

Bangkokians' confidence in Bangkok Metropolitan Administration (BMA)'s CCTV

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Abstract

This quantitative research aims to (1) survey Bangkok Metropolitan residents about their confidence in the CCTV installation for crime prevention policy in the Bangkok Metropolitan area, (2) analyze confidence levels of Bangkok Metropolitan residents on the policy of CCTV installation for crime prevention in the Bangkok Metropolitan area, and (3) determine the cause of problems and offer guidance to solve problems created by the policy. The main research tool used in this research was a questionnaire created to survey Bangkok Metropolitan residents; the data was gathered by collecting details from the district office such as name and household registration from selected Bangkok Metropolitan districts. T-test, F-test, means, and standard deviation (S.D.) were calculated, and the level of significance for the data analysis was .05. The results of this research are as follows.

Overall, the level of confidence of the Bangkok Metropolitan residents had on the policy of CCTV installation for crime prevention in Bangkok Metropolitan area was at moderate level, but each item had 4 low confidence ratings, low confidence in the ability of the system to archive the CCTV footage, low confidence on whether the amount of CCTV cameras installed in each area was sufficient, low confidence in whether the amount of personnel was sufficient enough to support the monitoring of criminal activities, and low confidence in the ability of the relevant personnel and police officials to work together in each district.

Regarding the analysis of the confidence levels of Bangkok Metropolitan residents on the policy of CCTV installation for crime prevention in the Bangkok Metropolitan area, the results show that personal factors such as age, educational level, career, salary and length of residency in the Bangkok Metropolitan area affected the confidence of Bangkok Metropolitan residents on the policy of CCTV installation for crime prevention in the Bangkok Metropolitan area. The statistical difference was .05.

Regarding suggestions to improve the CCTV system, the results show that a system should be created to archive all of the CCTV video footage, there should be sufficient CCTV cameras installed in each district, there should be enough personnel to monitor the cameras, a control room to monitor all 50 Bangkok Metropolitan districts should be built, police officials need the training to monitor crime more effectively, and police officials should work more closely with Bangkok Metropolitan personnel to monitor criminal activities.

Keywords: *Bangkok, Bangkok Metropolitan Administration (BMA), CCTV, crime*

1. Introduction

CCTV (Closed Circuit Television) is one of the several options countries can use for the purpose of crime prevention. However, there are still questions on the operation of such technology depending on the circumstances of each country. In Thailand, CCTV cameras have long been installed in many places such as banks, shops, convenience stores. However, their usage was concentrated in the private sector area only. The policy to implement surveillance cameras to control crime in the city by the state government occurred with recent policies of Mr. Sukhumbhand Paribatra, the Bangkok Governor. The policy was to install 20,000 cameras across Bangkok before the end of 2012. In 2014, Mr. Wasan Meewong, Advisor of the Governor of Bangkok, said that "At the moment, Bangkok has CCTVs in various points, with the number of the camera being 47,000. 20,000 cameras were installed before the end of 2012, and another 27,000 were installed this year" (Dailynews, 2013). As mentioned, CCTVs were implemented to control crime and increase the level of security in Bangkok. There are doubts, however, in the implementation of such technology to deal with the crimes in Bangkok especially, in terms of confidence on the Bangkok Metropolitan Administration's (BMA) CCTV. In 2011, there was a situation that affected the confidence of the people of Bangkok in CCTV when Bangkokians found that CCTV cameras installed by the BMA in several points actually had no cameras in the CCTV housing. At the same time, they found that there were too many dummy or fake cameras installed in many areas (Matichon Online, 2011). Suspicions raised in

this issue has culminated the research question: What is the level of public confidence in the policy on the implementation of CCTV system for controlling crime in Bangkok?

2. Literature & Theory

2.1 Security System and Roles of CCTV Cameras

Security means protection of persons and the society from any danger. Security also includes the control of the safety of people in the society, including the prevention of danger outside the society (Dalby, 2003). As for security models in each society, the implementation methods on the safety aspects of the society were different. Zedner (2003) said that security method of each society came from the culture, politics, economy, and social condition which would lead to different security guidelines or plans. Zedner said that every society had two main objectives of security as follows: (1) to enable people in the society to peacefully live without external threats; (2) To make people in the society have no anxiety about the insecurity of life and property. This indicated that different security duties in these two objectives brought about the establishment of two main security organizations consisting of police officers and military officers in each state.

2.1.1 Changes in security system

“External threat”. In the past, the conflict between the countries would be widely expressed to the public. The threat of each country was militarily done by using a military weapon to attack the opposite side. When the war ended, the external conflict was also expressed in the model of terrorism. Terrorism is currently a major factor of external threat in several countries. Security guidelines or policy in each country also changed. Protection of the country could not be done by positioning forces around the country because terrorists could infiltrate that country and cause violent action without the government’s notice. Existing security guidelines against the threat of terrorism increasingly challenge security capabilities of each country. The government was unable to know clearly where and how enemies came because enemies could infiltrate the country at any point. The government had to, therefore, find ways to protect people from any harm to make sure that its people would not be threatened by terrorism (Krahman, 2005).

“Internal threat” is the crime committed in the society by people in the society or people from other societies who lived in that society (Zedner, 2003). In the past, most crimes were street crimes. Various offences such as assault, murder, rape, stealing, robbing were not complicated and did not require high technology to operate. A person or a few individuals might just simply commit the crime. Criminals were not highly educated. In the present time, criminal modus operandi is more complicated. Criminals gathered in the group as organized crime, with international crime network or transnational crime also present. A new model of the offence occurred. Development of technology, especially computer, resulted in a lot of new models of crime. Criminals might be educated or have social opportunities enabling them to commit an economic crime or committed white collar crime. As for model and characteristic of internal threats or crime in the past, those current threats may not stem from an offence of people living in the country but boundless crime such as committing crime online or transnational crime. Those threats might be instigated by organized crime with its network staying outside the country.

It was found that models of internal and external threats defined by Zedner (2003) also changed and were complicated. At present, it may be said that we cannot separate internal threats from external threats. Therefore, the current security system has to be developed to keep up with the changing characteristics of threats. As for the model of security at present, every agency and every organization have to cooperate in preventing various threats to make people in that country live peacefully. As for changes of the society, crime, and security system, technological development has been significant to various changes from the past to the present. There were technological advantages and disadvantages. When criminals learnt and illegally used technology, people with duties to control crime should develop their knowledge and use the new technology to fight against crime to appropriately control crime and make people in the society live peacefully.

2.1.2 Roles of CCTV cameras in security

Use of CCTV cameras is the crime-controlling method recognized in several countries around the world. However, the use of CCTV cameras stemmed from the expression of fear of threats outside and inside the society, which affected the loss of privacy in public places of the people in that society (Schuilenburg, 2008). Many technologies are currently used for preventing crime. For example, there was a use of offender database system for the compiling history of offenders, offence models, warrant of arrest, or various information of offenders, to allow for convenient searching and examination of offence for each person. New technology was used for developing forensic science system. For example, more modern fingerprint examination system could quickly compare hidden fingerprint collected in the scene of action and the fingerprint from database. DNA examination system could examine physical evidence derived from crime scene and DNA of suspects. As for use of technology mentioned in this article, the researcher focused on roles of CCTV cameras because use of CCTV cameras to control crime played an important role and was used as the main measure to prevent crime in several countries around the world. CCTV camera was a category of modern technology used for inspecting and observing movement and behaviour of people in the community. The purpose of using CCTV cameras was as follows:

“CCTV cameras aimed to study the normal and abnormal action of people in the society for managing or determining policy on prevention and suppression of crime and other policies in the society.”

(Surette, 2006)

CCTV cameras initially used during the 2nd World War in 1942 aimed to observe missile firing of Germany. As for the role of CCTV cameras in the justice process, CCTV cameras were used for watching the behaviour of prisoners in jails for preventing escape (Norris & Armstrong, 1999). Use of technology to develop security caused a rapid change in the 60s. New York, the United States of America was the first city using the mentioned technology to control crime, with the installation of CCTV cameras in the economic zone in 1968. The United Kingdom used CCTV cameras to carry out security in banks and shops. The first city using this system was Norfolk (Staff, 2007). After that, several developed countries widely used CCTV cameras. The policy of using CCTV cameras to control crime was initiated in Bournemouth, England, a coastal resort town, where there were a lot of domestic and foreign tourists frequently causing chaos at night. CCTV cameras were, therefore, used as the policy to manage people and control the crime which often occurred after tourists left various service centers at night (Norris & Armstrong, 1999). CCTV cameras were used for inspecting and controlling crime in several places. During the mentioned period, CCTV cameras were increasingly used in public areas replacing the number of human resources and increasing the standard of keeping peace and safety in the community.

In the United Kingdom, there was an event affecting change of security system. On 24th April 1993, there was an explosion at Bishop Gate, an important financial business zone in London. This incident brought even more roles of CCTV cameras and stricter security measures. After that, “Ring of Steel Measure” was used by the government resulting in London being the most controlled city in the world (Fussey, 2007). Later, CCTV cameras received interest and rapidly increased in numbers after the terrorism in New York on 11th September 2000 or “911 incident” when terrorists seized and crashed the airplane into the World Trade Center Building in New York and Pentagon Building in Washington D.C. This terrorist attack affected fear of terrorism and fear of crime around the world, leading to the stricter security system. At present, the growth of CCTV cameras in the United Kingdom continuously increases. In 2013, 5.9 million CCTV cameras were used for controlling crime (The Telegraph, 2013).

In Thailand, CCTV cameras were mostly used by the private sector. The first state agency using CCTV cameras in the security system was the Bank of Thailand, followed by Expressway Authority of Thailand, Donmuang Airport, BTS Sky Train, Central Traffic Police Division, and Bangkok Metropolitan Administration. The Central Traffic Police Division had first installed 16 CCTV cameras on the roads in 1993. Later, Police Department (Royal Thai Police in the present time) transferred the job of installation to Bangkok Metropolitan Administration due to lack of budget on maintenance. As Bangkok Metropolitan Administration had more budget on investment, it had to organize CCTV cameras installation system. In

1996, 44 CCTV cameras were additionally installed. The main purpose of using CCTV cameras during the mentioned period was to solve traffic problems in Bangkok (Trimek, 2010).

Initially aimed at solving traffic problems in Bangkok, the main purpose of CCTVs nowadays is to prevent and suppress crime. In the middle of 2006, Bangkok Police Station, in cooperation with Kasetsart University, organized Safety Zone Project by initially providing more security in Kasetsart University, Bangkok Campus to reduce the fear of students and staff and decrease crime rate by improving the security of places where crime might occur. CCTV cameras system was used for solving the criminal problem (Prachachart-Thurakij, 2006). After that, Metropolitan Police Bureau in cooperation with True Internet Co., Ltd and Law Enforcement Technology Solution Co., Ltd organized Safety Zone Project in 88 Police Stations throughout Bangkok by focusing on educational institutes, community, workplace, and public areas as the safety zones. CCTV cameras were installed in 120 zones around Bangkok. The government and the private sector cooperated in implementing the mentioned project by installing CCTV cameras for controlling crime in Bangkok (True Internet, 2006). However, as Metropolitan Police Bureau did not have the budget for maintenance, it assigned Bangkok Metropolitan Administration to be responsible for some cameras.

On 31st December 2006, there were approximately eight explosions in various places of Bangkok including Victory Monument, Khlong Toei, Saphan Khwai, Khae Rai Intersection, Sukhumvit Road, and Major Ratchayothin, killing three people and injuring 38 (BBC, 2007). This made Bangkok Governor saw the importance of stricter security and use of CCTV cameras. BMA was determined to pursue the policy of installing CCTV cameras to increase the security of people in Bangkok. The mentioned policy began the implementation in 2007 under the project "Safety Bangkok". In 2012, there was a policy to install 20,000 CCTV cameras by mainly installing at the intersection, harmful alleys, community, and various important places in Bangkok (Trimek, 2010).

CCTV cameras were used for watching crime, decreasing the deployment of some police officers, and increasing the reliance on technology. CCTV cameras were able to threaten and suppress offence of criminals and help arrest offenders. According to the information above, CCTV cameras played an important role in the past era. However, trust and acceptance of the mentioned technology were different in each context of the society.

2.1.3 Confidence in CCTV cameras

Confidence involved the feeling resulting from the experience receiving from persons or organizations in various aspects such as honesty, justice, management capability, social responsibility. It might also be positive expectation on persons or organizations. Confidence or reliability was an important factor which affected working. The confidence of related agencies or people in working with state agencies affected management in the sense that if related agencies or people did not trust state agencies, this would have a negative impact on cooperation, coordination, co-working, reliability. Creation of confidence to related agencies and people was an important factor, considerably affecting the work of state agencies.

As for confidence in the installation of CCTV cameras for controlling crime, the government had to consider various issues before the installation of CCTV cameras, which would affect policy efficiency and effectiveness and people's confidence in the mentioned policy. The government had to consider the following issues (Clancey, 2009):

- a) Camera design. The government should consider where and how many fixed cameras or Pan/Tilt/Zoom cameras were installed. Moreover, the government should consider where day cameras or night cameras should be used.
- b) CCTV cameras should be installed in places which could record pictures at the wide range to enable people to use fewer CCTV cameras for installation.
- c) CCTV cameras should be pointed in the suitable direction, and other lights had to least impact the recording of images.
- d) There should be equipment installed for preventing CCTV cameras from being damaged. CCTV cameras should be able to endure heat and cold.

- e) The government should think of the number of CCTV cameras in each area, which would affect CCTV cameras operational efficiency.
- f) The government should choose between wireless or wired installation and how the connection should be done to prevent CCTV cameras from being destroyed by offenders and nature.
- g) The government should think of maintenance, cleaning, and frequency of examining as well as controlling CCTV cameras efficiency.
- h) The government should think of the noticeboards informing people about CCTV cameras operation. The government should think of the number of noticeboards and places where CCTV cameras should be installed.
- i) The government should determine regulations for installation of CCTV cameras in every installation point.
- j) The government should improve the places where CCTV cameras were installed such as cutting trees, collecting electric wires and telephone wires, and removing the noticeboards which might conceal CCTV cameras visibility.
- k) The government should improve physical characteristics and install electricity while installing CCTV cameras.
- l) The government should think of staff controlling and examining CCTV cameras efficiency. The government should determine criteria for testing CCTV cameras efficiency.
- m) Officers and staff controlling and examining CCTV cameras should be well trained. The government should think of training organizers, training period, and training frequency.
- n) The government should think of construction, number, and place of the control room. It should think of suitable size of the control room, places where the control rooms were situated, people who could enter the control room, which monitor should be used, what size of monitor should be used, how many monitors should be used, proportion of officers and monitors, communicative system, and relation between police officers and the control room.
- o) The government should consider the suitable capacity of data storage.
- p) The government should consider that how many frames CCTV cameras could capture images per second.
- q) The government should consider which system should be used for storing data.
- r) The government should think of the period of storing data, which had to correlate with the capacity of data storage.
- s) The government should consider that how police officers and external agencies were able to access the recorded data.
- t) The government should think of executives and staff coordinating work between various agencies for accessing data.

2.1.4 CCTV systems help to prevent crime and help to catch a criminal.

Individual, who commit the offence, at the first place, consider the possibility of being arrested before making decisions to commit a crime. Thus, it brings the matter to the authority to increase the security, inspection, or surveillance to suppress humans' crime behaviour. CCTV camera is the equipment that helps increase surveillance of an area. Besides manpower, CCTV cameras are used for surveillance like the inspection of the patrol system of police officers. When humans see CCTV cameras, they feel that they are observed by other people, affecting their decision to express deviant behaviour or crime behaviour. When humans see CCTV cameras or signs stipulating "CCTV is in operation" or "this area is recorded by CCTV cameras", they may decide not to commit a crime according to Rational Choice Theory (Becker, 1976).

According to Deterrence Theory (Pursley, 1991), after crime occurrence, CCTV cameras express two roles by tracking the offenders to suffer punishment and punishing the offenders, which will affect social deterrence in the form of general deterrence and affect individual deterrence in the form of specific deterrence. As for tracking the offenders to bring them to punishment, images of CCTV cameras are evidence which can identify the offenders. Investigation officers collect evidence according to Criminal Code Section 131 stipulating that "investigation officers have to collect all types of evidence as much as

possible to know facts and various behaviours on offence, know the offenders, and prove the offenders "offence or innocence". A collection of evidence derived from CCTV cameras indicates behaviour of committing offence and appearance of the offenders which will lead to the approval from the court to issue a warrant of arrest against the offenders.

After the offenders were arrested, CCTV cameras will be used as evidence. According to the Code of Criminal Procedure Section 226, material evidence, documentary evidence, or witness which are likely to prove defendants' offence or innocence will be the evidence but the mentioned evidence must not stem from motivation, promise, threat, deceit, or other illegal action. Images of CCTV cameras are both material evidence and documentary evidence. If investigation officers send the evidence in the form of still images as a document supporting investigation reports, these images will be documentary evidence. If investigation officers send footage, this evidence will be material evidence according to the Code of Criminal Procedure Section 226 (Natipodhi, 2010 cited in Trimek, 2010). The court will weigh the mentioned evidence to ensure that the offenders commit an offence, and the defendants commit that offence according to the Code of Criminal Procedure Section 227.

According to the abovementioned information, images of CCTV cameras are able to track the offenders to bring about punishment and prove the offenders' offence and innocence, which will affect social and individual deterrence according to Deterrence Theory. Apart from the impacts of deterrence as mentioned above, a positive impact of roles of CCTV cameras after crime occurrence is a reduction in the level of fear of crime of individuals and the society.

2.2 Criminological Theory on CCTV Cameras

Criminological Theory mainly explains the occurrence of crime and criminals by mentioning causes of people committing crime both from individual and social perspective. Moreover, it mentions guidelines of solving the crime problems on the use of the law, justice process, and the society. As criminological science is interdisciplinary, many theories are continuously invented in several perspectives. However, the researcher would like to mention Criminological Theory on CCTV cameras. Details were as follows:

2.2.1 Routine activity theory

Routine Activity Theory uses the philosophy of Deterrence Theory and Rational Choice Theory as the initial concept. The main principle of Routine Activity Theory is that crime stems from three elements consisting of criminals to commit the offence, suitable victims, and places suitable for committing the offence. The main hypothesis of Routine Activity Theory is that increasing rate of victimization depends on three complete elements. Having developed this theory, Cohen & Felson (1979) defined that routine activity is individuals' any frequent action such as leaving the house to work without anybody staying at the house, wearing expensive ornaments when going outside at night. Moreover, routine activity means characteristics of individuals who may easily become crime victims such as being female, young, or old because the founder's hypothesis stipulated that crime occurrence stems from frequent actions of crime victims.

This theory mentions the impacts of victimization on individuals, community, and society. The impacts on individuals consist of physical condition, property, and social and mental problems. As for social and mental problems, crime victims fear and their feelings on other people change. These crime victims may express these changing behaviours for several months or several years. As for the impacts on community and society, victimization positively and negatively impacts the community and society. As for positive impacts, victimization in the society makes the society aware of danger against the society, bringing about more carefulness and crime prevention of people in the society. Moreover, it brought scientific and technological development and the creation of art and worked for social change. As for negative impact, victimization in the society makes other people in the society fear crime, affecting their behaviour and lifestyle. This made the society responsible for solving the problems, with the budget for crime prevention and suppression having to be increased accordingly.

According to Routine Activity Theory, crime stems from three elements: (1) offender with skill and capability to commit the offence, (2) targets/victims being unable to protect themselves, and (3)

deserted place suitable for crime occurrence. These three elements cause a higher rate of crime occurrence and victimization. The rate of crime occurrence and rate of victimization will decrease if there are (a) handlers to suppress criminals' behaviour, (b) managers to suitably organize the place to prevent crime, and (c) victim guardians. As for CCTV cameras pertaining to Routine Activity Theory, it may be said that CCTV cameras are used for reducing the rate of crime occurrence according to the mentioned theory by improving the security of areas with CCTVs (which would be mentioned in details of Crime Prevention through Environmental Design Theory). Moreover, the presence of the CCTVs also acts as a medium to protect crime victims by making criminals decide not to commit a crime.

2.2.2 Crime Prevention through Environmental Design Theory (CPTED)

Environmental adjustment is a method which can prevent criminals from committing offence according to Routine Activity Theory. According to the concept of Crime Prevention through Environmental Design (CPTED), criminologists expressed opinions that criminals will not commit an offence in the safe environment where there is a suitable provision of the electricity system, order, and security system (Jeffery, 1977).

Jeffery (1977) developed CPTED theory with the basic principle of criminals' crime-committing characteristics and the crime scene. Physical environment stimulates the offenders to commit a crime, making the offenders either eager or afraid of committing a crime. For example, the offenders are stimulated to commit an offence if they see the houses situated in the place where there are few people walking or no electricity system. The offenders may steal motorcycles parking in a department store with no efficient access control system. The physical environment of the place is, therefore, an important factor in controlling offenders' behaviour. According to CPTED theory, the offenders may decide not to commit an offence if they find that there is a high chance of being arrested or being easily found. Dwellings, workplace, buildings, shops, public places such as a public park, sidewalk, bus stop should be suitably designed to deter the offenders from committing a crime. This can reduce the chance of committing offence or increase the chance of being inspected.

At present, police organizations in several countries use CPTED theory to prevent crime by providing manuals offering guidelines of organizing buildings or dwellings to be consistent with the theory. Moreover, this theory influences design or planning of some countries. According to this theory, there are certain regulations enacted to prevent crime such as the requirements of the electricity system on the sidewalk or public parking lot, the requirements of access control system of high-rise buildings. This theory widely used in the present. Guidelines for designing the environment to prevent crime could be divided into four models as follows:

- 1) The use of natural surveillance aims to increasingly threaten the offenders by making the offenders think that they can be seen or observed. Places should be suitably designed by providing more sight or surveillance such as the installation of windows to enable people to see a sidewalk or the parking lot, use of transparent walls, and CCTV cameras installation which is strongly related to this theory.
- 2) Natural access control aims to reduce chances of the offenders to access the place or victims by creating the natural access control system or designing the place to enable people to know that the place where they are entering is a personal area such as determining one-way access.
- 3) Natural territorial reinforcement aims to make the offenders feel that they are entering the prohibited area. The place should be suitably designed by clearly dividing the territory between personal area and public area such as building fences to demarcate territory.
- 4) Maintenance aims to support the above three methods by maintaining places and the environment such as maintaining access areas, installing electricity system, repairing houses and buildings, cutting excessive trees.

In Thailand, Dr. Purachai Piumsomboon (a co-researcher with Ray Jeffery in CPTED at Florida State University) did a research to develop Crime Prevention through Environmental Design Theory for usage in Thailand by disseminating the information in the book "Crime Control through Environment: Principle, Theory, and Measure" (Piumsomboon, 1982). The heart of Crime Control through Environment

Theory is not different from the concept of CPTED Theory, stipulating that environmental adjustment and environmental use can reduce chances of committing a crime and bring about the safe environment. Crime Control through Environment Theory and CPTED theory similarly have four principles.

2.2.3 Situational Crime Prevention Theory

Clarke (1997) said that there are two methods of crime prevention: changing the offenders' habits or reducing chances of the offenders to commit the offence. According to the Situational Prevention Theory, crime will decrease by improving the condition causing crime rather than changing the offenders' habit. Clarke presented four principles of reducing crime according to Situational Crime Prevention Theory: increasing perceived effort, increasing perceived risks, reducing anticipated rewards, and removing excuses. After presenting the mentioned principles in 1997, he improved his theory in 2003 by adding the fifth principle of reducing provocations. After this development, the Situational Crime Prevention Theory consists of five following principles:

- 1) Increasing perceived effort aims to stimulate criminals to make the decision not to commit crime because they have to use more effort to do so. Increasing perceived effort can be done by using the physical equipment. For examples, there should be an increase in the level of access prevention by more tightly closing doors and windows. Security system and CCTV cameras should also be installed. The password of data system should be set more complicatedly. Moreover, social regulations should be stricter such as the prohibition of carrying weapons in various places. These things make the criminals use more effort to commit a crime.
- 2) 2. Increasing perceived risks. The offenders are more anxious about the risk of being arrested rather than the consequences of being arrested. Increasing perceived risks of being arrested significantly brings about the decrease in crime occurrence. For example, there should be more provision of natural surveillance by providing more light and suitably organizing the places. There should be more provision of surveillance by installing CCTV cameras or increasing the number of officers who are performing surveillance duties.
- 3) Reducing anticipated rewards focus on reducing benefits of committing a crime. This mainly focuses on victims' behaviours. For examples, victims should carry very few valuables public places. They should not use expensive goods and expensive cars. There should be an approach to destroying the black market or channels of distributing illegal products to deter criminals from receive remuneration from committing the offence.
- 4) Removing excuses. The offenders like to find excuses to commit a crime. The excuse mainly used by the offenders is that they do not know the law. Rules and regulations should be, therefore, disclosed to remove excuses to commit the offence. For example, a contract is clearly made between an employer and an employee to enable the employee to be aware of work regulations. The signs clearly indicating regulations of a particular site should be fixed. No-parking sign or speed limit sign should be fixed. The information on law and legal punishment should be widely disseminated to the public.
- 5) Reducing provocations has the same practice guidelines as reducing anticipated rewards and has the same suggestion on victims' behavioural expression. However, reducing provocations focuses on offence against life and body such as avoiding conflict which may occur in each situation by avoiding quarrels in the pub, avoiding conflicts caused by riot, and avoiding conflicts caused by attending sports competition. As victims can stimulate crime occurrence, they should avoid quarrelling with other people. They should suitably dress or should not go to deserted places to avoid facing sex crime (Cornish & Clarke, 2003).

3. Methods

This research is a quantitative research to the level of public confidence in the policy on the implementation of CCTV system for controlling crime in Bangkok. The researcher used questionnaires to collect the data. The population in this research was 5,686,252 people who live in Bangkok. (Not including non-registered population) (BMA, 2013). The researcher calculated the sample size from Yamane's

criteria at the confidence level of 95.0 (Yamane, 1967). As a result, there were 400 samples. The researcher added 80 samples to prevent 20% errors. Hence, the total samples in this research were 480. Statistical Package for the social sciences (SPSS) was used to process and analyse the data in 2 modes; descriptive statistics i.e. mean, standard deviation and inferential statistics, by using t-test and F-test to test the hypothesis.

4. Results

4.1 The level of public confidence in the policy on the implementation of CCTV system for controlling crime in Bangkok.

The researchers divide an analysis of confidence on the BMA's CCTV cameras into three groups (15 aspects), namely confidence in the efficiency of the camera, confidence in installation areas, and confidence in government authorities (Clancey, 2009). The level of confidence would be interpreted by Likert's rating scale as follows:

- 4:51 to 5:00 is very high
- 3:51 to 4:50 is high
- 2:51 to 3:50 is moderate
- 1:51 to 2:50 is low
- 1:00 to 1:50 is very low

Table 1 A group of confidence in the efficiency of the camera

Confidence in the efficiency of the camera	Mean	S.D.	Interpreted
1. CCTVs installed by the BMA are able to monitor the behavior of the offender.	3.15	1.14	Moderate
2. CCTVs installed by the BMA are able to record the face or license plate number of the offender.	3.04	1.11	Moderate
3. CCTVs installed by the BMA are strong, not easily broken.	2.85	1.01	Moderate
4. CCTVs installed by the BMA are 24/7 recording.	2.70	1.08	Moderate
5. CCTVs installed by the BMA are all useable	2.47	1.05	Low
Total	2.84	0.89	Moderate

Table 1 showed that overall public confidence in the efficiency of the camera in the efficiency of the camera is moderate (mean= 2.84, SD = 0.89). In descending order, the locals believe that CCTVs installed by the BMA are able to monitor the behaviour of the offender at the level of moderate confidence (mean= 3.15, SD = 1.14), followed by the belief that CCTVs installed by the BMA are able to record face or license plate number of the offender also at a moderate confidence level (mean= 3.04, SD = 1.11) and belief that CCTVs installed by the BMA are strong, not easily broken at the moderate level (mean= 2.85, SD = 1.01) Next, the confidence that CCTVs installed by the BMA are 24/7 recording is moderate as well (mean= 2.70, SD = 1.08). Finally, what is worrisome is the assurance that the CCTV cameras installed in Bangkok can be used. Bangkok residents have a low level of confidence in this aspect (mean= 2.47, SD = 1.05), which is an issue that needs to be solved, as will be discussed further.

Table 2 A group of confidence in the installation area

Confidence in the installation area	Mean	S.D.	Interpreted
1. CCTVs installed by the BMA has enough coverage and covers each area.	2.16	0.95	Low
2. CCTVs installed by the BMA were installed in the right position.	2.66	1.00	Moderate
3. CCTVs installed by the BMA bear to the right direction to record.	2.77	0.96	Moderate
4. CCTVs installed by the BMA are not obscured by obstacles such as trees, poles, billboards, etc.	3.26	0.99	Moderate
5. CCTVs installed by the BMA were installed in places where there was a risk of crime.	2.69	1.03	Moderate
Total	2.70	0.57	Moderate

In Table 2 the level of confidence of the installation area as a whole is moderate (mean= 2.70, SD = 0.57) In descending order, Bangkokians belief's that that CCTVs installed by the BMA are not obscured by obstacles such as trees, poles, billboards, etc. is at a moderate confidence level (mean= 3.26, SD = 0.99), followed by the belief that CCTVs installed by the BMA bear to the right direction to record at a moderate confidence level (mean= 2.77, SD = 0.96), followed by the belief that CCTVs installed by the BMA were installed in places there were a risk of crime at a moderate confidence level (mean= 2.69, SD = 1.03), followed by the confidence that CCTVs installed by the BMA were installed in the right position at a moderate level (mean= 2.66. SD = 1.00) Lastly, CCTVs installed by the BMA has enough coverage and covers each area, with confidence at a low level (= 2.16, SD = 0.95), which is another issue to be discussed further.

Table 3 A group of confidence in government authorities

Confidence in government authorities	Mean	S.D.	Interpreted
1. A sufficient number of BMA authorities to monitor the behavior of the offender through the surveillance cameras.	2.45	1.01	Low
2. A timely coordination between BMA authorities and polices when an unusual event occurred in the area of control.	2.47	1.03	Low
3. BMA authorities who monitored the behaviour through surveillance camera were trained appropriately.	2.79	0.97	Moderate
4. BMA authorities who monitored the behaviour through surveillance camera would not use the footage in a way that is inappropriate or in violation of the right of the people.	2.86	1.08	Moderate
5. BMA authorities who monitored the behaviour through surveillance camera would not use the footage to their advantage.	2.90	1.10	Moderate
Total	2.69	0.85	Moderate

In Table 3 the overall confidence of government authorities is moderate (mean= 2.69, SD = 0.85). In descending order, the locals' belief that BMA authorities who monitored the behaviour through surveillance camera would not use footage to their advantage is at a moderate confidence level (mean= 2.90, SD = 1.10), followed by the belief that BMA authorities who monitored the behaviour through surveillance camera would not use footage in a way that is inappropriate or in violation of the right of the people, at a moderate level (mean= 2.86, SD = 1.08), followed by the confidence that BMA authorities who monitored the behaviour through surveillance camera were trained appropriately also at a moderate level (mean= 2.79, SD = 0.97), followed by the confidence that a timely coordination between BMA authorities and polices when an unusual event occurred in the area of control at a low level (mean= 2.47, SD = 1.03), and the confidence that the number of BMA authorities to monitor the behaviour of the offender through the surveillance cameras is sufficient at a low level (mean= 2.45, SD = 1.01) BMA should tackle the last two issues in particular to increase public perception towards their own safety.

4.2 The Difference in the Level of Confidence among People with Different Personal Factors.

Different genders did not significantly cause different confidence in the BMA's CCTV at the level of .05, while different ages significantly caused different confidence in the BMA's CCTV at the level of .05. People aged 30-39 years (Generation Y) significantly had less confidence in the BMA's CCTV than people aged 40 and above at the level of .05. Different educations significantly caused different confidence in the BMA's CCTV at the level of .05. People graduating higher than the bachelor degree had less confidence in the BMA's CCTVs than people whose highest education was primary and junior high school. People graduating with bachelor degree had less confidence in the BMA's CCTVs than people completing primary education. This indicated that highly-educated people had less confidence in the BMA's CCTV than low-educated people. Different occupations significantly caused different confidence in the BMA's CCTVs at the level of .05. Staffs of private companies and business owners or freelancers had less confidence in the BMA's CCTV than unemployed people like house husbands, housewives, and retired people. Different monthly incomes significantly caused different confidence in the BMA's CCTV at the level of .05. Low-income people (less than 25,194 baht/month) (National Statistical Office, 2014) had more confidence in the BMA's CCTV than high-income people. Dwellings in different zones did not significantly cause different confidence in CCTV cameras of Bangkok Metropolitan Administration at the level of .05. Also, different periods of living in Bangkok significantly caused different confidence in CCTV cameras of Bangkok Metropolitan Administration at the level of .05. People living in Bangkok for more than 30 years had more confidence in the BMA's CCTV than people living in Bangkok for less than 30 years.

4.3 Discussion

The first analysis performed is the analysis on the lack of confidence in the usability of BMA's CCTVs. Such issue is due to the impact of suspicions raised in late 2011 when the locals detected that there were no cameras in the CCTV housing in many areas. Besides, the number of fake cameras were installed instead of the actual cameras in many places. The questions from the public and the media affected the confidence of such policies. In response to public outcries, Deputy Governor replied in an interview with the Prachachat-Turakit that:

"The dummy cameras were installed during the previous governor's tenure because BMA's budget was not sufficient. Moreover, it is necessary to install CCTV to control political conflicts. Therefore, BMA had to use fake cameras. There were. However, 500 dummy cameras installed in the inner city of Bangkok at the point of protest areas, such as Dusit district, Satorn district and the area where the congregation spread out. Currently, we had sufficient budget. 10,000 cameras were already installed and the target of 20,000 cameras will be completed soon. This includes the installation of CCTV cameras into the blank CCTV housing."

(Prachachat-Thurakit, 2011)

However, although the issue has been clarified to public notice, public confidence on actual usability of CCTVs installed in the city remains low. Although this survey research was conducted four years after the event, the confidence of the locals on the issue remains low. This shows that throughout the period of 4 years, the BMA has failed to take any action to restore public confidence.

The next discussion is the lack of confidence in a sense that the number and the coverage of CCTV cameras installed by MBA are not sufficient. Although in January 2015 (the time that the researcher conducted a survey), the Governor has confirmed that the BMA has already installed 50,000 cameras, covering all areas of Bangkok, the number of such cameras was very small number compared to the total area of Bangkok (1,569 square kilometers). This means that there is one camera per 31,380 square meters, or one camera per 20 acres, which is not enough to control crime. In comparison with London, the capital which is relatively equal in size to Bangkok (1.572 square kilometers), it was found that the number of surveillance cameras installed to control the crime was up 422,000 (Davis, 2012), eight times the amount installed in Bangkok.

Also in question is the lack of confidence in the BMA authorities and the Metropolitan Police Bureau, especially the lack of confidence in the number of BMA authorities in monitoring the criminal

behavior through CCTV cameras. In this regard, the public does not believe that there would be great coordination between BMA authorities (in the control room) and the police when any unusual event occurred. The issue is in line with the concerns in research conducted by Trimek (2010) who have studied the feasibilities and concerns on implementing the full CCTV system in Bangkok. In that research, Mr. Tripop Khantayaporn (a Chief of Traffic Engineering Office and the prime responsibility in the CCTV system in Bangkok) admitted that "the BMA had not enough manpower to monitor the CCTV camera, with the coordination between the BMA authorities and a local police officer as another hindrance."

5. Conclusion

In terms of public confidence in BMA's CCTV, the research found that Bangkokians' confidence in BMA's CCTV were at a moderate level. However, public confidence was at a low level in the following aspects: (1) the public does not believe that all CCTVs installed by BMA are usable, (2) the public does not believe that the number of CCTVs installed by the BMA is sufficient (3) the public does not believe that BMA has enough staff to keep an eye on the behavior of the offenders through CCTVs, (4) the public does not believe that there would be a great coordination between BMA authorities and Metropolitan Police Bureau when an unusual event occurred. For the research recommendations, BMA does not have to install any fake CCTV camera or dummy camera. Even though in many countries, the use of dummy cameras mingling with real cameras can reduce the operating budget. Such an approach will adversely affect the confidence of locals in Bangkok as mentioned above in the findings. Next, BMA should increase the number of CCTV cameras. With the number of cameras currently at 50,000, this is still not enough. There should be enough personnel to monitor the cameras, a control room to monitor all 50 Bangkok Metropolitan districts should be built. Last but not least, the Metropolitan Police Bureau should cooperate with the BMA authorities promptly when any irregular event is detected by the CCTV cameras.

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