Similarly, whilst all four countries are currently covered by the EU data protection directive[8], each country is responsible for its enforcement leasing to variations. Evidence suggests that the UK has the least strict data privacy laws of the four countries[9], whereas Germany and Spain are seen as more severe[10]. Use of a city smart card could be perceived to heighten protection of an individual's data as it's held in one place. In addition, smart card technology offers a number of features that can be used to provide or enhance privacy protection[11].

The findings help emergent digitized cities to establish a priority list for the development of city services accessible through a smartcard, and lists identity, concessions, transport and health/social services top of the list of smartcard-accessed services. **While city smartcard initiatives to date have often focused on transport, the integration of a wider range of benefits has been rarer.**

Conclusions

This short research note reveals a widespread enthusiasm among citizens for public service access through a smartcard. In particular, the research observes that **it is the convenience of a single card and its ability to access numerous public services that commands such popularity.**

Citizens like the idea of joined-up government services and they express a desire for service provision centred around the citizen's needs.

From a strategic perspective, access through a single smartcard should appeal to city authorities as well. Not only does it make their city more attractive to potential citizens and visitors, it also helps them to understand how services are being used so that they can be enhanced and improved.

Methodology

Fieldwork was carried out by independent research organisation MindMetre (www.mindmetreresearch.com) during September 2016, in the UK, France, Germany and Spain. A nationally representative sample (by age, gender, region and social group) was interviewed online in each country, with sample volume at 1,000+ per country.
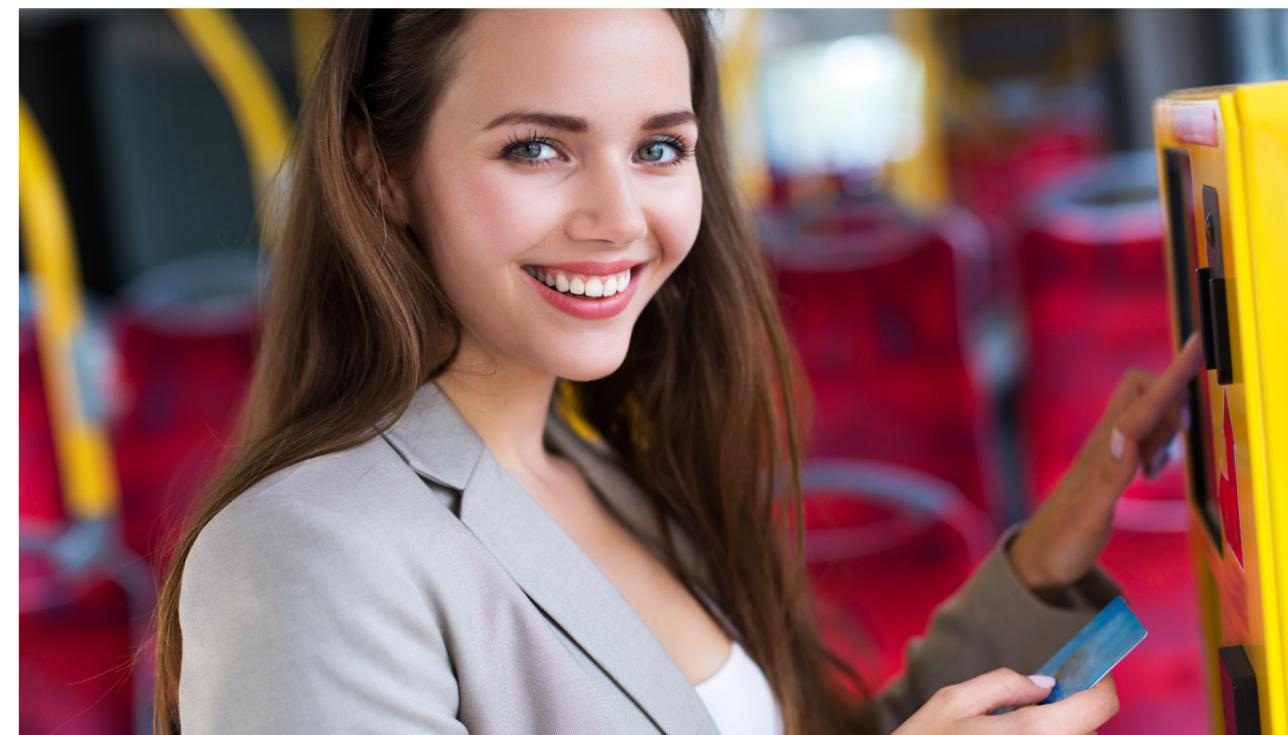
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Smart Citizens want Smartcards

A research note on the priority services that citizens want delivered through a city smartcard

November 2016

Smart Cities Research
Assessment of Priority services that citizens want delivered through a smart card
Commissioned by Matica Technologies ©2016

Management Summary

- Consumers in UK, Germany, France and Spain were asked about their desire for a single city smartcard and the services that a smartcard should allow access to
- Six in every 10 citizens in all four countries feel it is essential that their city creates a single city smartcard
- Top priorities for public services delivered through the smartcard are: identity validation; concessions; transport; health & social services
- 15 public services were identified by more than 60% of citizens as 'very useful' 'extremely useful' or 'crucial' for delivery through a smart city smartcard
- Citizens value access to multiple public services through a single smartcard, regardless of the government department or authority in charge of delivering those services. People want a citizen-centric system

Digitally-enabled Cities on the Rise

In the last 20 years, an increasing number of cities around the western world have been investing in becoming 'smart' through digitization. Wireless technology means that physical objects – such as machines, vehicles, streets, traffic lights, water (supply) plants, CCTV – can be equipped with sensors that allow them, their performance, or the environment around them, to be remotely monitored and managed through the 'Internet of Things' (IoT). Digitization means that people, IT and objects can be connected in order to deliver better, quicker public services at a reduced cost. For example, citizens can get their questions answered online, without having to interact with a public sector employee, thereby reducing the cost of service delivery.

One way of providing access to these public services that is becoming increasingly popular is the use of a singular smart card. For example, Barcelona is rolling out an 'all-in-one' transport access card. This enables citizens and visitors to use the metro, buses, rent bicycles and pay motorway tolls through the use of one card[1]. In Singapore, the idea of a travel smart card has been taken a step further and is being used to reduce congestion[2].

As the Singapore example shows, 'smart' initiatives are driven by hard and practical objectives. Becoming a smart, digitized city is not simply a branding exercise. A review of related literature reveals a consensus about goals of smart city transformation:

- Better – and more efficient – citizen access to public services, helping to use scarce public funds more efficiently
- Improved services for business in order to attract firms to the city (such as telecoms, transport, infrastructure)
- An enhanced 'living environment' to attract talented people and boost economic growth
- Cleaner cities - improved environmental standards, reduced pollution and energy efficiency
- Improved security (from human and natural threats)

Cities are becoming increasingly driven to, and skilled at, running their operations as a business. Digital transformation is as important to cities as it is to business and this ambition to be more competitive and sustainable is underpinned by becoming 'smart'. Cities want to enhance the quality of life by making services better and more readily available, and to attract business and talent; they want to grow economically and culturally. Ultimately, cities want to identify the most efficient way of allocating expenditure of funds and resources.

## Priority Services through the City Smartcard

As cities seek to achieve 'digital transformation', smart cards are starting to be used for more than transport. Many public services are delivered through physical locations and facilities and cities are increasingly using smart cards to manage citizens' access (and, indeed, to police citizens' allowances and rights).

Across Europe, there is a growing number of cities where the smartcard has been chosen as the technology most accessible to citizens of all backgrounds, financial means and social groups[3]. In order to learn more about the city services and the use of city smartcards, Matica commissioned study by MindMetre Research. The aim was to understand the value that citizens in the UK, Germany, France and Spain place upon accessing public services through their 'city smartcard'.

First, the significant majority of respondents from all four of the countries supported the initiative to move to smartcard-accessed smart city services. Further, **Citizens want to be able to collect, renew or replace their card at a convenient location – increasingly possible through instant card issuance technology.**

Research Questionnaire

I would want to be able to pick up my city/locality smartcard – or replace a damaged card – at a time and in a nearby location that suited me (% agree)
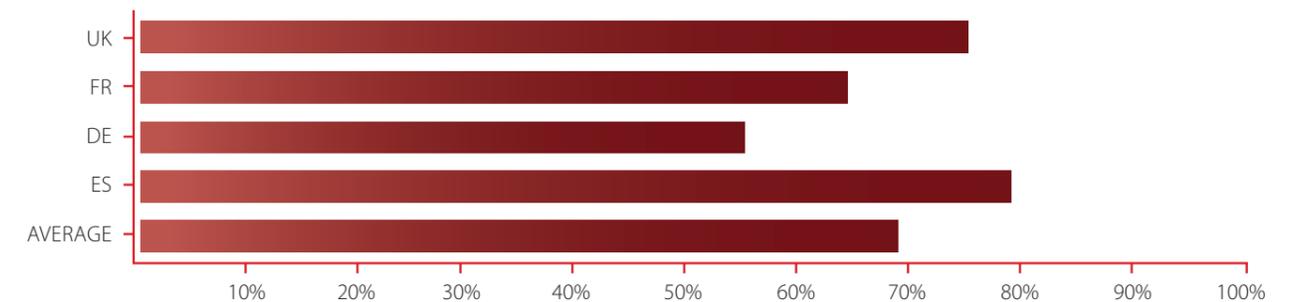
A range of possible smart-card enabled functions and city services were put to a nationally representative sample of citizens[4] in each country to rank for usefulness. The percentage of respondents ranking the smartcard-enabled service 'very useful', 'extremely useful' or 'crucial' is shown in the table below.

Questions	UK	FR	DE	ES	AVERAGE
Prove and validate my identity	83%	71%	75%	84%	78%
Obtain discounts and concessions (resident, elderly, student, families, disabled, etc)	79%	69%	77%	86%	78%
Use local transport	76%	71%	75%	83%	76%
Access and use health and social services	78%	69%	68%	84%	75%
Access and use parking facilities	75%	68%	76%	78%	74%
Access and use leisure facilities	74%	66%	72%	78%	73%
Access and use libraries	71%	62%	67%	79%	70%
Access and use museums	70%	63%	65%	79%	69%
Obtain benefits (such as welfare/social benefits)	63%	58%	76%	80%	69%
Obtain permits	67%	57%	70%	79%	68%
Access and use parks and gardens	68%	61%	63%	67%	65%
Process tax payments	64%	59%	57%	79%	65%
Access and use social centres and clubs	62%	55%	61%	74%	63%
Access and use education services (university)	56%	52%	60%	77%	61%
Process fines payments	55%	59%	54%	77%	61%
Access and use education services (school)	52%	53%	54%	75%	59%

Country analysis

One of the most telling findings from these results is the enthusiasm of the majority for all listed city services being enabled through the secure key of a single smartcard. Nevertheless, comparing responses of four European countries shows some subtle yet interesting differences.

For example, Spanish respondents were the most enthusiastic about each of the services mentioned. This suggests that the Spanish are more open to the idea of one smart card that covers many aspects of their daily lives. Perhaps this is down to Spain leading smart city development[5] in Europe. Indeed, Santander has been dubbed one of the 'smartest' smart cities, and has been used by the EU to test the latest smart city technology[6]. France is the least enthusiastic of the four (yet still scores overwhelmingly highly). This could be influenced by France's early-mover experiments with smartcards, which may have been less successful because they occurred before today's Internet of Things (IoT) connectivity. In addition, France has a lower population density than the other three countries[7] and this might explain a lower perception of 'need' for a multi-functional smart card.