence prior to the grant award and via risk based validation processes once the grant is in payment. This may be through additional assurance, requiring named individuals who have a professional or legal responsibility to report accurate financial information, to sign the financial returns.

As a further safety measure, under grant terms and conditions, the potential for 100% audit exists, where irregularities are identified.

Financial reconciliation takes the form of checking expenditure versus amounts paid and declared surplus – depending on grant value, departments may also undertake checks on organisations to

whom payments have been made, to establish their existence and legal status.

With the proposed changes to payments, tracking grant payments would be viable as individual grants already have a unique identifier (the grant determination number). This could be used to link payments to individual grants. Potential benefits include reductions in administration for both government and grant recipients, and reduction or even removal of the requirement for arm's length bodies (ALB's) to report against expenditure.

In addition, departments should increasingly be able to track expenditure in real-time, providing opportunities to take action to prevent inappropriate or irregular expenditure and reduce the potential for financial loss. This could allow resources to be redeployed away from general administration towards compliance and delivery, leading to an increase in grant effectiveness.

It should also provide the opportunity to reduce the proportion of grant funds made in advance to cover set-up costs. A fully realised model might include a government account from which grant recipients could draw down funds as expenditure is incurred, and where payments can only be made to pre-approved organisations.

Potential benefits include:

- Reduced administration costs on both sides, by reducing the burden of monitoring and reporting expenditure
- Active rather than reactive monitoring: timely reconciliation – spot and investigate irregularities sooner, suspend payment quicker and reduce / prevent losses
- More accurately monitor expenditure, staff / admin costs versus programme / delivery costs – critical comparison with bid and / or terms and conditions

- Allow payments to be more clearly linked to delivery / performance – reduces risk of a profit being made by grant recipient(s) through identifying underspend or 'unlinked' payments, allows early suspension / investigation / recovery
- Potentially reduce need for email encryption software / licences – required where personal details are being transferred on financial / performance returns
- Increase transparency around individual grant activity
- Enable benchmarking across different schemes / departments / ALBs, leading to increased value for money through negotiating down costs
- Help ensure the grant is being used for the intended purpose and that the grant is not used in such a way, which would contravene the legislative powers that were employed to make the grant, or outside the authority provided by parliament
- Could enable earlier termination of agreement and reallocation of funding

5.6. What we have heard

Government has undertaken extensive research with citizens, the private sector and across its departments. Comments from these interviews are noted below:

5.6.1 Outbound payments

Citizens	Private sector (employers)	Government
• I don't understand what I've been paid? • Why have my payments changed? • Why haven't I been paid? • I haven't received a payment notification • When will I get paid? • I've received a payment but don't understand why it is that amount • The information I've been given is confusing • I've been told my payment has been corrected, but there is no money in the account yet to pay my bills • I don't know what's happening with my claim	• Why do I receive calls from several different departments asking me the same questions? • Why, when I adhere to payment timeframes, do I then get a call asking if I've made the payment? • Do government staff not talk to one another? • Providing information is time consuming and laborious • I don't want to spend my time filling in forms.	• Time pressure and having to meet targets means claim evidence is accepted without proper verification • I cannot be sure that the evidence I receive is completely accurate • I have to deal with a lot of telephone queries because citizens are confused about their payments and notifications we send • I wish I could put my time to better use • Current processes are so time consuming • Lots of the calls I receive are citizens chasing progress with their claim or payments • I spend a significant proportion of my time chasing up evidence

- We get lots of calls from citizens who don't understand the notification they have received, but we don't have access to see what the notification says which makes resolving things difficult
- We have to double-handle claims because incorrect or insufficient information is provided during the initial claim process

5.6.2 Grants

Government	Grant recipients (organisations, individuals)
• Why do we place a large degree of trust in grant receipts? • How can we reduce heavy administration around monitoring expenditure? • Are we incurring losses and where? • How can we ensure that the grant is being used for the intended purpose?	• Why do I have to spend an extensive amount of time on reporting expenditures? • Why does it take so long to be reimbursed?

6.Use cases

The use cases in this section illustrate real life examples of how government can better engage with citizens and the private sector when supported by improved payment systems.

The case studies presented are split into three groups: inbound payments, outbound payments and grants.

6.1. Inbound payments

Receipt of bulk payments

Current situation

DWP DM Finance receive and attempt to reconcile a single bulk payment

Currently DWP receive electronic bulk payments from employers but rely upon the employer to send a schedule separately that provides a breakdown of all the individual payments (contained within the single bulk payment) which they are only able to issue through the post.

DWP contact centre try to resolve missing payment

As a result of the time lapse between receiving the payment and the schedule, bulk payments routinely fall into a suspense account which means that DWP are not able to allocate payments to individual debtor accounts at that time.

As a consequence of this a DWP contact centre agent will receive a work queue prompt to make a call to the employer to investigate the "missing" payment. (This is because the payment has not yet been allocated and so DWP individual accounting systems do not recognise the payment as having been received).

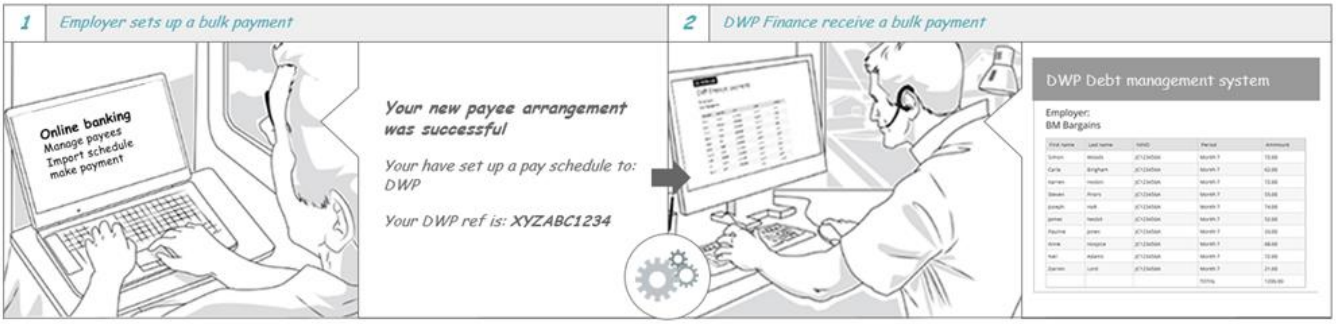
Employer receives a call from DWP

This is a very time consuming and non value add activity for both DWP and employers as the call;

(a) invariably results in a negative outcome, i.e. because employer can become frustrated that DWP are making calls to chase up missing payments that the employer knows have already been made (and within agreed DWP timescales).

(b) opens the possibility that employers receive separate calls from separate DWP call agents in respect of different individual payments contained within the same bulk payment.

Potential EPD opportunity



The Employer sets up a single bulk pay schedule via their online bank as they do now.

EPD provides the mechanism for the employer to attach additional information to the payment negating the requirement for a manual schedule to be separately completed and issued.

The employer can import their current financial software like SAGE or Oracle, which pulls through the related payment schedule.

This would make things easier for the employer who wouldn't need to manually input each payee separately. The payment and schedule would be done at the same time.

Once the employer has completed their schedule, the system confirms receipt and provides the employer with a DWP unique ref number (URN) which they will need to make the payment.

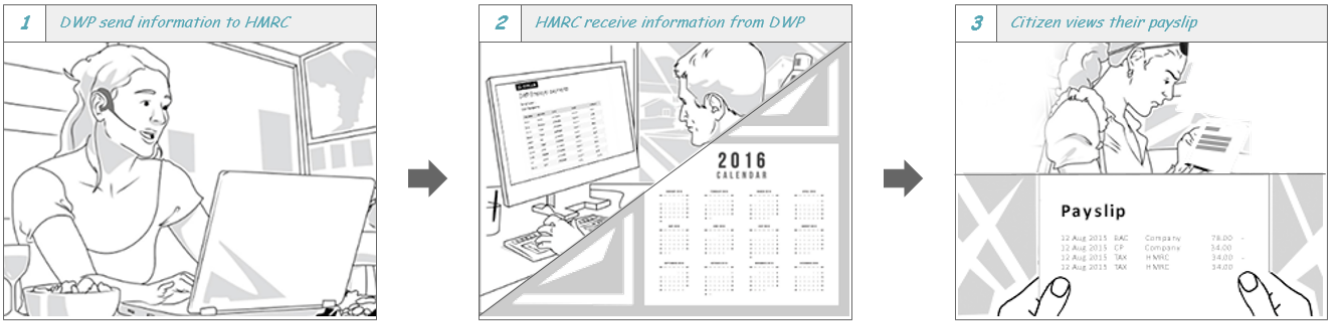
The payment is sent to DWP bank

The system recognises the URN and associates it automatically to the payment schedule.

So when DWP select the payment, this will also present the schedule which will enable DWP to reconcile much quicker, reduce errors and should reduce the need to phone employers to chase missing payments or gather additional information.

Taxable benefits

Current situation



DWP JSA / ESA benefit processor sends information electronically to HMRC

DWP notify HMRC when a citizen is awarded Jobseekers Allowance (Contributory) or Employment and Support Allowance (Contributory).

They do not advise HMRC what rate of benefit is in payment. If the citizen JSA / ESA claim ceases prior to the end of the tax year, DWP send a P45 electronically to HMRC. If the benefit claim is still in payment at the end of the tax year, a P60 is sent to HMRC.

HMRC estimate for tax calculation

Because HMRC are not informed about the benefit rate awarded by DWP they have to estimate the 'year to date' amount for tax calculation purposes until P45's or P60's are sent.

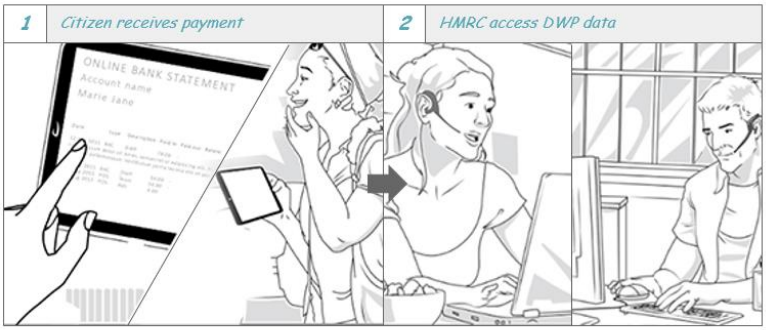
Some delays in HMRC receiving the P45 information causes citizens to be put on emergency tax codes (if started new employment) and more often than not the difference between the estimate and the actuals on the P60 causes under/over payments. This causes additional administration costs for HMRC.

Citizen starts new job or comes off benefit

Citizens are put in a position, through no fault of their own where they may be put on an emergency tax code or they may incur an underpayment or overpayment of tax .

This is also the case when there are delays in receipt of P45 or P60 information at HMRC.

Potential EPD opportunity



The citizen has received their payment of JSA/ESA with sufficient enhanced payment data to satisfy their understanding of what they have been paid.

Our example here is to allow HMRC access to DWP payment data (enhanced) for individual citizens enabling faster and more accurate tax calculations and thereby removing the issues for citizens such as being on emergency tax rates or incurring under or overpayments of tax.

All Government departments have access to a single, secure, accurate and up to date data source which contains all the relevant enhanced payments data thereby:

- Significantly reducing the requirement to request data from each separate Government department
- Reducing the risk of having inaccurate or out of date data stored separately within each Government department
- Avoiding delays in current processes

6.2. Outbound payments

Payments to large enterprises

Current situation

1 *Complicated array of statements*

A large systems vendor issues an invoice for a mixture of services to a specific department and there may be a credit note held by a different department.

Under current arrangements, the vendor would submit invoices and a summary statement on a regular basis to the Accounts Payable team at the relevant department. This may include all of the correct information and relevant purchase order.

2 *Vendor calls Accounts Payable to chase*

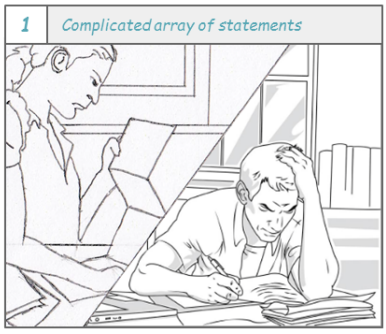
The AP team would need to circulate the invoice for approval to an appropriately authorised member of staff or check the value against the purchase order. A single payment may be made against multiple invoices and may include part payment of certain invoices. A remittance advice will be sent to the vendor to indicate what has been paid or not paid either by post or by email.

3 *Government accounts team has to resolve*

The vendor may not be able to identify the invoices being paid (as it may not use the invoice number as the reference) or the reason for a part payment, and the Accounts Receivable team will have to communicate with the government department to resolve the query. Where there is a delay in receiving the remittance advice, the receipt may remain unallocated. This may result in the collections team incorrectly chasing the Accounts Payable department for payment, affect the timing of any onward payment to SMEs and creating difficulties in cash forecasting.

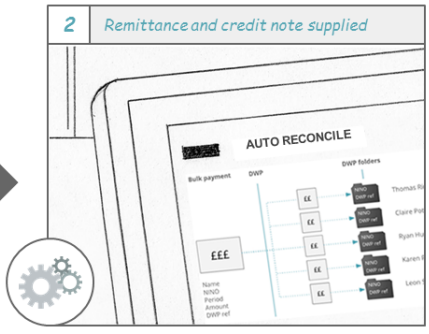
Under a future payment model

1 *Complicated array of statements*



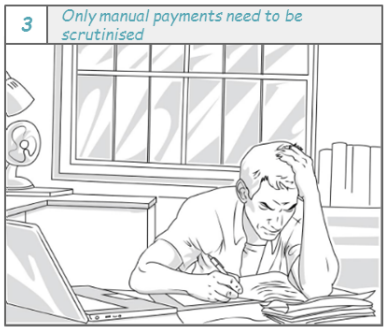
With Enhanced Payment Data, there would be sufficient information accompanying the payment to the vendor to enable them to auto-allocate and reconcile the payment against a variety of invoices.

2 *Remittance and credit note supplied*



There would be no requirement for additional contact with the department. In addition, if credit notes from other departments had been included in the payment, this would also be allocated.

3 *Only manual payments need to be scrutinised*



There would be a reduction in fraud as the payment would typically be auto-applied without manual intervention. Greater scrutiny could be applied for any manual payments to include a check for duplication. Confirmation of Payer would further reduce fraud by allowing additional checks to be implemented.

Ensuring payments to the correct beneficiary

Current situation

Through a combination of beneficiaries changing their banking details and human error payment can be misdirected.

Due to payment system limitations, it is not possible to verify payee bank details in all cases, prior to payment being made. This creates risks around duplicated payments, fraudulent claims, and breach of sanctions or paying a beneficiary who owes money.

The beneficiary does not receive money into their new bank account or there is a delay that results in hardship for the citizen.

Any checks can only be detective in nature as the payment will have already been made.

The citizen contacts the government to locate missing payment and has to wait for the outcome of the investigation.

Under a future payment model

As part of assurance and control in the payment system, Confirmation of Payee would allow all bank details to be verified prior to payment, significantly reducing the risk of error or fraud.

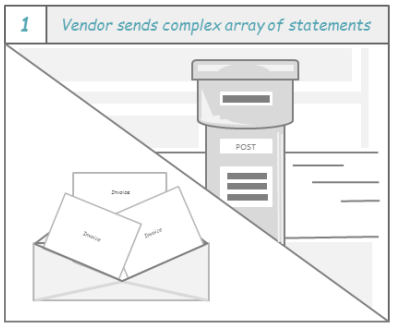
In combination with Enhanced Payment Data, payments to a beneficiary would be linked to other payments or receipts, reducing the risk of unnecessary payment arrears.

The citizen would be more confident of switching banking partners as the risk of delayed payment would be significantly reduced.

Departments would have a more up-to-date view of awards and citizens would be unlikely to receive large demands in relation to over-payment. Through Request to Pay, citizens may be able to engage more proactively with departments, during periods of unusual hardship.

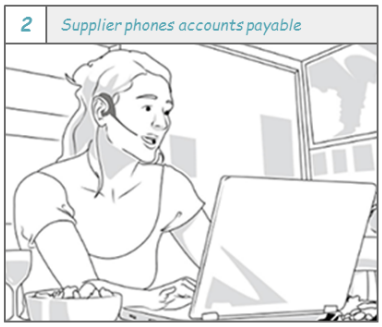
Payments to SMEs

Current situation



A supplier issues an invoice for a range of services to a specific department

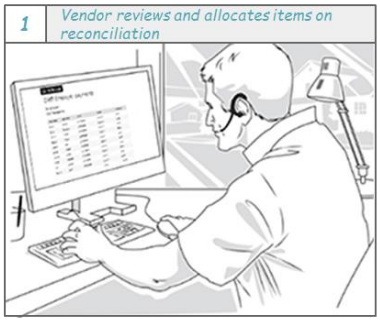
Under current arrangements, the supplier would submit invoices to the Accounts Payable team at the relevant department. This may include all of the correct information and relevant purchase order. The AP team would need to circulate the invoice for approval to an appropriately authorised member of staff or check the value against the purchase order. A single payment may be made against multiple invoices and may include part payment of certain invoices.



A remittance advice will be sent to the supplier to indicate what has been paid or not paid either by post or by email. The vendor may not be able to identify the invoices being paid (as it may not use the invoice number as the reference) or the reason for a part payment, and the Accounts Receivable team will have to communicate with the government department to resolve the query. Where there is a delay in receiving the remittance advice, the receipt may remain unallocated.

This may result in the collections team incorrectly chasing up the Accounts Payable department for payment, affect the timing of any onward payment to sub-contractors or suppliers and difficulties in cash forecasting and liquidity management.

Under a future payment model



There would be sufficient information accompanying the payment to the vendor to enable them to auto-allocate and reconcile the payment against a variety of invoices. There would be no requirement for additional contact with the department. In addition, if credit notes from other departments had been included in the payment, this would also be allocated.

There would be a reduction in fraud as the payment would typically be auto-applied without manual intervention and through Confirmation of Payee, beneficiary details could be verified.

Greater scrutiny could be applied for any manual payments to include a check for duplication.
Given the confidence in the payment, suppliers would be in a stronger position to borrow against these invoices as there would be fewer un-reconciled receipts.

Claiming for childcare costs

Current situation

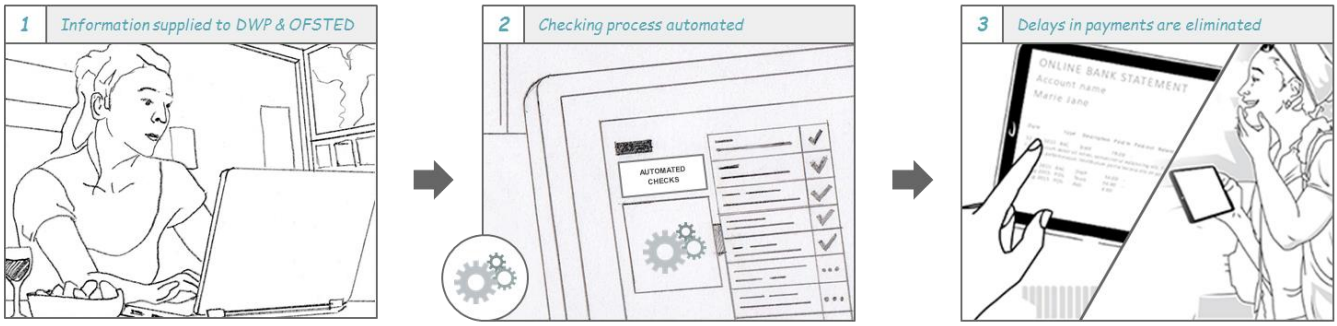
Working UC claiming parents can claim a proportion of their child care costs incurred in their following month's UC award. Under current arrangements, claimants have to pay the provider and then submit a receipt to DWP. DWP then updates its records and adjusts its award for the following month.

There is a burden on the citizen to submit the payment receipt promptly as any delays may result in undue hardship.

There is a burden on DWP to manually check receipts due to fraud and error. There is no check that a child care provider is appropriately registered with Department of Education / OFSTED.

The process is time consuming, complex and difficult to monitor fraud and error. Only a sample of payments can be checked for validity given the volume of activity.

Under a future payment model



Through Enhanced Payment Data, parents would be able to include sufficient information at the same time as making a payment to enable:

- Automated checks against an OFSTED database of registered child care providers
- DWP to receive the data at the same time, enabling an adjustment to the award

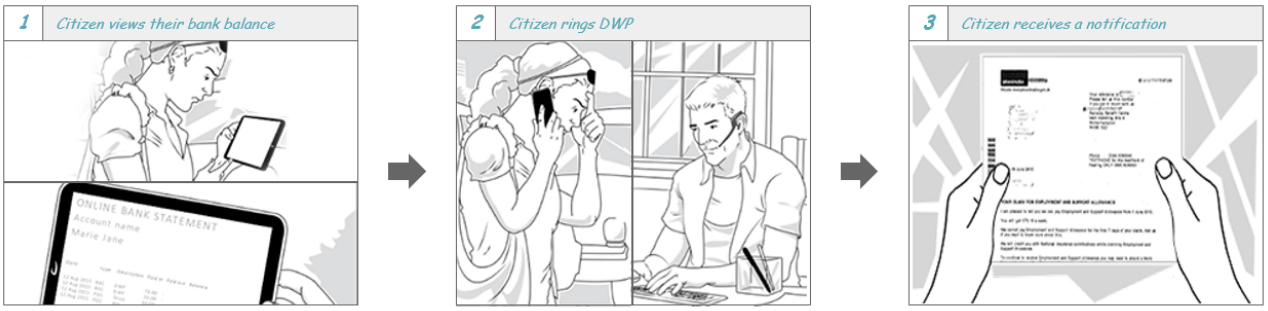
This would provide:

- Parents with less administration and more accurate awards
- DWP with reduced fraud and error through corroboration that a provider is registered
- Child care provider with less administration
- HMRC with confirmation of a taxable receipt for the child care provider
- OFSTED with assurance that only registered providers are being used
- Children with regular, registered and safe child care

This would accelerate the payment of an award to a citizen and reduce the chance of sudden demand for payment against an over-payment.
In combination with Request to Pay, it would allow citizens to proactively manage their finances and reduce unnecessary hardship.
Open Access may provide tools to citizens and childcare providers to automate key processes and provide greater insight on their current and forecast financial positions

Providing information about payments to citizens

Current situation



Citizens views their online bank statement/cashpoint balance
Citizens have DWP payments made directly into their bank accounts.

At the same time, if appropriate, a paper notification is issued by post to citizens which informs them of the amount they are being paid and gives some information about how the payment has been derived (including detail about any deductions made from the payment).

Citizen rings the DWP contact centre
In advance of receiving the postal notification, citizens requiring any further information (or clarification) about a payment need to call (or potentially visit) a DWP contact centre for more information.

This is time consuming and costly for both DWP and the citizen.

Citizens' receives a notification of their payments
DWP only send notification of payment with either the first payment or when there is a change of circumstance.

In most cases, the notification that the citizen has been issued with will not arrive at the same time as the payment into the citizens bank account.

Citizens who would have required any additional information relating to the payment may have already, by this time, made contact with DWP to resolve.

Potential EPD opportunity

Upon setting up the payment for a citizen, a DWP agent would be provided with the option to input additional information relating to the payment.

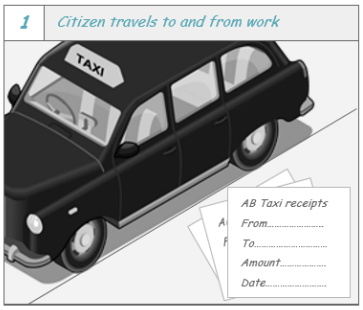
This negates the requirement to separately issue a postal notification saving both time and money and ensures that the citizen receives both the payment and related information at the same time.

Citizens will receive an electronic payment into their bank account as now.

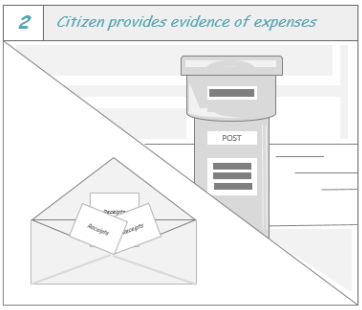
Citizens will be presented with the ability to access further information about the payment or any other additional information considered appropriate (for example if DWP wanted to confirm a citizens current address).

Claiming for allowable expenses

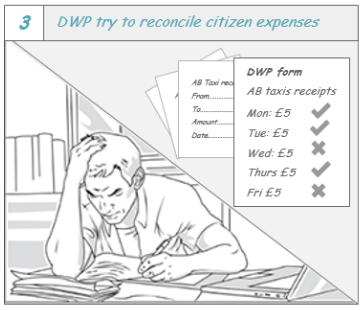
Current situation



Citizen is entitled to claim back travel costs
The citizen must obtain hardcopy receipts from the taxi driver/taxi firm for every work journey they take to substantiate their claim for re-imbursement.



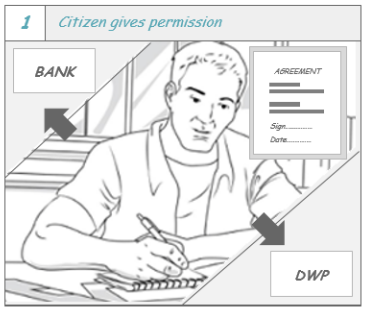
Citizen sends information to DWP
The citizen gathers together all their receipts/invoices, completes a DWP schedule form and then send these through to DWP by post.



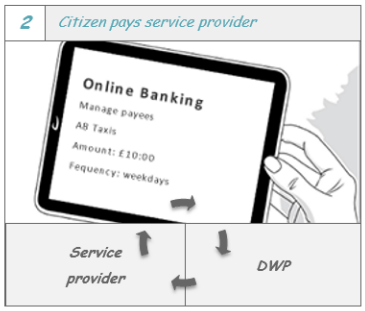
Hard copy evidence is received by the ATW team.
DWP staff have the manual task of checking all the receipts and reconciling them against the schedule.

During the course of this, they often find discrepancies which result in additional manual processes having to be undertaken which results in delayed payments to citizens.

Potential EPD opportunity



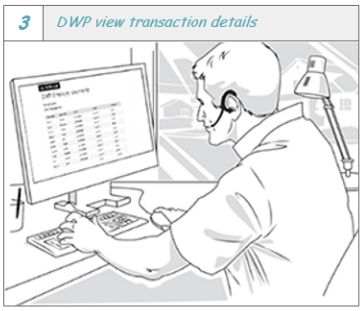
At the initial claims stage, the citizen agrees to terms and conditions with their bank and DWP that will enable DWP to view any payment transaction data as directed by the citizen (in this case, payments made to the taxi company).



The citizen has an arrangement setup with the taxi company and pays for any journeys electronically via their online account.

The process will enable DWP to have access to the relevant payment transactions.

Note: it is envisaged that there will be a requirement for a security element (broker) within this process.



DWP view the appropriate transactions and are able to confidently verify the expenses incurred by the citizen and therefore make an accurate and speedy reimbursement.

Note - not only will DWP be able to view relevant payment transaction data for individual citizens, but other Government Departments may have legitimate interest in the same data. Some Departments may also have interest in the payment transaction recipient, for example HMRC may wish to view data relating to the taxi company for tax assessment purposes.

6.3. Grants

Flood barriers grant

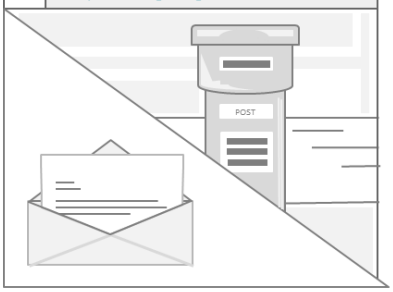
Current situation

1 Applicant signs terms & conditions

A department decides to award a £50m grant to develop a flood barrier in Devon, making practical use of new technology, so that technology can be tested and assessed for wider use across all potential flood areas.

The company would be required to sign a set of terms and conditions which included a risk based assurance regime i.e. due diligence would be undertaken before the grant was awarded and expenditure monitored, through validation of returns submitted by the grant recipient.

2 Body awarding the grant submits evidence



A tripartite agreement may also be required, requiring a medium level audit to provide further assurance that there was no evidence of ineligible expenditure.

3 On-going review of expenditure

On a regular basis, the company would be required to submit details of payments it has made and how these compare with the original budget submission.

The awarding body has to review expenditure to ensure that it in line with the original grant request and that:

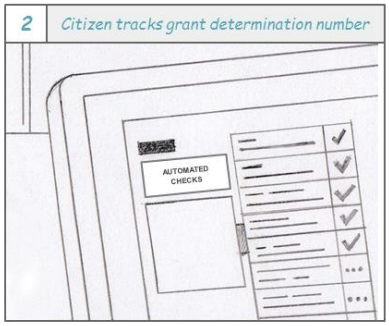
- Payments have been made to an appropriate beneficiary
- Expenditure is tracking the original budget submission

Under a future payment model

1 Project is underway

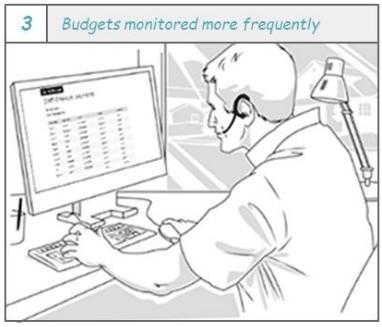
Within the agreed funding ceiling of £50m all expenditure would be flagged, with all grant expenditure tracked and linked to the grant determination number. This would enable government resource to shift from administration to monitoring delivery.

2 Citizen tracks grant determination number



If an irregularity was identified, for example in month 3 (such as a payment to a lobbying firm; aimed at marketing the new approach / technology), the owning department could take immediate action to suspend future payments and discuss remedial action / penalties with the grant recipient.

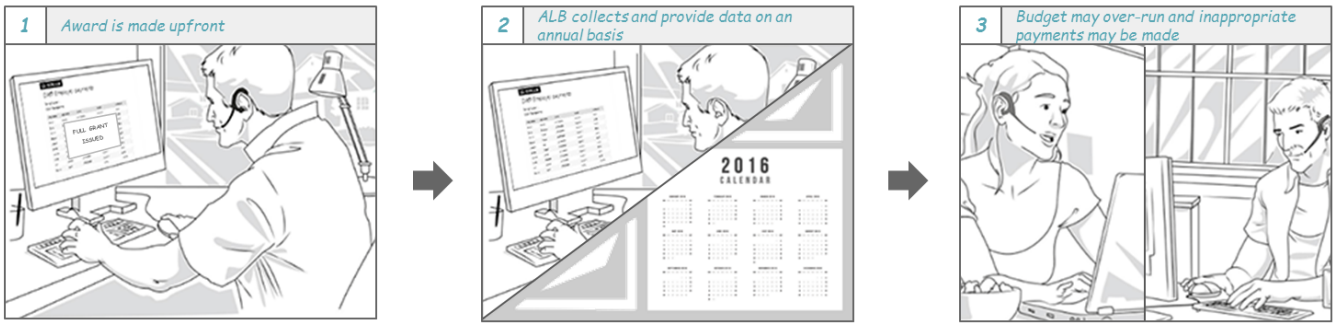
3 Budgets monitored more frequently



Through Open Access, tools may become available to enable the department to monitor expenditure more easily and more frequently. This would enable the department to intervene earlier on, before a project went significantly over budget from a timing or a cost perspective.

Direct award grant

Current situation



Benefits for direct award grants, where a department transfers funding to an ALB, to act as an intermediary, and to use the funding within a particular sector such as the arts or research.

Currently the level of reporting required of the ALB is set out in the grant terms and conditions and the cost of administering financial and performance returns is covered from the grant.

On a regular basis, the company would be required to submit details of payments it has made and how these compare with the original budget submission.

The awarding body has to review expenditure to ensure that it in line with the original grant request and that:

- Payments have been made to an appropriate beneficiary
- Expenditure is tracking the original budget submission

Under a future payment model

Expenditure from the grant by the ALB, would reduce the administrative requirement and associated costs.

It would also provide the funding department with a significantly richer data-set, opening up the opportunity for more effective monitoring activity and allowing intervention where expenditure is inappropriate or irregularities are identified.

Through Open Access, tools may become available to enable the department to monitor expenditure more easily and more frequently. This may allow the department to provide less upfront funding and to align funding more in line with actual expenditure

7.Conclusion and next steps

7.1. Conclusion

Over the next few years, the UK payments systems will undergo significant change driven by; regulation, banks, the private sector, the government as a user, sector associations and investment from Fintech which are already delivering benefits to citizens.

As the largest single user Government is uniquely placed to show how it may take advantage of these changes: to enable service providers to deliver new offerings more quickly and at lower cost and provide a better experience for those dealing with government.

DWP, Cabinet Office and HMRC have assessed the opportunities arising from change in the payments sector, including looking at the changes in other countries such as Australia, Canada, India and USA, and identified four main groups of objectives from the perspective of government as a user of the payment systems and through that role the, objectives of its interaction with the citizen and the private sector:

1. *Improvements to payment information to enable faster reconciliation*

   - Enabling the direct alignment of supplementary data to payments to support automation of the reconciliation process for government, the citizen and large and small businesses

   As shown in the Use Cases this would allow supplementary information about a payment to travel electronically and automatically with the payment; allowing a person in receipt of benefits to understand at the point of being paid a benefit any variation in the payment, or supporting a company adding additional information on invoices and procurements to improve their own accounting practices and thereby provide better information and reduce errors when making tax payments.

2. *Enabling improvements to banking and reconciliation*

   - To support clearer and faster allocation of payments across multiple invoices or citizen debtors' accounts, enabling "real-time" visibility and improving accuracy of accounts
   - To aid any aggregation of payments to suppliers without creating added complexity
   - To provide faster settlement of payments, instil greater confidence in the payment systems and financial security

The Use Cases demonstrate that this objective would provide for government, the citizen or corporations the ability to pay multiple benefits, charges or invoices through a single payment, supported by additional payment information and for that payment to be transferred and be available to access and use on the same day, so that: payment, payment information and settlement all travel in effect together.

3. *Supporting the provision of evidence and verification*

- Reducing burden on citizens to provide financial evidence
- Improving the effectiveness of entitlement testing
- Reducing errors in payments
- Reducing fraud prevention activities

The ability to ensure that the money is going to the correct account before payment, to have a payment receipted, to know that the money is in the recipients account: provides greater confidence in the payment systems and reduces fraud by improving the ability to identify precisely the details of the account the money is going to and that has been received. This linked to increased flexibility on when payments are made provides greater control to the user, improves the management of their own cash flow and reduces risk and eases the reconciliation of payments.

4. *Enabling the better sharing of information across departments*

- Enable citizens to provide data once rather than multiple times to each individual department
- Provide greater clarity of a citizen's payment interactions across all departments
- Providing for greater clarity on credit risk with private sector companies; such as in support of procurements
- Driving harmonisation of governance and legal requirements across departments for citizens

Enabling the making of joint or complex payments, where one payment is used to pay multiple government recipients, with the associated information coming electronically and automatically with that payment will allow citizens and the private sector to reduce the complexity of their interaction with government by providing payment and payment information once, but allowing multiple agencies to pick up the details in support of their own processes. The simplification of this interaction and the ability for a single payment to multiple recipients can lead to greater clarity on the total payment interactions between a citizen, or the private sector with government, and thereby a better understanding of their credit risk. As shown in the Use Cases this would allow a business to more easily engage with government to make a single payment covering: Tax, PAYE, VAT and pension information and for that payment to be easily distributed

to the appropriate government groups.

For the citizen and UK businesses,

delivery of these objectives could:

- Enable payment and reporting (to all third parties including government) as one process
- Reduce costs and administrative burden of tax, welfare and other government/regulatory processes
- Reduce risk of error and adverse experiences

These objectives do not stand alone, the processes of government, the citizen and the private sector derive the greatest benefit from all that these objectives can deliver through the payment systems, operating as a layer spanning end-to-end throughout user payment processes.

The Government has in this paper laid out a vision for its future use of payment systems that will provide:

- Improvements to payment information to enable faster reconciliation
- improvements to banking and reconciliation to support increased flexibility of payments
- Supporting improved assurance through the provision of evidence and verification
- better sharing of information across departments

For government, citizen and private sector.

The request from government is that the sector seeks to respond to this vision by coming together to design, develop and implement the payment systems changes required to deliver it.

Appendix A: Alignment of key stakeholders

Drawing on the areas of interest presented in section 3 and 4, the table below demonstrates, that the objectives of the government, as a user of the payment systems, are aligned through its processes and interactions with the objectives of the citizen and industry.

	Common API framework	Enhanced data	Control and assurance	ID verification
Government	✓	✓	✓	✓
Multi national enterprise	✓	✓	✓	✓
Small and medium size enterprise		✓	✓	✓
Citizen		✓	✓	✓

Appendix B: Block chain / Distributed ledger

Block chain is seen as an opportunity to revolutionise how payments (and other forms of data such as those associated with Know Your Customer and Anti-Money Laundering systems) operate. It has the potential to enable immediate and irrevocable exchange of funds between two counterparties in any location using publicly accessible "ledgers". Key potential benefits include:

- Reduction in processing costs
- Real time / "on the go" audit trails
- Elimination of reconciliation processes
- Complete transparency of payments
- Removal of payment float
- Immutable proof of provenance / authentication
- Use of Smart Contracts
- Removal of requirement of middle-person / third party
- Reduction in Anti-Money Laundering requirements

The government is already undertaking a number of studies in this area (including a pilot by DWP in South Manchester).

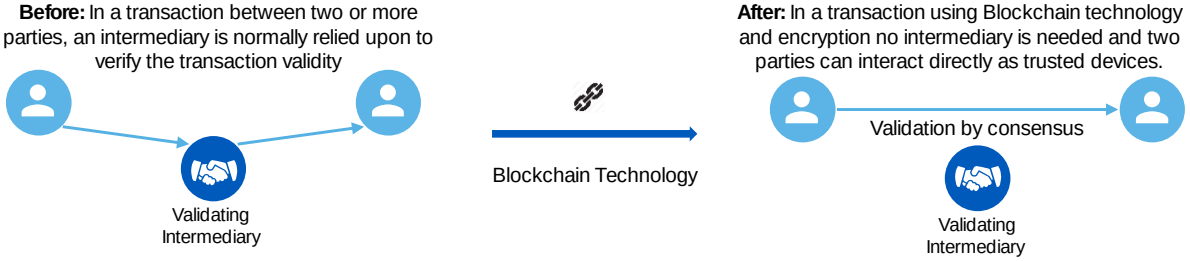
It has been included in this paper as a concept of interest that may form a component of a future payment strategy.

The diagrams below provide more background to the concept behind Block chain.

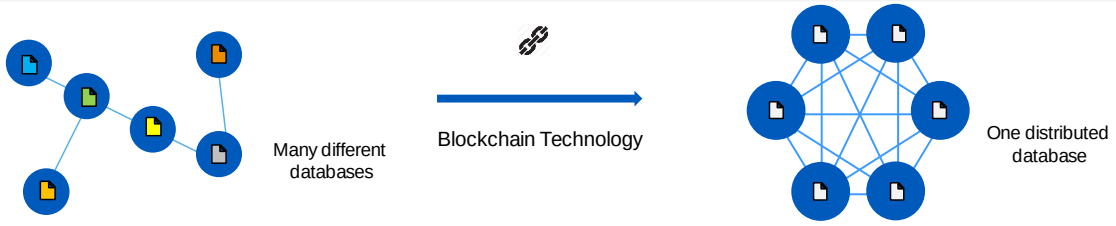
What is Blockchain?

Blockchain technology is both a database and network that enables the following

Removes the need for an intermediary when transferring information between two parties digitally



Creates a single shared database with a view on information common to multiple parties. Removing the need for reconciliation & inefficient back office functions



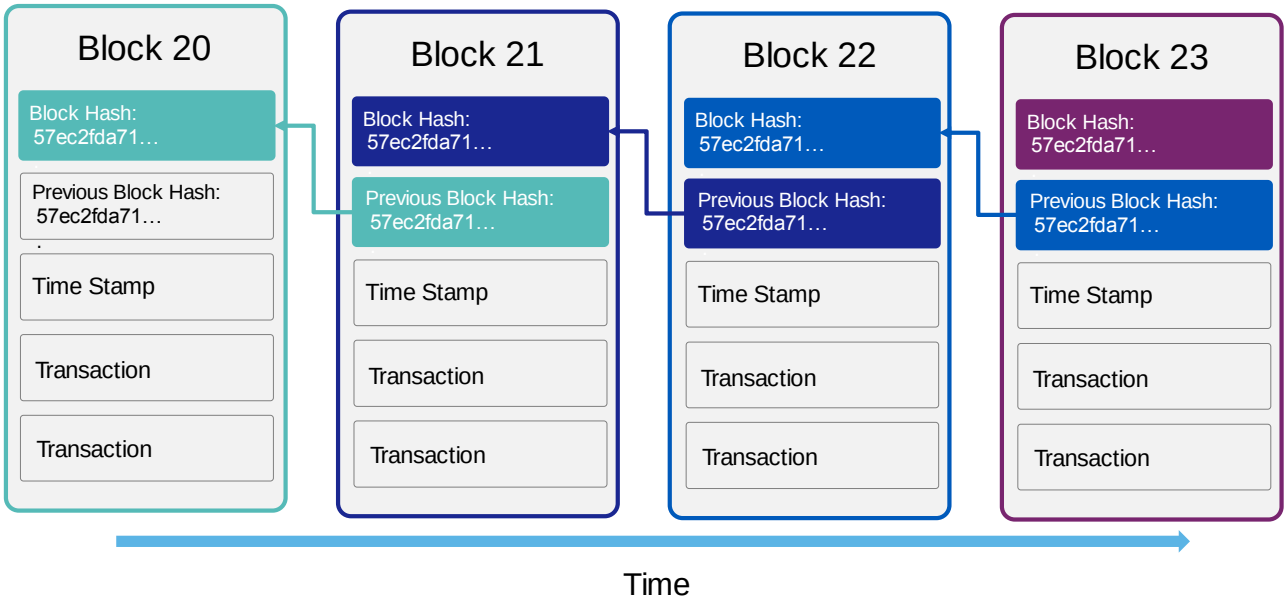
Instead of having numerous siloed databases, Blockchain technology enables all these databases to be held by every user. Each user updates their own copy and changes are reflected in all ledgers using a consensus protocol creating a single shared view. This reduces the need for reconciliation between different databases, creating cost and time efficiencies

Creates a tamper proof record of provenance. Blockchain records can never be altered

Programmable business logic – sometimes known as Smart contracts

A chain of blocks

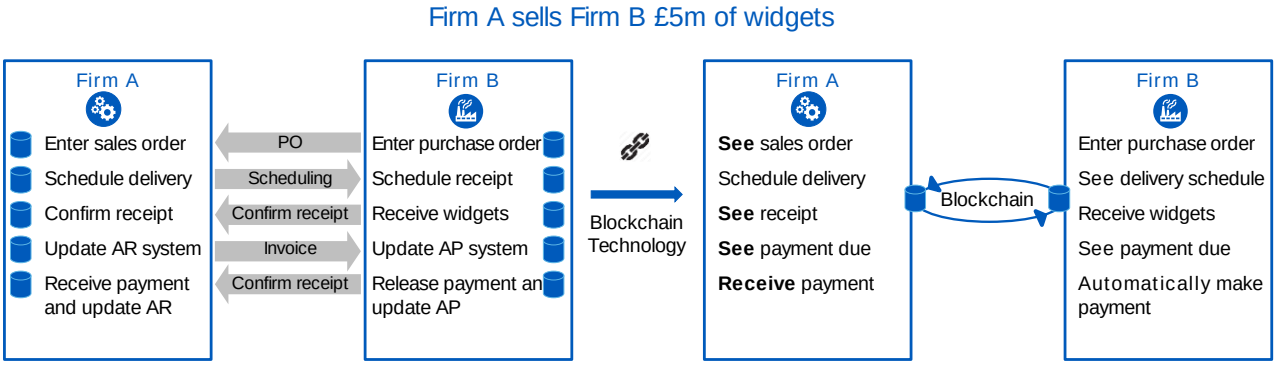
Each block is a data structure that stores a set of events and contains a validated pointer to the previous block. This 'chains' each block to the previous one



This chaining of blocks is extremely resilient and tamper proof, creating a immutable record of events that is resistant to fraud and corruption

Simple use case

The ability for parties to simplify information flow within transactions will reduce duplication, reconciliation and error



Today's world

- Multiple duplicated data updates
- Data entry errors and reconciliation issues (e.g. PO number, price, quantity)
- Manual steps to move through process
- Additional complexity where third parties interact (e.g. delivery firm, bank)

A Blockchain world

- Shared view of data
- Updated by party that takes action (e.g. orders goods, dispatches goods)
- Data is trusted and accurate – no reconciliation errors
- Steps can be automated into the transaction (e.g. payment made according to terms)

Appendix C: References

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