



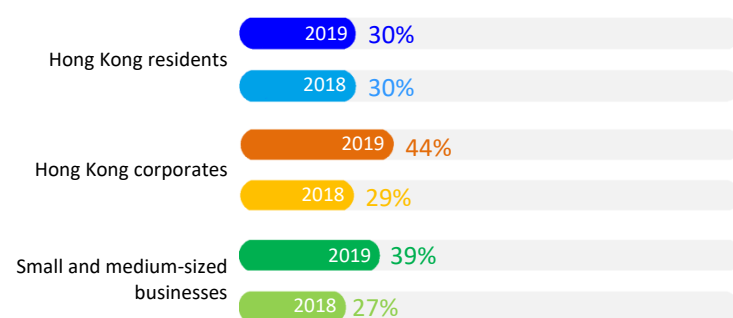
## Smart city development in Hong Kong

**Figure 1 – Development of ICT infrastructure in Hong Kong, 2011-2020**

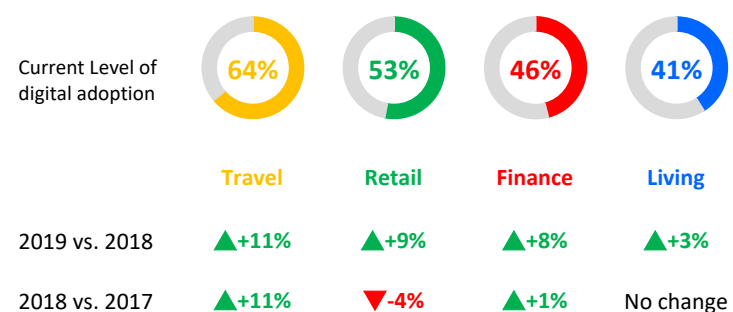
|   | 2011   | 2013 | 2015 | 2017 | 2019 | 2020                |
|---|--|------|------|------|------|---------------------|
| Mobile subscription penetration rate (%)                              | 114%   | 171% | 202% | 239% | 316% | 280% (July)         |
| Household broadband penetration rate (%)                              | 86%  | 83%  | 84%  | 93%  | 94%  | 95% (Sept)          |
| Customer access via broadband networks (exabytes) <sup>(a), (b)</sup> | 1.9  | 2.6  | 3.5  | 6.0  | 7.8  | 7.4 (Jan-Sept)      |
| Proportion of business establishments using the Internet (%)          | N.A. <sup>(c)</sup>                              | 75%  | 80%  | 88%  | 90%  | N.A. <sup>(d)</sup> |
| 5G technology   | Commercial launch of 5G services on 1 April 2020 |      |      |      |      |                     |

- Notes: (a) This indicator shows Internet traffic volume as measured by broadband usage of internet users. Broadband means the capacity to transmit data at the rate of 1 Mbps or above.  
 (b) 1 exabyte = 1 million terabytes.  
 (c) The Census and Statistics Department did not conduct any survey on the use of ICT by business in 2011.  
 (d) The relevant survey is conducted biennially.

**Figure 2 – Perception of Hong Kong as a Smart City**



**Figure 3 – Digital adoption in Hong Kong, 2019**



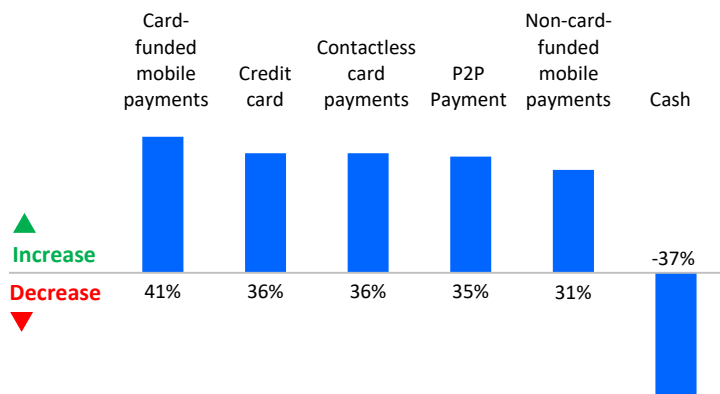
Note: Level of digital adoption is defined as the average usage percentage of digital activities under each category.

## Highlights

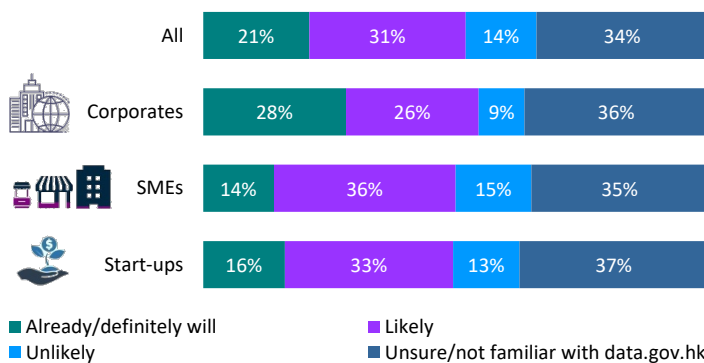
- Transforming into a smart city has become a global trend in city planning and development, featuring the use of information and communications technologies ("ICT") for more efficient management of a city's services and resources. A smart city encompasses a range of different aspects including smart living, smart mobility, smart government and smart environment.
- Hong Kong is well-positioned to pursue smart city development in view of its advanced ICT infrastructure developed over the years. Currently, it offers one of the world's most affordable Internet connection and mobile phone services with penetration rates being among the highest in the world (**Figure 1**). The commercial launch of 5G technology in April 2020 has provided Hong Kong with the capacity to enable additional smart city capabilities and applications that require high-bandwidth and low-latency.
- However, Hong Kong did not score high in the surveys on smart city development. Internationally, Hong Kong ranked 87<sup>th</sup> in a survey conducted by a Swedish smart parking company in 2019 that assessed the top 100 smart cities around the world along 24 factors related to smart city technology. Added to this, Hong Kong only came in the 32<sup>nd</sup> place in the 2020 Smart City Index, compiled by the International Institute for Management Development which ranked 109 cities on their integration of smart technologies. Domestically, only one third of local residents and some 40% of local companies surveyed considered Hong Kong a smart city, according to a survey report released by Google Hong Kong in 2019 (**Figure 2**).
- Notwithstanding the above, there are signs of increasingly digital adoption across four key sectors of Hong Kong's economy – Travel, Retail, Finance and Living. In 2019, they all saw improvement in digital adoption rate after staging varied performance a year earlier (**Figure 3**). Greater digital adoption should augur well for Hong Kong's development into a smarter digital city.

## Smart city development in Hong Kong (cont'd)

**Figure 4 – Net increase/decrease of payment method usage during COVID-19 (January - August 2020) in Hong Kong**

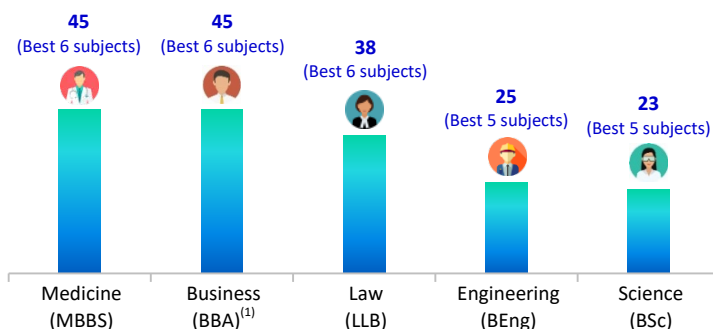


**Figure 5 – Utilization of the data.gov.hk platform<sup>(1)</sup>**



Note: (1) DATA.GOV.HK is coordinated by the Office of the Government Chief Information Officer with the participation of different government departments and public/private organizations.

**Figure 6 – Median entrance scores of selected disciplines in the University of Hong Kong in 2020**



Note: (1) Bachelor of Business Administration in International Business and Global Management.

## Highlights

- The recent outbreak of COVID-19 and the resulting use of technology in combating the virus have further fuelled the development of Hong Kong as a smart city. In particular, COVID-19 has accelerated the use of digital payment technology which forms a critical part of a smart city backbone. Under the pandemic, local consumers are now spending more with contactless and cashless payment options than ever before, as physical handling of coins and notes is often viewed as a viral risk (Figure 4).
- Most recently, the Government released the Smart City Blueprint for Hong Kong 2.0 in December 2020 with more than 130 smart city initiatives to expand and enhance city management measures and services. Earlier on, the 2020-2021 Budget has also unveiled a number of policy initiatives to further promote smart city development in Hong Kong, include launching a territory-wide 3D digital map and establishing the first Geospatial Lab to promote the application of spatial data.
- Amid the positive developments, there might be still a couple of areas that Hong Kong needs to address for its transformation into a more advanced and liveable smart city. First, sharing open data has been deemed to be an essential element of a smart city. Yet, according to a survey released in April 2020, only 21% of respondents were currently using the Government's open data platform or definitely plan to do so in the next year (Figure 5). However, 48% of respondents were either unfamiliar with the platform or unlikely to use it.
- Secondly, the success of smart city development also depends on a city's ability to develop a strong technology talent base. Of particular importance is attracting students with high academic achievements to pursue a STEM-related undergraduate degree in universities. Instead of choosing STEM disciplines, many high-performing students, however, opt for undergraduate degrees in medicine, business and law that are considered to offer more attractive career prospects (Figure 6).

Data sources: Latest figures from Census and Statistics Department, Office for the Communications Authority, Google Hong Kong, Visa Inc., KPMG and JUPAS.

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