USE OF DIGITAL IDENTITY IN PEER-TO-PEER ECONOMY

PROJECT REPORT
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Executive Summary

In recent years the UK has seen considerable growth in the 'Sharing' or 'Peer-to-Peer' economy. Services in this sector are enabled through digital technologies. They allow a resource to be shared directly between an owner and those with a short-term need with a fee or commission paid to the service that connects the two parties.

In many sectors such services have quickly come to dominate and challenge traditional business models. AirBnB provides more rooms per night than the largest hotel chains. Taxi drivers in many cities have protested at the growing popularity of Uber. Lending to small businesses has grown dramatically through peer-to-peer lending platforms at a time when lending through banks to this sector has flattened or fallen.

Technology has commoditised many of the intermediation activities in ‘normal’ transactions but many users like the comfort of an intermediary in case things go wrong. In such circumstances there is an organisation responsible and an employee of that organisation will resolve the issue or arrange compensation if necessary. The customer’s experience on these occasions is often critical to the organisation’s reputation and the trust in its brand.

In the peer-to-peer economy it is the borrower or lender of the asset in whom the other party must have trust and not an intermediary organisation. This OIX project looked at the extent to which identity verification of the counterparties, to a government agreed standard, would enhance user confidence and encourage people to conduct peer-to-peer transactions. It recognised that:

- users may want to use a pseudonym in place of the normally used name in a transaction but would trust the website to have verified the real identity
- most peer-to-peer websites already conduct some form of identity verification for users registering for their service and have peer review systems that enable users to build a reputation.

A fictional car journey sharing transaction was used to conduct the research. Car sharing is very personal and accentuates some of the characteristics that are critical for trust. The project was conducted as part of the investigation of how high assurance digital identities created through the UK government's scheme, GOV.UK Verify, might be used in private sector transactions.
This OIX discovery project was conducted in response to an independent report by Debbie Wosskow for the Department of Business, Innovation and Skills (BIS), on the Sharing Economy entitled  *Unlocking the sharing economy; An independent review*. The report included recommendations on Trust and Identity:

“Helping to build consumers’ trust in online transactions in the sharing economy is critical for its future development. The government already has in place an identity verification system, GOV.UK Verify. I recommend that this is opened up to private sector services, including sharing economy businesses, in 2015.”

The project found that the majority of the participants in the user research noted that having a verified identity is an important element in increasing their trust in the transaction. Most of the interviewees believed that car sharing platforms would do identity checks automatically. Association with a government standard would increase users’ propensity to use the service.

Users also associated the verification of a person’s identity with the verification of other details about the person such as their driving licence details and potentially details about the vehicle. Identity verification, whilst an important part of building user trusts, is therefore only part of a user’s need in this context.
1. Introduction and project background

Sharing Economy Independent Review

In 2014, Debbie Wosskow wrote an independent report for the Department of Business, Innovation and Skills (BIS), on the Sharing Economy *Unlocking the sharing economy; An independent review*. The report included a number of recommendations, including a couple focusing on Trust and Identity. One of these two recommendations was:

> “Helping to build consumers’ trust in online transactions in the sharing economy is critical for its future development. The government already has in place an identity verification system, GOV.UK Verify. I recommend that this is opened up to private sector services, including sharing economy businesses, in 2015.”

The Government has responded to the report and noted that there were ongoing conversations with car sharing platforms around a potential OIX discovery project that would explore a concept of the use of high level assurance digital identity within the Sharing Economy. As a result of these conversations OIX has undertaken this specific project.

The Project

The project looked at the use of high level assurance digital identity, such as one offered by GOV.UK Verify, within the context of car sharing. It tested the hypotheses: ‘Users will be happy to use their GOV.UK Verify identity on a car sharing website and will be also encouraged to share journeys with people who have been verified through this process, without receiving or sharing unnecessary information.’ as well as ‘Use of a federated digital identity, such as GOV.UK Verify, will reduce burden (cost) on businesses for identity verification.’

The scope of the project was to:

- Consider and test user journeys where a digital identity that a user has created with a certified Identity Provider allows him / her to increase trustworthiness of the pseudo identity they use for a car sharing service.
- Consider how a federated digital identity could allow for reduction of burden on businesses.

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1 http://bit.ly/1CeOg29
2 http://bit.ly/1Blnm36
3 http://oixuk.org/?page_id=10
The project did not include analysis of granularity of identity assurance levels needed for car sharing services, and did not include registration with GOV.UK Verify.

**GOV.UK Verify**

The UK government, working with a group of certified companies under a contractual framework with the Cabinet Office, has developed GOV.UK Verify, a new way for citizens to safely and securely prove they are who they say they are entirely online when accessing digital public services provided by central government. It uses certified private sector companies to conduct identity verification checks according to published government standards. A set of nine principles guides the design of the identity assurance system. A digital identity created with a certified company through GOV.UK Verify can currently be used to access an increasing range of central government services on GOV.UK. In principle, certified companies might also enable users to assert a digital identity that meets government standards in transactions with local government, NHS and the private sector. How this would operate in practice has yet to be established. One such element is branding. In this project we used GOV.UK Verify brand as it is the only one in existence, however, the branding of the digital identities used in the private sector context has yet to be worked out.

### 2. Methodology

We have recruited participants for the customer insight part of the project and invited them to attend a one-to-one research session, held in the GDS user research labs. The research was conducted by a researcher from Snook, a customer insight research company. Participants received an incentive in the form of a small payment in consideration for their time.

With the hypothesis focusing on encouraging people to car-share, two-thirds of participants were deliberately recruited who had never used a car sharing site and had limited knowledge or understanding of the term or service, whilst the other third had, at the very least, signed up to use a car sharing service with a car sharing platform.

As car sharing platforms are a service for both drivers and passengers, the user researcher requested a 50/50 split between participants who could drive and participants who considered themselves non-drivers.

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In order to engage fully with the research, it was important that participants be confident using a computer, be able to read and have good conversational English skills. The sample included a 50/50 split in male and female participants, a good spread of socio-economic groups and a wide spread of ages.

In total, the research engaged with 18 participants over three rounds of user research.

Each session lasted for 1 hour in total. The first half of the session was conducted using tactile prompts, with the second half involving a digital prototype car-sharing platform. As part of the session, participants were also introduced to the concept of GOV.UK Verify; however, they weren’t asked to go through the registration process.

Initial questions for the participants focused on their general transport preferences. They were then invited to indicate the Top 5 most important pieces of information necessary for them to choose their car-sharing match. This information was presented on small cards and included a large variety of options – with participants asked to add in any that they felt were missing.

During the first round of research, it was suggested that Disclosure and Barring Service (DBS) – in the past known as Criminal Records Bureau (CRB) - was an important factor to include so, following the first session, it was created as an additional card.
GOV.UK Verify was introduced and explained to the participant, through the introduction page and video available here. Although many had heard of GOV.UK in general, none of the participants had heard of GOV.UK Verify.

The prototype car sharing website was then introduced to the research and the participant was asked to complete the task of arranging a car sharing journey, as they might use a similar platform in real life. The prototype featured two user journeys; one for drivers, one for passengers.

3. Findings from the User research

Perceptions of a ‘verified identity’
Across all three rounds of research and prior to being introduced to GOV.UK Verify, when asked to specify their Top 5 important pieces of information, the majority (16 out of 18) of participants chose ‘participant has verified their identity’.

In discussing what a ‘verified identity’ meant, it became clear that there is a lack of clarity around the term – with many participants believing that it links with criminal record checks. The words ‘safety’ and ‘comfort’ were commonly used when describing identity verification.

“That it’s not someone trying to do something nasty, or illegal or that will get in trouble. That the person I am picking up to take wherever we are going is genuinely going there for a genuine reason.” Al, 64.

“They are who they say they are. They’re safe to get in a car with, basically.” Debbie, 49.

During the first session, a number of participants identified DBS checks as a piece of information they were interested in. In many cases, this was considered to be linked to a verified identity. There were questions related to linking existing DBS checks to their car sharing account, but many people appeared unaware of the additional cost.

“I think that’s really important. I have three of them. That just says if you have any criminal record, and that’s really important because you never know – you’re putting your trust into this person and getting into their car. Once you know they have a CRB then you think, “that’s ok, at least that’s something, a police check.” Those kind of work together – being [identity] verified – it’s similar.” Noelle, 48.

Expectations of the service
Whilst the majority of people chose to match with others who had their identity verified through GOV.UK Verify, there was an expectancy for the car-sharing platform to have already conducted some form of identity verification.
“I would still expect them to be verified, whether it’s through the Government website or a different way of verifying. Up until this point there’s been lots of way to verify who people are. That’s not to say that what’s come before GOV.UK Verify is a load of rubbish – there’s good ways to check who people are. I wouldn’t necessarily only take a lift with people who has a GOV.UK Verify account, I’d expect the company to make sure that they are who they say they are.”

Peter, 39.

It was also expected that drivers on the site would have valid driving licences. Many participants believed it was only possible to sign up to a site as a driver if you held a valid driving licence. One participant discussed that if a DBS wasn’t available, they would take into consideration the Feedback and the Verified Identity of the passenger/driver.

“I kind of feel like that’s the site’s job, not mine? If you’re signing up here and you’re a driver, that’s the kind of check the company should run?” Tania, 27.

With some participants, sites that support a similar transaction such as Ebay, Gumtree, Uber, AirBnB, were mentioned. Discussion revolved around what encouraged trust in these transactions, with one participant mentioning the reliability and lower level of risk felt with Ebay and Paypal, that if something was fraudulent/unsatisfactory with a transaction, they would recover her money.

The importance of feedback

Feedback was identified as a very important element when choosing a user to match with. Whilst the digital car-sharing platform only indicated a star rating, many participants mentioned the need for reviews.

“I would definitely go for feedback from others, that’s one of the biggest things because I follow reviews and stuff a lot before I do things. Even when I travel I go on Trip Advisor. Sometimes on the site when you’re booking it might say 5* but on Trip Advisor it’ll say 2*, so that’s a big thing for me.” Jenny, 26.

One element of the research focused on understanding if there was any preference for feedback to have come from other GOV.UK Verified users, in comparison with regular users. Whilst participants were interested in good feedback and reviews, many recognised that feedback could not always be trusted. However, feedback from verified users was still not considered a vital aspect of the matching process but more as an added bonus; if it had not been offered as a possibility on the digital platform, it would not have been requested.

Participants would generally look to match with those who rated 4 or 5 stars. Other deciding factors related to if the other user had a GOV.UK Verified identity and/or their distance from the participant.
“It’d be nice to know if they’re a safe driver, if you’re a passenger. If you know they have a few points, it’s not going to tell you an awful lot. Really, that’s coming from the feedback from others – whether the driver is a complete maniac or something. Feedback from others is an important one in both cases [as a driver and passenger].” Kenny, 74.

GOV.UK and GOV.UK Verify
All participants interviewed had never heard of GOV.UK Verify, though most did recognise the GOV.UK platform. It was considered a trusted brand.

The majority of participants agreed that the GOV.UK Verify service, after being introduced to it, would encourage them to sign-up to a car-sharing platform.

There were discussions related to secure storage of their information, the possible sale of details and the ‘big brother’ perception of the Government having access to this information. However, the majority believed the Government link to be a positive and beneficial aspect of the service.

“I like that. I suppose I like that because it’s Government. I know you think they know a lot about you, but it was run by a private company... I find that quite secure, quite good.” Noelle, 48.

“I’m positive towards it, I don’t feel any – I know you’ll get a lot of people who think ‘Big Brother’ and that sort of stuff – but it’s swings and roundabouts.” Gary, 43.

At the start of every user research session, participants were asked to place themselves on a scale of 1 to 10 on how likely they would be to sign-up and use car sharing platform. This was prior to being introduced to GOV.UK Verify. When asked to place themselves on a scale of 1 to 10 for signing up to a car sharing platform with GOV.UK Verify included, 16 of 18 participants placed themselves higher on the scale; indicating that they would now be more likely to car share.

Those who considered themselves unlikely to sign-up and use a platform specified this was due to other barriers to entry, e.g. one participant felt that there were no circumstances in his daily life that would lead him to sign-up to a car sharing platform. Another participant was familiar with car sharing services in another country, where car sharing is a popular service. As a result, based on her previous experiences, this participant felt it unnecessary to ask for details related to identity verification, driving licence validity or car roadworthiness.

The majority of participants agreed they would link their GOV.UK Verify profile with their car sharing account.

“Absolutely [I would be happy to show GOV.UK Verify on my profile].” Gary, 43.
When going through the user journey on the digital prototype, almost all participants chose to share with those who had verified their identity using GOV.UK Verify.

**Perceptions of necessary information**

Finding out what participants constitute as ‘necessary information’ was important. After identifying their Top 5 pieces of information necessary to choose their match, participants were asked if they would be willing to share that same information with other users of the platform. All participants agreed they would be happy to do so.

With part of the project research related to the potential use of a pseudonym by users of car sharing platforms, the sessions introduced some discussion related to the use of a username, first name or full name. It was interesting that most passengers initially felt comfortable with sharing their full name publicly on the site, even prior to matching with another user. It also became clear that there is great lack of clarity regarding the definition of a username. However, when asked if they would prefer ‘James or JC1980’ when choosing a match, they suggested that if the user had a GOV.UK Verify digital identity then having a pseudonym of JC1980 rather than an actual name wouldn’t deter them from choosing this person as a match.

“As far as I know [BlaBla car] it’s people’s full names – or definitely their first name – so I’ve seen people’s names on there and their contact details. No, I have no problem with [sharing my full name].” Peter, 39.

When discussing with passengers where they would expect to be collected for their journey, many stated they would be comfortable to share their home address with the driver and that to be collected from home would be convenient. Whilst they wouldn’t be willing to share their home address at the matching stage of the process, this finding raises interesting questions related to trust and the perceived level of risk for personal safety versus what could be considered a security risk.

The research also explored the level of detail that participants – both passengers and drivers – would be willing to share about their driving licence and car roadworthiness.

All drivers were happy to share basic information with their matched Passenger, but the majority did not want to go into detail. This appears to support the wording featured on the digital prototype; ‘Would you like other users to be able to confirm you have a valid driving licence?’ and ‘Would you like other users to be able to confirm that your vehicle is currently taxed, insured and has a valid MOT certificate?’

“Yes, I would want to [share I have a valid driving licence as a driver] – because I would want them to have that as well. I think if you’ve got a problem sharing it with them, there’s something a bit funny about you. Because if you’re
Participants felt that if the information wasn’t shared, they would question the reasoning behind this decision and would be reluctant to match with them. This correlates with the way that they also perceived unverified users on the digital prototype.

“I need to make myself as attractive as possible, don’t I?” Gary, 43.

Similarly, there were mixed responses from Passengers as to whether or not in-depth detail regarding a driver’s licence should be available and there was some discussion related to feedback being more indicative of driving ability, whereas points could be due to small offences, such as driving through a red light.

“I wouldn’t really be that much worried about [drivers having a clean driving licence] because some people have had mistakes and it doesn’t mean to say they’re not reliable or very nice people, but I suppose that would be important, yes.” Robert, 57.

Profile pictures were considered an important piece of information by many participants as this allowed them to ensure that they are meeting the correct passenger or driver.

“It’s good to see who you’re going to be driving. And if you do go to a car – it’s the person that is what you see, so it matches up. Some people may make up fake profiles and it could be a bit dangerous.” Jenny, 26.

Across all participants interviewed, social media was not considered something that people would want to be made available on their car sharing profile, people felt this was too intrusive. It was also recognised that Facebook profile accounts could be created by anyone and, as a result, couldn’t be considered valid verification of an identity. However, the project did not look into detail what information in regards to social media participants would be willing to share (such as a profile picture or how many friends they have).

“It’s not that I’m quite private, but you know you can get people who use things to start pestering you. I’ll give an example, me and my sister joined a backpacking group on Facebook – I told my sister to put a post about where to go about a specific country. It’s a Facebook group and she had people messaging her saying ‘Come and stay with me’ – just weird people. It’s another avenue for people.” Tania, 27.

**General themes**
With the majority of the participants new to the concept of car sharing, a number of other barriers were identified. There was a lack of understanding of the phrase ‘car sharing’; when asked about their
perception of ‘car sharing’, car-pool lanes and Uber Pool service were mentioned on a number of occasions.

When asked to place themselves on a scale of 1-10 for signing up to a car sharing platform, some participants mentioned circumstance as a barrier – they were unlikely to have a scenario in their current lifestyle where they could see themselves car sharing. This was also cited by at least two participants who had signed up to a car-sharing site as a reason for why they were yet to complete a journey.

Many participants were interested in the cost and convenience of the service – for passengers, they wanted it to be cheaper than public transport, whilst drivers were unlikely to travel out of their way to collect a passenger.

4. Benefits for the User

**Lowered perception of risk**

Benefits for the user predominantly relate to the added perception of safety and comfort provided when car-sharing with a stranger who has a verified identity. The verified identity implies a level of security in the belief that with their identity verified, that person would be unlikely to be dangerous, lowering the risk of anything untoward occurring.

The link with Government is regarded as a positive and encourages trust in the service; however, feedback and other elements were identified as important factors for consideration alongside GOV.UK Verify.

With almost all participants stating that GOV.UK Verify would increase their likelihood of signing up to a car sharing platform, participants were able to envisage scenarios in their daily lives where car sharing would be a beneficial service.

**Convenience and comfort**

With all participants living in the Greater London area, public transport was the most popular form of transport, especially with regard to commuting. Some participants discussed the difficulties faced during tube strikes and the stress of public transport at rush hour, however this is subjective and further research should be done to discover the benefits for car sharing across the UK.

**Saving money**

Drivers were interested in the possibility that they would recoup some of their petrol costs, however,
many were reluctant to go out of their way to pick up a passenger. Passengers wanted to know if car sharing would be cheaper than public transport, both in relation to commuting and long-distance journeys.

**Encouraging long distance journeys**

There was some discussion about the importance of a verified identity for a long distance journey, with some participants believing that for shorter, local journeys, identify verification wasn’t as important. Car sharing for long distances also links with the potential for greater convenience, comfort and a reduction in costs.

Again, potentially due to participants being from the Greater London area, many potential scenarios for car sharing were identified as longer journeys, e.g. visiting family in Portsmouth, Manchester and Scotland. This is an interesting finding that would require further research.

**Other applications**

Many participants discussed the benefits of GOV.UK Verify in relation to other online platforms, such as Ebay, Gumtree, AirBnB and Couchsurfing – indicating that they would be encouraged to verify their digital identity with other online services.

### 5. Positives and Negatives for Businesses

As part of the user research a number of workshops were held with car sharing platforms, in order to investigate the second hypothesis relating to the business benefits of using a federated, high-level assurance digital identity for verification of their users. The project specifically used GOV.UK Verify digital identity as an example, as currently this is the only federated digital identity available in the UK.

**Advantages**

There were a number of advantages highlighted during the workshops by car sharing platforms.

**Increasing trust through using identity verification**

In the first instance, the participating platforms saw there would be real commercial benefits to them by meeting the user needs which had been highlighted in the research i.e. creating greater sense of trust between drivers and passengers on their platforms. Potentially, this effect of increasing the sense of trust would be felt most for drivers and passengers who didn’t currently have feedback on the car sharing platforms. Given that one of the challenges for the platforms is customer acquisition due to lack of trust and understanding from the user perspective, then using digital identity such as
GOV.UK Verify would help reduce barriers by increasing the sense of trust in journeys by potential new drivers / passengers. This was seen by platforms as a real business benefit.

**Benefits from GOV.UK Verify brand association**
In addition to the benefits to the car sharing platforms from the use of high assurance digital identity, there were also perceived to be additional benefits in using the GOV.UK Verify brand. These were seen as reputational benefits such as brand associations with Government. There was a perception that users of the platforms would prefer to use a digital identity issued in the Government context as there was greater trust of Government’s data handling than the private sector. This was seen in some of the interviews in the user research.

**Additional benefits**
In addition to the two core benefits above, there were two other postulated benefits from using the digital identity:

**Behavioural effects**
There was some discussion about whether the association of Government issued digital identity with a profile created on a car sharing platform would have an effect where, because drivers and passengers knew that some form of “official” checking had taken place, then they would less likely abuse the platform / behave better on lifts than if verification had not taken place. However, this wasn’t explored in the user research of the project and would need further research.

**Issues**
In addition to identifying a number of benefits to the platforms the discussions during workshops identified a number of potential issues.

**Barrier to entry**
A potential barrier to entry raised by the platforms during workshops was around the sign-up process. Signing up for a digital identity while registering for a car sharing platform would make the user journey too long which would put some potential customers from signing up in the first instance. A secondary concern is that the presence of a Government-backed scheme would put off a sub-set of potential car-sharers who may not have such a positive view of Government. However, this secondary concern wasn’t confirmed during the user research undertaken as part of the project.

**Lack of clarity on cost**
Another concern voiced by the platforms was that there wasn’t currently clarity on what the commercial model would look like and what would be the price for reusing the digital identity. As this was not in the scope of the project it didn’t form part of discussions and would have to be
explored later on together with Identity Providers, once there was a service available for the private sector.

**Other drawbacks**
Potential other drawbacks were around negative aspects of brand association. Without a full roll out of digital identity such as the one offered by GOV.UK Verify it is hard for the platforms to understand if there would be any negative reactions to the GOV.UK Verify service and whether there could be any reputational damage from incorporating the service.

### 6. Conclusions

The project tested the two hypotheses: *Users will be happy to use their GOV.UK Verify identity on a car sharing website and will be also encouraged to share journeys with people who have been verified through this process, without receiving or sharing unnecessary information.* and *Use of a federated digital identity, such as GOV.UK Verify, will reduce burden (cost) on businesses for identity verification.* This was a highly successful discovery to ascertain users’ increased trust in a transaction with the use of high assurance digital identity and potential benefits for the businesses.

There was an overwhelmingly positive response from the users to the use of their GOV.UK Verify digital identity within the car sharing context. They noted it would have increased trust in the transaction and their likely uptake of such a service, should they have a need for it.

The discussions with platforms also highlighted some potential direct benefits for the businesses, including increased uptake of their services. Additionally, although currently the platforms do not have to comply with any specific regulations on customer verification, in the future should such a regulation develop for Sharing Economy, use of a digital identity would facilitate their compliance with the regulation.

The project did not focus in detail on what the technical architecture should be to support the explored user journeys, however, technologies [as per appendix a] already exist that could potentially support such a service as explored in the project.

As mentioned earlier on GOV.UK Verify is a service that is currently available for central government services only. OIX UK is leading on a project, which is looking at the private sector requirements for identity verification and possible reuse for GOV.UK Verify. The outcomes of this
project are yet to be published and the GOV.UK Verify team is in process of developing policy on its reuse.

As for DVLA and sharing the attributes such as whether the driver has a driving licence, this would need further work and would have to be considered as part of the Agency’s usual Governance processes. It would also have to align with the Agency’s policy around privacy.

7. Appendix A - BIS Sharing Economy Initiatives

The Department for Business, Innovation and Skills takes a close interest in the Sharing Economy and commissioned the independent review ‘Unlocking the Sharing Economy’, led by Debbie Wosskow in 2014. The Department has continued its engagement with the sector by setting up a ‘Sharing Economy Action Group’ to provide a channel for insights from Sharing Economy businesses about how best to support the sector.

Innovate UK is currently also commencing a competition to support innovations in the Sharing Economy. They are offering 6 businesses up to £30,000 each. The themes of this competition are trust, tourism and travel, opening up new sectors, home improvement, construction, and data and analytics.


8. Appendix B - DVLA View and Share your Driving Licence Service

DVLA has built a service View and Share Your Driving Licence, which allows users to share their driving licence details with third parties and individuals. However, this requires manual process of inputting a code and last eight digits of the driver’s licence. It also shares more information than whether the driver has a driving licence or not, including points.
9. Appendix C - Insurance Industry Access to Drivers Data (IIADD)

Insurance Industry access only, which allows insurers to access appropriate details from DVLA’s driving licence records at the point of quote, in order to reduce non disclosure and misrepresentation by the driver.

- Driver requests a motor quote from an Insurer: Rather than self-declare their driver licence information, GB drivers can instead agree to provide their driving licence number (DLN). Where the driver cannot, or does not wish to provide a DLN, Insurers may decide not to quote, or to quote based on a self-declaration.
- Insurer performs an enquiry with DVLA to obtain driver data: Enquiries passed to DVLA via the Motor Insurance Industry (MIB).
- DVLA return the driver data securely back to the Insurer
- Insurer provides the driver with a quote
- All data sent is encrypted.

10. Appendix D - Document Checking Service

DCS is only a yes/no answer for if a customer holds a driving licence – it does not cover customers who have paper licences and will not tell the user / platform if the licence is valid or not. It covers 80% of the UK and 8 Million customers with paper licences would be unable to get a response from this.