Corporate Innovation in the future : Facial Recognition

Chan Wang Hei (160738713) Accounting and Finance. Email : w.h.chan@newcastle.ac.uk
Dr Yang Zhao : yang.zhao@ncl.ac.uk

Newcastle University

Introduction

As time passes, technologies have been evolving and the use of facial recognition technology have already been adapted by and used within the China Society invarious ways.
For example education, purchasing within markets, and surveillance, boarder controls and criminal spotting using about 176 million surveillance camera in operation and are expected to rise.

Aims

- To find out how facial recognition technology have been used inside the market and in the society.
- Analyse the effects of the wide spread usage of facial recognition.
- Prediction of how facial recognition will be used in the future and the challenges.
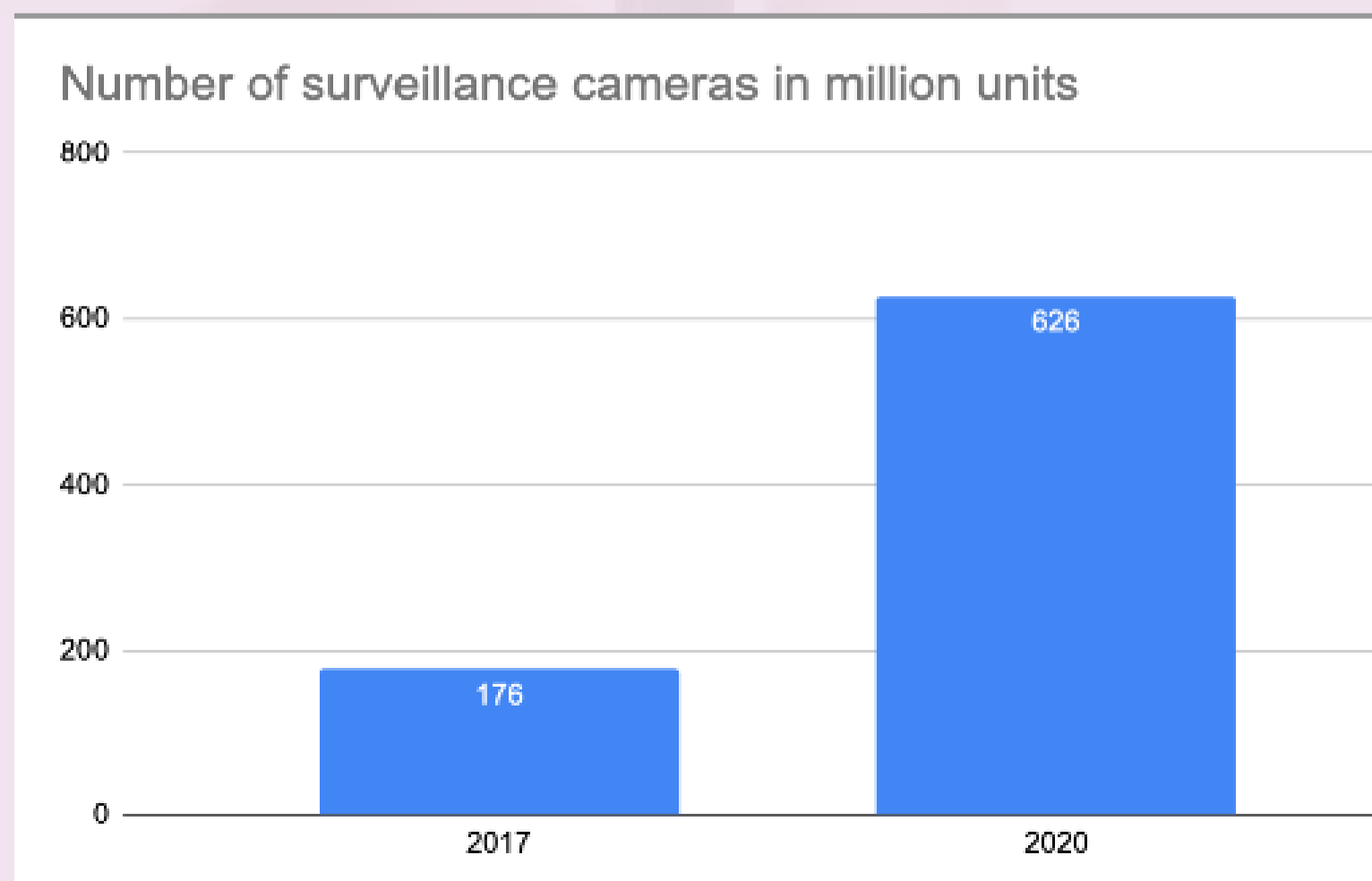
Methods

How: data collected using second hand data

Where : Google , South China Morning Post , BBC

When : 2019 Summer

Results:

History of facial recognition camera usuage in china

- 1.1million cameras were installed in 2012,with plans to increase the number to two million by 2015 in 1 single city inside china. At the same time, approximately 40 million surveillance cameras were active in the United States during 2014.

- By 2018, the Chinese government had installed close to 200 million surveillance cameras across the country which amounts to approximately one camera per seven citizens, with a plan to have 626 million installed by 2020.

- By 2020, the Chinese government expects to integrate private and public cameras, leveraging the country's technological expertise in facial recognition technology to build a nation-wide surveillance network.

Number of surveillance cameras in million units

The wide usage of facial recognition in china

1. Eduction/Attendence and progress monitoring :

- Universities in china use facial recognition technology to track absences. Students stand in front of an interactive screen when arriving for lectures to check for attendance.

- Results have been promising in helping lecturers to identify students who regularly skipped classes, also time saving and convenient according to lectuers.
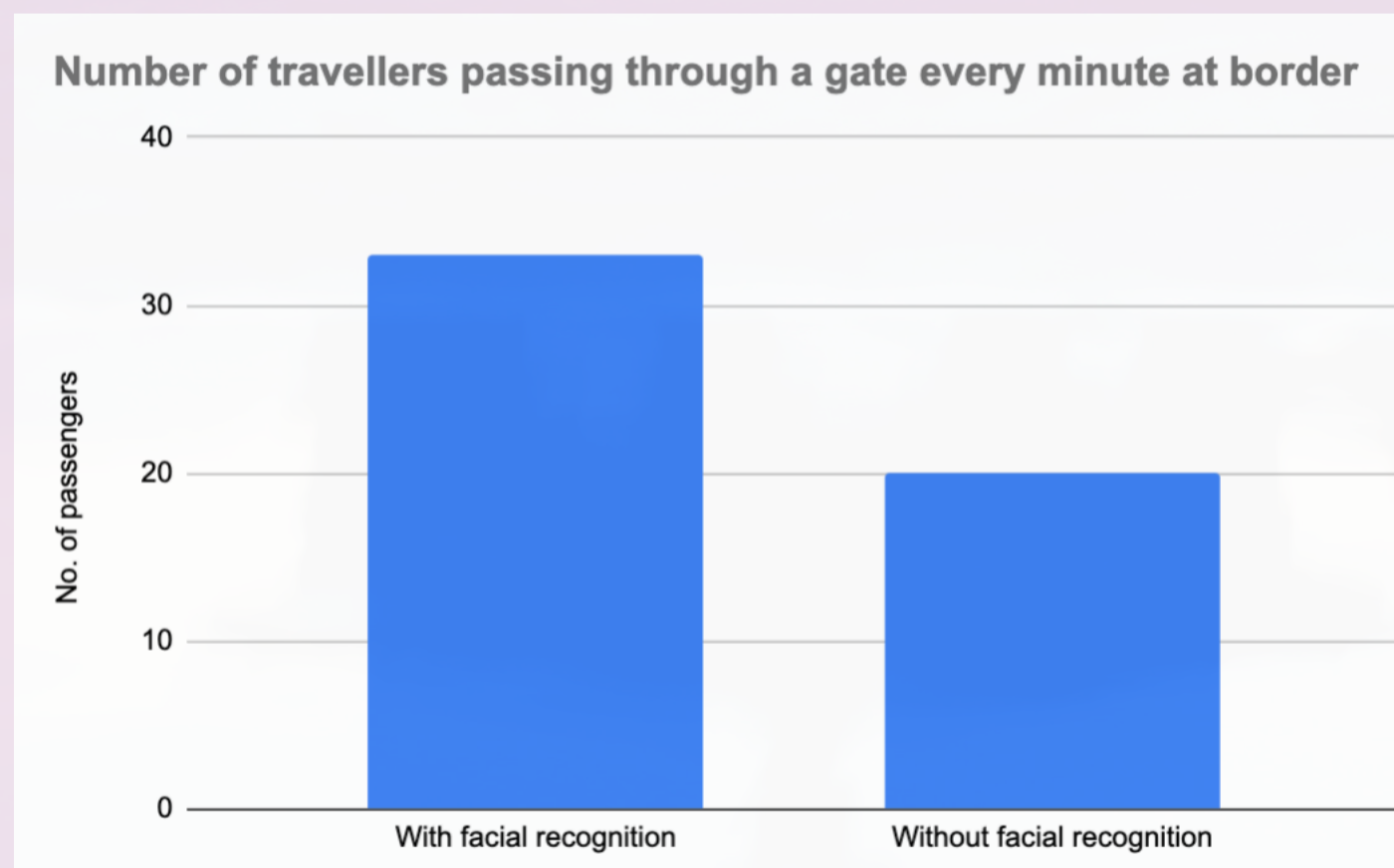
2. Purchases within markets :

- Chinese restaurants starts to apply facial recognition technology into product purchasing, combining to the China online payment method known as "Alipay" developing a "smart Business area". It started in a street in china which took priority in expanding the innovation way of "paying with your face" and now have been used widely inside major cities such as Shanghai and Bei Jing in China.

- This reduces time for getting cash and changes both for customers and shops, speeding up the paying process and Comparing to the previous QR code payment, this method of payment is more convenient, all customers have to do is just look at the camera.

3. Border Controls

- In a few airport boarders of main cities in China, passengers are allowed to verify identities through facial scans against the documented images in the database before boarding their flights. This speeds up the security and screening progress, also seeks to free up workers for other tasks within border.

- The facial recognition system allows 33 people to pass through a gate every minute, compared with 20 people when using conventional means, which speeds up 65%.
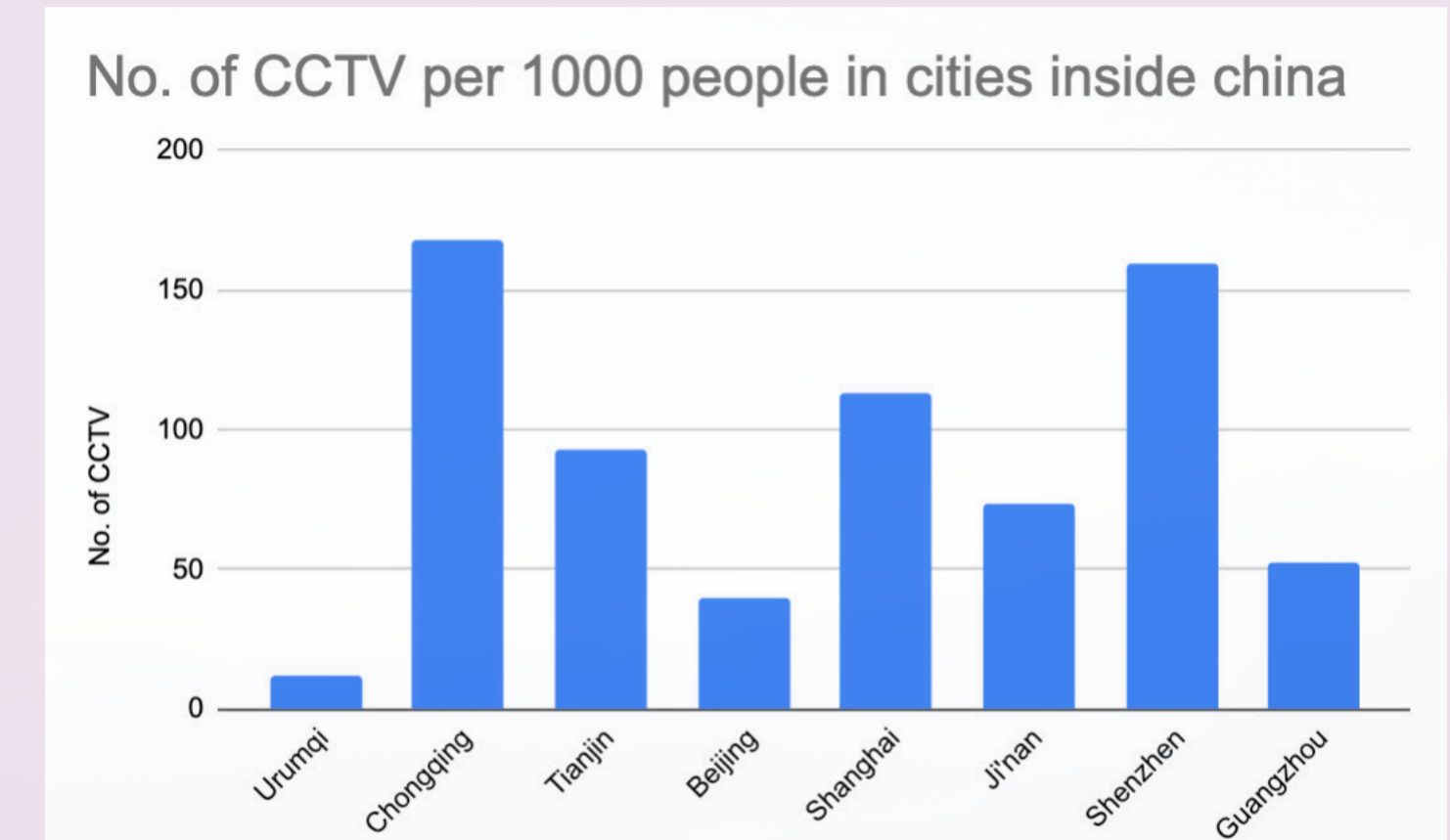
Number of travellers passing through a gate every minute at border

4. Criminal Spotting

- Facial Recognition technology have also been used on streets by street cameras installed in every road in some main cities inorder to monitor the situation of the road and streets.

- More than 40 municipal police forces, known locally as Public Security Bureaus, have purchased surveillance systems from SenseTime. Its tech has helped Guangzhou police identify more than 2,000 suspects, arrest more than 800 people, and solve close to 100 cases since it was deployed in the city last year.

Eight of the top 10 most-surveilled cities are in China

- Chongqing, a Chinese city with 168.03 CCTV cameras per thousand people, meaning 1 camera watches 6 citizens within the city, was the most-surveilled city in the world in 2018

No. of CCTV per 1000 people in cities inside china

Discussion

Facial recognition proved efficiency, time and effort saving and convenient as we can see form the results and effect of using this technology with in citizens daily life. Purchasing without cash have already been known for a long time since the usage credit card started, but now with the help of facial recognition, purchasing became more efficient and citizens can already purchase from shops without phones and wallets. Furthermore, in the perspective of criminal spotting, using the cameras on streets and roads proved effective, the work load of a single law enforcement has been reduced and free up workers for another department.

Although Facial Recognition have proved efficiency and convenience, there are still problem that might arises in the future if this technology is used throughout whole China, firstly the reduce of job opportunities, when facial recognition is used, it speeds up the progress and customers can purchase products and even get pass the border themselves, this increase the ability for the shop or airport to handle larger amount of passengers but there will be no essential needs for more staff and there might be reduction of job opportunities. Secondly, ethical issues, some citizens show uncomfortable and do not like the way they are monitored by cameras for whatever they do whenever they are on streets, feeling like living under cameras gives restriction.

Conclusion

Facial recognition technologies have proved useful and it will be used more widely when time passes, it shows efficiency , convenience , also time and effort saving. This brings the society and country to another level with such high and efficient technology.

Reference
- https://www.scmp.com/podcasts/article/3010673/inside-china-tech-how-facial-recognition-technology-facilitates-chinas
- https://www.scmp.com/news/china/society/article/2115094/china-build-giant-facial-recognition-database-identify-any