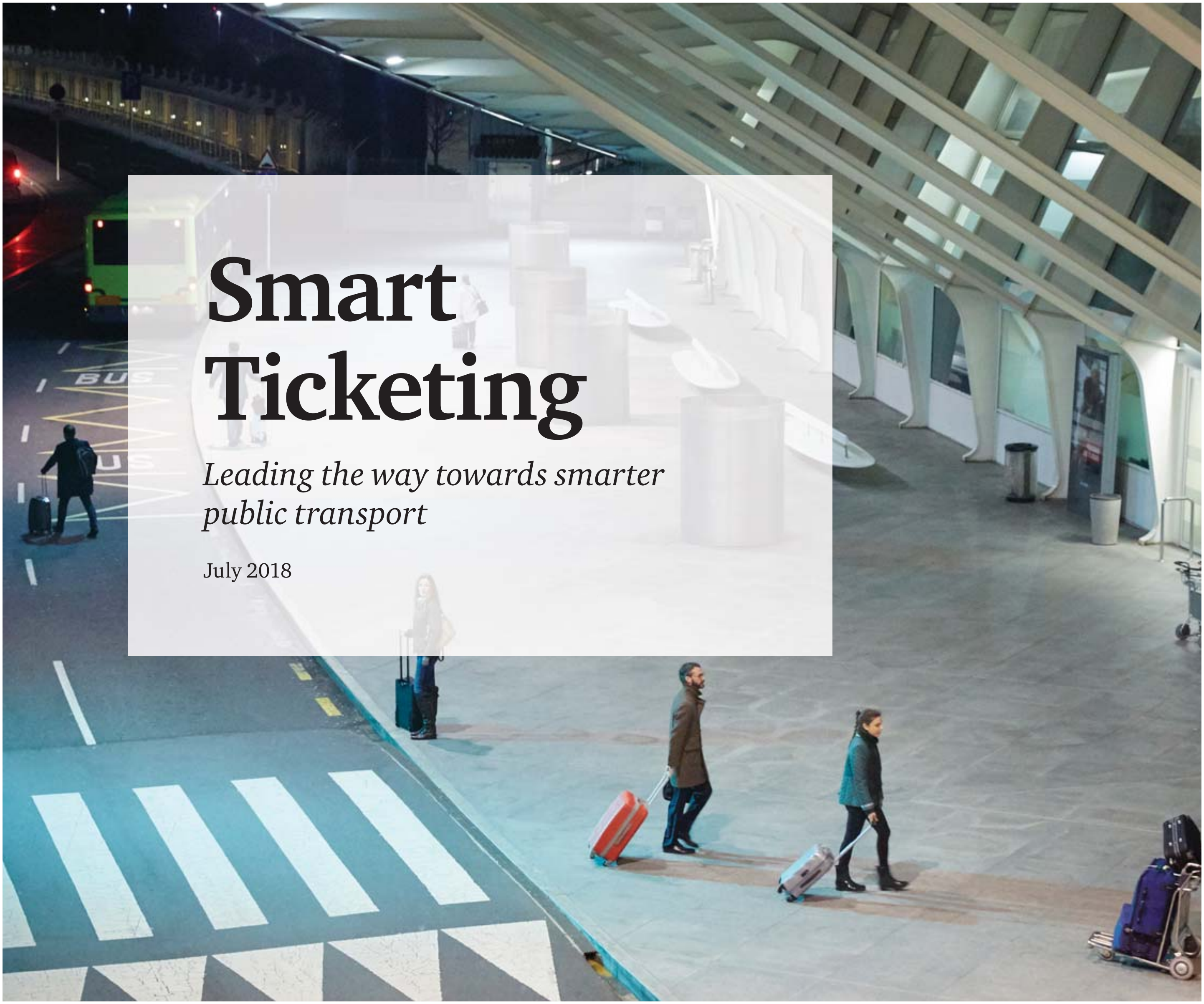

Smart Ticketing

Leading the way towards smarter public transport

July 2018

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Contents

Foreword

*This is the sixth edition of **PwC's annual Smart Ticketing Survey.** This year we surveyed over 4,000 members of the public in the United Kingdom – doubling our sample from previous years, and reflecting the growing prominence of ticketing in the public's views of public transport provision. We asked them about their use of, and preference for, different public transport ticketing options and on what they are looking for in a smart travel experience.*

This report presents our findings, which are based on our analysis of the survey results. We examine the market opportunity for smart ticketing across the UK, including for different regions, age groups, and for people with different levels or frequencies of public transport use. We provide insight into smart ticketing customer trends, and on what is needed to address the growing expectation for smart.

This year, we introduce a new measure – **the smart demand gap**. This is the difference between people's current use of smart tickets and their preference. This gap gives an indication of the potential size of the market opportunity for smart ticketing.

In this year's report, we also take the opportunity to look back at the survey results from previous years. This gives an insight into some of the changes in attitude to ticketing and the emerging trends.

As more transport bodies look at introducing smart ticketing across the UK, this report becomes increasingly relevant. The insight we provide can be used to inform future public transport smart plans. Our ambition is that this report contributes to a future public transport system that provides a great customer experience for all, across the nation.

Summary

This year's survey results show smart ticketing has finally become the new normal when it comes to customers' expectations. Since we began this survey in 2012, smart payment methods have taken hold across all aspects of our lives and our polling results now demonstrate how this is affecting the transport sector.

In previous years, smart ticketing has been in the mix with conventional paper ticket forms. But this year it has reached a crucial tipping point where customers now expect it. 47% of public transport users in our survey use a smart form of ticketing most often, and 66% say they would prefer to use a smart ticketing option if available. So not only has use gone up, but critically, demand has increased even further. As a result, the current difference between the number of customers who would like use smart tickets and those who currently do is showing a **smart demand gap of 19%.** This rises to 25% when you remove those living in London from the sample.

The **smart demand gap** is the potential size of the untapped market opportunity for smart ticketing. In this report we look at how that demand gap breaks down across age group, location and frequency of travel, analysing what this means for the market and how operators can best deliver on passenger expectations.

We also look at what might make passengers who aren't using smart options switch. Smart technology is improving all the time and operators can now use their ticketing platforms to guarantee their customers the best prices and most flexible options. Our findings show that price, flexibility and trust are key to incentivising the move smart.

Customers also want a variety of ticketing media and purchase channels. Since 2012, we've seen an increase in new forms of smart that use mobile apps and contactless bank cards. This has added to the variety of systems in the market and means that operators need to provide a range of purchase channels throughout the passenger journey.

Operators also need to think carefully about what features of smart tickets passengers value the most. Our results show that passengers don't just want to pay the best price, they also want ticketing options that are flexible and convenient. That includes features such as automatic refunds, capped fares and the ability to use tickets across multiple modes.

Finally our results show that a good customer experience goes beyond ticketing. When asked what would encourage people to travel more by train, price was by far the most significant factor cited by nearly half our respondents.

This is nearly double the second and third most important factors – less crowding and no interchange. For bus, there is a more nuanced picture with around a third of respondents choosing speed, reliability and lower prices.

The message for operators is that digital innovation must be customer-centric, and not end at ticketing products. And it is clear that this innovation needs to fit into the wider changes that are disrupting the conventional model for how transport services are provided. These wider applications of digital, if implemented with customers at their heart, have the greatest potential to provide a step-change in demand for public transport services.

The key trends in this year's Smart Ticketing report are:

1. ***The desire for and the current use of smart*** *have both* ***gone up****, resulting in a smart demand gap nationally of* ***19%*** *and of* ***25%*** *when London is excluded.*

2. ***Price*** *is key to incentivising adoption of smart.* ***Trust, flexibility and loyalty*** *are also important factors.*

3. *The future of ticketing will be more about* ***smart*** *and less about* ***smart cards****; but the key is to give customers a choice of ticketing media.*

4. *Features that people value the most in smart ticketing are* ***affordability,*** *followed by* ***fairness and convenience****.*

5. *People value* ***smart*** *ticketing, but there are* ***other factors*** *that also need to be addressed if the benefits are to be fully realised.*

Customers are asking for smart ticketing on public transport

The smart demand gap
This year's survey results show a significant increase in customer preference for smart ticketing options.

We asked public transport customers two questions:

1. What kind of ticket do you use most often for your journeys?
2. If you could use any kind of ticket to travel, which kind of ticket would you choose?

The answers to these questions show that:

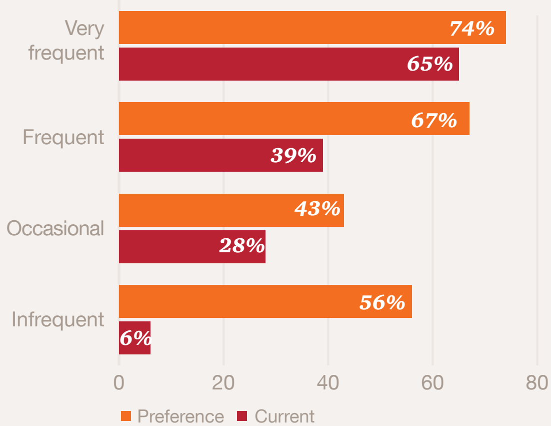
- 47% of public transport customers in the UK currently use a smart ticketing option most often for their journey. (52% use paper tickets; 2% use other).[1]
- However, 66% of all customers would actually prefer to use a smart ticketing option if they could choose any type of ticket.
- So there is a 19% smart demand gap. That is the potential size of the existing market opportunity for smart ticketing.

By frequency of travel
Those who travel frequently are the most underserved, whilst 'very frequent' travellers are much more likely to use smart ticketing.

The largest smart demand gap where we have sufficient data is amongst 'frequent' travellers (28%). Together with the 'very frequent' (a gap of 9%), these two segments offer the largest market opportunity. The smart demand gap for these groups combined could represent a significant portion of all UK customer public transport journeys.[3]

Figure 1: Smart demand gap by frequency of public transport use

Results based on questions around customers' current use and preference of smart ticketing for their journeys.



Compared with previous years' results, the desire for and use of smart ticketing have never been higher.
Our survey results show that the smart ticketing market has grown steadily over the past 5 years. In 2013, the estimated smart demand gap was around 4%. Since then the use of smart ticketing has typically grown by 3% per year, whilst the desire to use it has gone up by approximately 4% per year. So the smart demand gap has been increasing by 1% per year. In order for us to be able to compare with the questions we asked in previous years, we have considered here users of bus, overground or underground/metro aged between 18 and 62.

In that group in 2018, 44% use some form of smart ticketing, whilst 58% would like to. When we look at the full set of public transport users of all ages this year (but excluding those with concessionary passes), these numbers rise to 47% using smart ticketing with 66% showing a preference to do so. This gives us the smart demand gap of 19%.

Further breakdown of the survey data by frequency of travel, age group and region provides insight into which market segments have the largest smart demand gaps.

Note: We allocated respondents who use public transport to the categories as follows: 'Very frequent' = at least 5 times a week; 'Frequent' = 1-4 times a week; 'Occasional'= 1-3 times a month; 'Infrequent' = less than once a month. Due to a small base 'infrequent' should be seen as indicative only.

What are smart tickets?

A dedicated transport smart card

A contactless debit or credit card

An app on a smartphone or electronic device

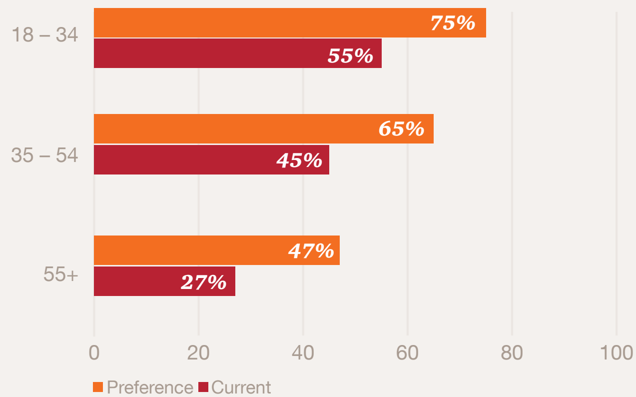
A smartphone emulating a credit or debit card

By age group

Current use of smart goes up from older to younger customers, as does the desire to use smart. The smart demand gap is consistent across the age groups. There may be a mix of reasons behind this, from the younger age group's desire to use electronic payment to the older group's opportunity to take advantage of discounted or free smart card based travel.

Figure 2: Smart demand gap by age

Results based on questions around customers' current use and preference of smart ticketing for their journeys.

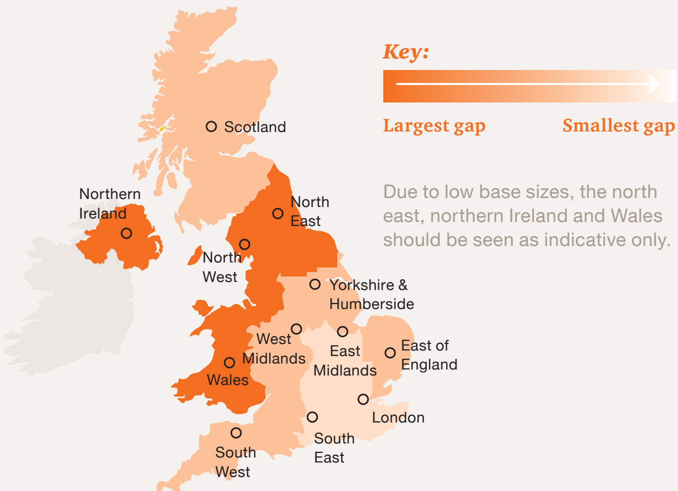


By region

Market penetration in London is almost at saturation point. But there are multiple and significant opportunities for growth of smart elsewhere, with the largest opportunities in the North of England.

Excluding London from the survey data, the smart demand gap increases from 19% to 25%, with 33% of customers outside London currently using a smart option most often, and 58% with a desire to do so.

Figure 3: Map illustrating the size of the smart demand gap by region



1 Sample includes full fare paying public transport customers only travelling on bus, overground train, underground/metro and/or tram. We have excluded from our sample those people who indicated that they currently use or would like to use a concessionary pass (e.g. freedom pass), and therefore do not need to buy a ticket.

2 This year's survey included the option to select 'A concessionary pass e.g. freedom pass'. To allow some form of comparison with previous years' survey results these growth figures are based on data including only customers in the age range 18-62. And only include those who use bus, overground train and/or underground/metro.

3 Sample includes full fare paying public transport customers only travelling on bus, overground train, underground/metro and/or tram. We have excluded from our sample those people who indicated that they currently use or would like to use a concessionary pass (e.g. freedom pass), and therefore do not need to buy a ticket.

Price, trust, flexibility and loyalty are key to incentivise the adoption of smart

Switching to smart
We asked public transport customers who currently use some form of paper tickets what would make them more likely to use a smart ticketing option in future (e.g. Oyster card, smartphone, or contactless debit card).[5]

Only 16% of respondents said that there was nothing that would make them more likely to use a smart option. We have analysed the responses to identify what factors are more likely to encourage the shift to smart.

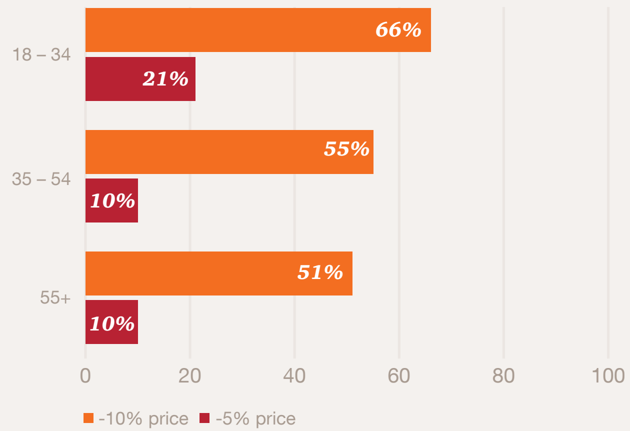
The results show that: ***Lower prices*** are the top identified factor, as long as that reduction is 10% or more. ***Greater trust***, ***improved flexibility*** and ***loyalty*** are also important factors; indeed they are considered more important than a mere 5% price reduction.

Price
More customers will switch to smart at lower prices, but a 5% discount is not enough. *Our survey results indicate that 58% of customers who use paper tickets would switch to smart for a 10% discount (the largest factor influencing behaviour change), but only 15% would consider using more smart products for a 5% discount.*

Younger customers are the most price sensitive. A breakdown by age group shows that customers between 18-34 are most likely to switch to smart for a price reduction. Those in the 35-54 and 55+ age groups would respond almost as strongly to a reduction in price.

Figure 4: Price sensitivity by age group

Results based on the question: 'Which, if any, of the following do you think would make you more likely to use a non-paper "smart" ticket (e.g. Oyster card, smartphone, or contactless debit card) than you are now?'



5 Sample includes public transport customers only travelling on bus, overground train, underground/metro and/or tram who selected one of the following two options when asked: 'what kind of tickets do you use most often for your…. journeys': 1. An ordinary paper ticket (e.g. single, return, season ticket, etc.); 2. A paper ticket which I print off myself.

Trust

Committing to customers that they will always pay the lowest available fare with smart was the second most likely factor to increase uptake. 33% of all paper ticket customers indicated this would make them more likely to choose a smart option. This feature was most popular among frequent and occasional travellers using paper tickets (representing almost two thirds of all paper ticket users).

This is equivalent to the daily capped fares offered in London for those using Oyster or contactless payment, but is not yet offered widely elsewhere.

Flexibility

Options that improve flexibility are third on the list of importance for customers when considering a move to smart. The option to use a ticket on multiple modes of transport would make 30% of paper ticket customers more likely to consider smart.

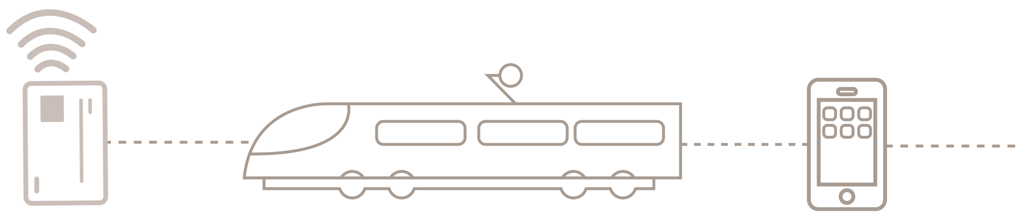
Loyalty

A loyalty scheme also has the ability to influence a switch in almost a quarter of paper ticket customers. 24% indicated that loyalty points to use in exchange for other goods and services would make them more likely to consider smart options. This was most important for younger customers (26% for those in the 18-34 age bracket) and least important for those over 55+ (only 18% considering it a reason to increase their use of smart).

Of all customers using paper tickets **84%** said they could be converted to smart ticketing in the right circumstances.

One quarter of paper ticket customers also said that the option to use a ticket for unlimited travel by train or bus for a set time period would encourage them to switch to smart. This was relatively consistent by age group and more important for very frequent travellers.

The London bus and tram ‘hopper fare’ is an example of this option working in practice. It allows customers to make any number of changes within an hour for a capped fare.



Customers want a variety of ticketing media and purchase channels

Ticketing media
Transport smart cards (e.g. Oyster or the ITSO cards used by many train operators) are still the most used smart ticketing media, but their overall market share has fallen since 2013. If this trend continues, more than half of smart this time next year will be using media other than a transport smart card.[6]

We wanted to look at the types of tickets bought by full fare paying adults, excluding those with concessionary passes. In order to do this we have analysed public transport users aged 18 – 62, as 62 is the mid point between the ages at which concessions become available.

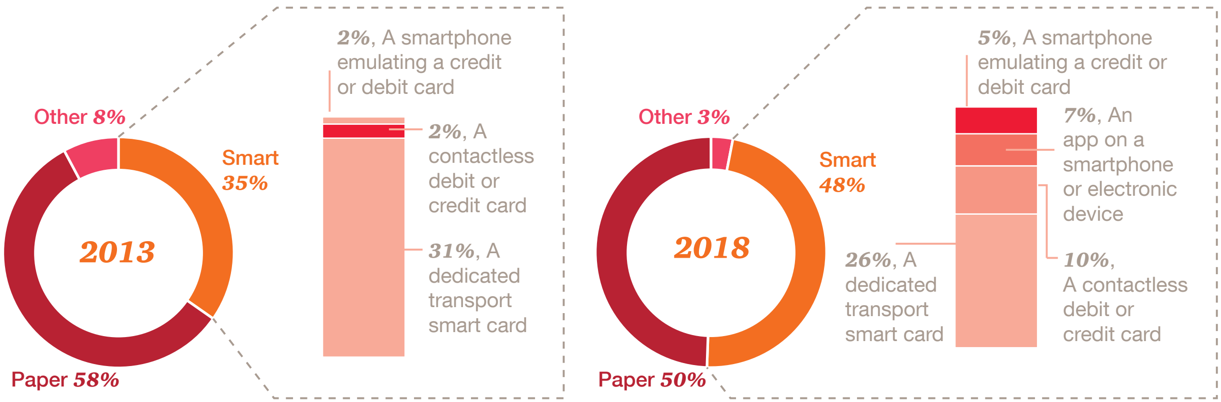
Notably, our survey data shows that contactless debit or credit cards have increased their market share fivefold from 2013 to 2018, albeit from a very low base. Smartphones emulating bankcards (e.g. ApplePay) have also gone up but not to the same extent.

This is being driven by multiple smart initiatives, such as TfL promoting contactless (driving use of contactless bank cards and smart phones emulating these).

The use of smart ticketing media has increased between 2013 (35%) and 2018 (48%) for 18 to 62 year olds.

This has been driven by growth in new forms of smart, partly at the expense of smart cards, resulting in a rich mixture of smart media now in use.

Figure 5: Market share of smart ticketing media (Comparison between 2013 and 2018)

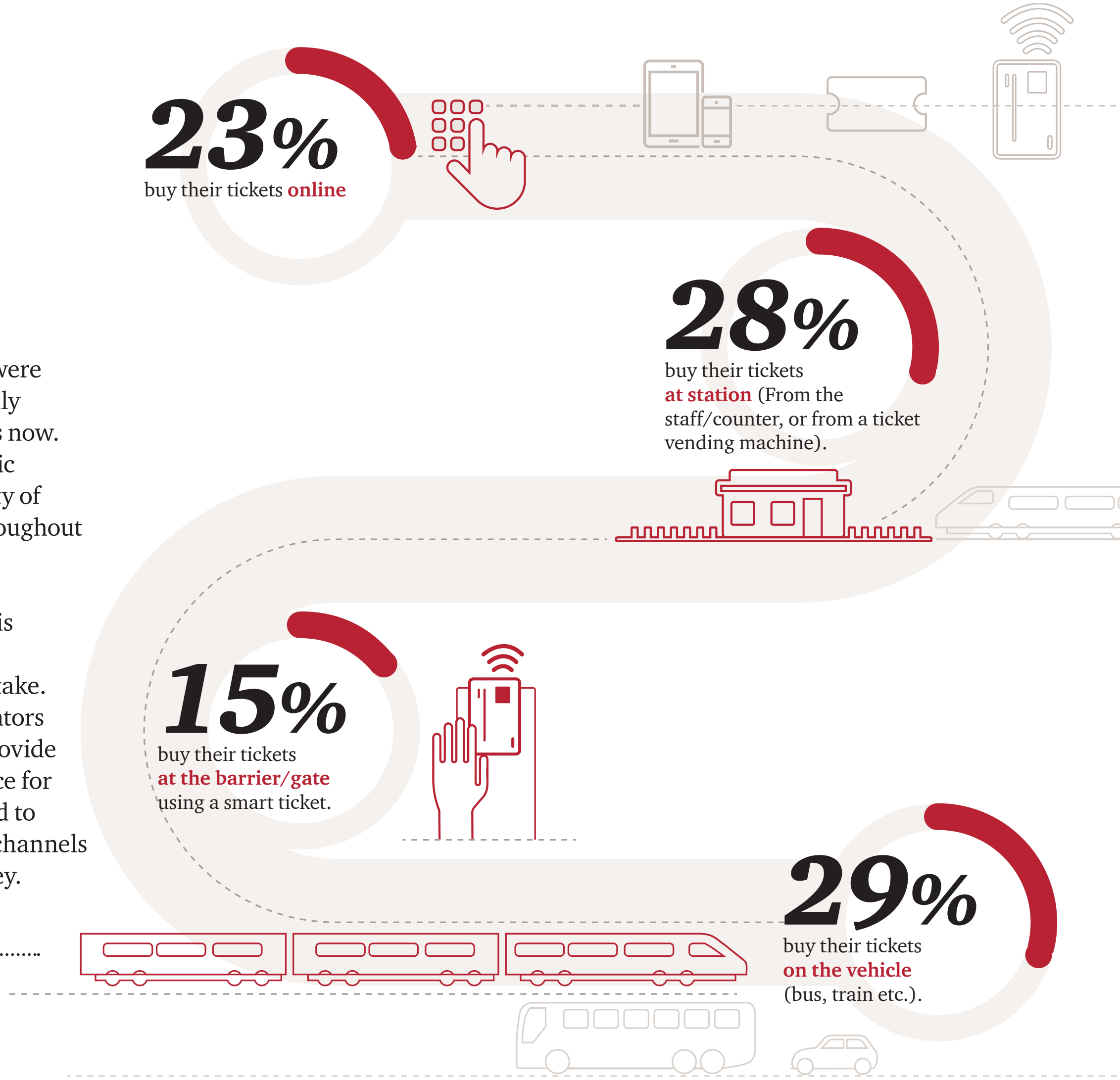


6 Results based on the question: What kind of ticket do you use most often for your…journeys? This is based on those who use bus/ overground / underground aged 18 – 62 with concessionary removed Only those who chose one of the included options were counted in the 'smart' market share for that year. Differences between 2013 and 2018 data due to the option 'An app on a smartphone or electronic device' not being provided in 2013 and this year's survey also included the option to select 'A concessionary pass e.g. freedom pass'.

Purchase channels

Customers in this year's survey were asked to indicate how they usually buy their public transport tickets now. Responses highlighted that public transport customers value variety of purchase channels available throughout their public transport journey.[7]

Where and how passengers buy is likely to depend on what is most convenient for the journey they take. This creates challenges for operators since it means that in order to provide a good smart ticketing experience for all customer segments, they need to provide for a range of purchase channels throughout the passenger journey.



Note: remaining 6% of respondents indicated 'other'.

How can transport operators use this as an opportunity to enhance customer experience?

1. Focus on convenience, making sure that customers are able to access a variety of products available to purchase anytime, anywhere.
2. Offer a range of purchase channels whilst ensuring you provide a consistent experience across all of them.
3. Create awareness of all features of your smart offerings targeted at those groups who will benefit most from switching to smart.

7 Base number of respondents = 1,265 (after excluding those who selected the option 'I do not need to buy a ticket as I have a concessionary pass e.g. freedom pass' and includes only public transport users, defined as those who use, bus, overground train, underground/metro and/or tram).

Prioritising features of your smart offering

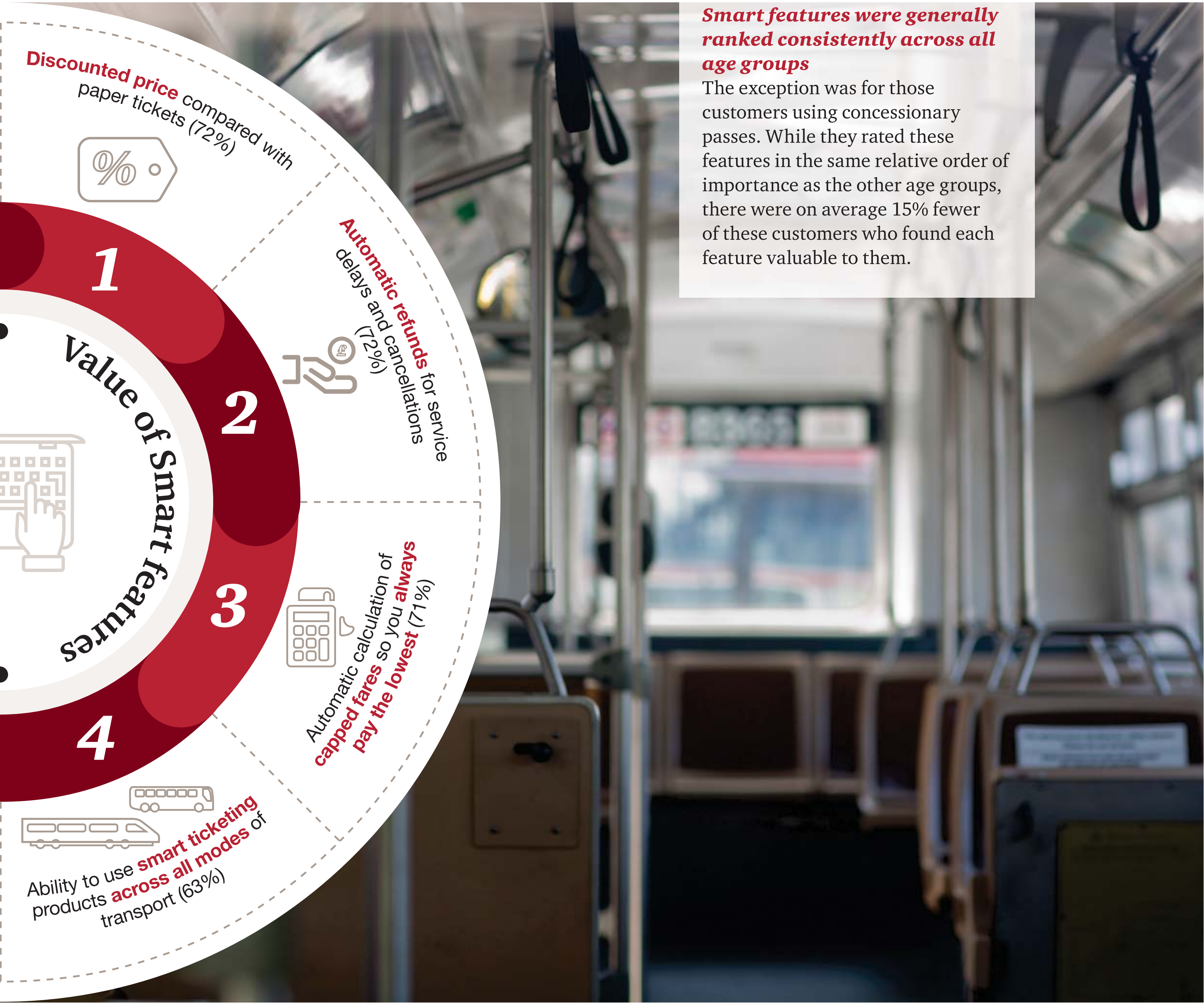
We asked all survey respondents to state how valuable they would find each of the following smart features. The results show that the majority would find all smart features 'valuable' to 'extremely valuable'. However, ***there are certain smart features respondents value over others that should be prioritised by operators when designing and implementing their smart offering.***

The features demanded by respondents in a smart offering align to their incentives for smart adoption.

The top three responses indicated that price, but also fairness and convenience should be important considerations for public transport operators in any smart offering.

In comparison, fewer people surveyed found smart features related to flexibility (e.g. ability to use ticket across all modes), and better information (e.g. transparent and accessible information available on journey and payment history) valuable.

* Value is the % of respondents who rated this feature as either 'valuable' or 'extremely valuable' in their response.



Smart features were generally ranked consistently across all age groups

The exception was for those customers using concessionary passes. While they rated these features in the same relative order of importance as the other age groups, there were on average 15% fewer of these customers who found each feature valuable to them.

A good customer experience goes beyond smart ticketing

People value smart ticketing and it will increase overall uptake. But there are other factors with greater power to incentivise customers to travel more often on public transport.

We asked all our survey respondents (base response 4,005) a more general question for bus and for train separately: 'Which, if any, of the following reasons would encourage you to travel by bus/train more often?'.

Similar to in previous years, our results show that interventions related to price, reliability and convenience are all important for encouraging greater public transport travel.

This year's survey results show that:

Price is by far the most significant factor that could encourage more train travel.

44% of respondents selecting the price option.

This is more than double the second and third most important factors – less crowding and no interchange – each selected by **20% of respondents**. Reliability was fourth on the list, selected by **18% of respondents**.

There are a mix of factors (of relatively equal importance) that would encourage more bus travel.

Lower prices **30%**

Greater reliability **29%**

Speed **29%**

These factors are all likely to encourage **just under one third of the general public to travel by bus more often**. Interchange was fourth on the list, selected by nearly quarter of respondents.

Making it easier to buy a ticket would encourage a smaller increase in public transport travel.

by train **8%**

by bus **7%**

While these percentages are much smaller but still material, if applied to the number of rail and bus trips in the UK each year, this would mean nearly **120 million more train trips** and over **380 million more bus trips every year.**[8] This is the market that smart can be targeting.

8 We have used the following publically reported statistics to calculate these results: annual number of rail journeys in Great Britain (2016-17) = 1.731 billion. Source: Office of Rail and Road, Passenger Rail Usage; 2016-17 Q4 Statistical Release, available at: http://orr.gov.uk/__data/assets/pdf_file/0019/24832/passenger-rail-usage-2016-17-q4.pdf Annual number of bus journeys in the UK (2016/17) = 4.931 billion. Source: Department for Transport 14 December 2017 Statistical Release; available at: https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2017.

Perception of public transport

Survey respondents were asked to state three words that came to mind when they think about their journey by public transport (and they were asked not to include the name of the mode itself).

The most frequently recurring words used by respondents are illustrated in this word cloud.

Our survey results show that the perception of public transport is tied to factors such as comfort, price, reliability cleanliness and convenience.

The top five recurring responses are Overcrowded, Expensive, Unreliable, Dirty, Slow and Inconvenient.

These need to be addressed alongside smart ticketing if the benefits of smart are to be fully realised.

Methodology

This report presents customer insights based on PwC's 2018 survey conducted with Opinium. The survey was conducted in February 2018 under the strict guidelines of the Market Research Society Code of Conduct by Opinium Research, a research and insight generation agency offering a range of qualitative, quantitative, and collaborative methods (www.opinium.co.uk).

Note that in some charts in the report, the figures do not always add up precisely to 100% due to rounding.

The research was conducted with Opinium. Research overview:

Field date:
February 2018

Sample:
4,005 online interviews with UK adults in the UK. (Including: North East, North West, Yorks & Humber, East Midlands, West Midlands, East of England, London, South East, South West, Wales, Scotland and Northern Ireland).

Weighting:
Our sample has been weighted to reflect a representative audience.

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