



**EFFECTIVENESS OF CLOSE CIRCUIT TELEVISION
(CCTV) TO PREVENT CRIME**

BY

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**A dissertation submitted in fulfilment of the requirement for
the degree of Master of Protective Security Management**

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ABSTRACT

The objective of the case study is to spot the danger and threat to Bank Negara Malaysia premises and propose a group of suggestions for the protection countermeasures to make sure the security of the Bank Negara Malaysia. The Effectiveness CCTV to prevent crime and the way it serves several functions and is employed in each public and personal setting. This project aims to gauge the proof of the effectiveness of CCTV in preventing crime, particularly financial organisation case in purpose of the Bank Negara Malaysia (BNM). After the objectives had been derived, the project methodology continues with determination of the scope and limitation of the study and starts gathering primary and secondary data for analysis and finding before giving final recommendations. As a result, respondents actually gave good indicators in supporting the usage of CCTV provided it implementation with proper mechanism and run by right organisation. Few important factors had been recommended as pillars of secure framework such as operational requirements, decision guidelines, performance standard, evidence requirements and importance of CCTV operators. In the near future, this study can be extended into technical configuration of CCTV system and legislation aspect in detail.

خلاصة البحث

الماليزي وتقديم مجموعة من الاقتراحات للإجراءات الوقائية، وذلك للتأكد من أمن البنك المركزي الماليزي. الوظيفة الفعالة للدوائر التلفزيونية المغلقة (CCTV) هي لوقف الجريمة وتستخدم لوظائف متعددة في كل من المواقع العامة والخاصة. وتهدف هذه الدراسة لقياس الأدلة على فعالية الدوائر التلفزيونية المغلقة في منع الجريمة، وخاصة فيما يتعلق بقضايا المنظمة المالية وعلى التحديد المؤسسة المالية، البنك المركزي الماليزي. وبعد الوصول إلى الهدف، تُواصل منهجية المشروع في تحديد نطاق الدراسة وحدودها وتبدأ الدراسة في جمع البيانات الأولية والثانوية حتى تقوم بتحليلها واستنتاجها قبل التقديم بالتوصيات النهائية. ومن نتائج الدراسة تبين أن المستبانين أعطوا مؤشرات جيدة فعلا في دعم استخدام الدوائر التلفزيونية المغلقة شريطة أن يكون تنفيذه باستخدام آلية مناسبة والتي تديرها مؤسسة صحيحة. وقد أوصت الدراسة مجموعة من العوامل الهامة باعتبارها إحدى الأسس في الإطار الأمني مثل الاحتياجات التشغيلية، والمبادئ التوجيهية لاتخاذ القرارات، ومعيار الأداء، ومتطلبات الأدلة وأهمية مشغلي الدوائر التلفزيونية المغلقة. وفي المستقبل، يمكن مواصلة هذه الدراسة إلى دراسة الترتيبات التقنية لنظام الدوائر التلفزيونية المغلقة ودراسة جوانبه التشريعية بالتفصيل.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Protective Security Management.

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Supervisor

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Co-Supervisor

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Dean, Kulliyah of Information and
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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Palaniappan Rajagopal Sekaran

Signature

Date

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Circuit video equipment or conjointly better-known with the acquainted name as CCTV, is not the jargon word any longer. The prevailing of CCTV is not restricted to public/government building however can also be put in at personal premises like homes.

According to Chief Government Security Office (CGSO) Reka bentuk Bandar Selamat: Garis Panduan Pemasangan CCTV Di Premis Perniagaan Dan Tempat Awam Provided By Jabatan Perancangan Bandar Dan Desa Kementerian Perumahan Dan Kerajaan Tempatan (2010), CCTV may be termed to be a enforcement bodies that functions with the transmission of signals to specific places. CCTV area unit accustomed monitor and record pictures of what takes place in specific locations in real time.

The core reason for the utilization of those devices lies within the constant watching of the places which require a relentless watching together with banks, military installations, casinos, airports and for variety of different places. CCTV is believed may be an eye fixed of crime scene since it performs to record everything in its field of read at actual time. Typically the most purpose of CCTV installation is to prevent crime.

However, we've got involved in mind that CCTV does not give physical barriers against crime. Even supposing the world is roofed by sufficient/enough CCTV, crime still will happen. Let it take a glance at this case as an example. On 2013, Malaysian was afraid by the news of a worker of AM Bank was male factor by

the protection guard. The Star on-line printed on Sunday 10 November 2013, operations manager of AM Bank Norazita Abu Talib was shot by the bank's watchman with a pump gun once she and a colleague were gap a secure within the bank at Jalan USJ Sentral a pair of. Not solely killed the AM Bank workers, the protection guard conjointly ready to escape with RM450,000 on a motorbike. At this time, the footage of CCTV is not to stop crime any longer however reach assist the police so as to spot the offender and conjointly to gift the proof of the crime scene.(The Star online, 10 November, 2013)



Figure 1.1 The image of the security guard was nabbed by the CCTV.
(Source: The Star online, 10 November, 2013)

1.2 BACKGROUND OF THE STUDY

It has been recognized now that CCTV cannot be classified as the solution to most of the crime related problems as there are also a number of other methods which might be more effective in this regard. However, CCTV can still be used a part of crime prevention strategy.

Several studies had been done to prove the effectiveness of CCTV as a crime prevention tool. Welsh & Farrington (2002) found out the evaluations indicate that CCTV is useful in certain circumstances. A comparison of 22 evaluations showed that 11 found a positive effect (decrease in offences), five an unwanted consequence (increase in crime), five found no consequence and in one case the evidence was blurred . Meanwhile, evidence from the UK shows that its use may reduce theft of motor vehicles and some other forms of prehensile crime. There is also evidence that it works finest in small enclosed areas (Gill & Spriggs 2005).

National Community of Australia Government (2011) states in its Crime Prevention Programme sheet that the existance of CCTV can provide possible effects as follows:

- i. Providing a vigilance function that may work to deter people from committing crimes in the area in which it is used.
- ii. Signifying to the public that an area with CCTV is a safe place and the increased use of the space means that crime is less likely to happen as there are more potential witnesses.

The adequateness of CCTV as a violation prevention tools is depends on the coverage and the quality of the image captured by the CCTV. The violation there, as seen all over the world, demand an effective coverage through the use of the CCTV devices so that they might come in useful for the investigation process. Nurin Jazlin's murder case is the best example due to poor quality of CCTV image and coverage. As reported by The Star online dated October,11 2007, this eight years old girl was brutally murdered and the body was placed in the sport bag. The bag then was left in front of a shop in Petaling Jaya. On October 11,2007 police released two video footage captured by a CCTV camera near a shoplot in Petaling Jaya, in a specified area of

Petaling Utama, where the sports bag embracing the body of eight-year-old Jazlin was found. The footage showed a motorcyclist carrying a sports bag (with Nurin's body in it) and leaving it at the shoplot. The the footage was sent to United States Federal Bureau of Investigation (FBI) to enhance the clarity of the blurred images. However, it failed to reveal the face of the motorcyclist and the license plate of the motorcycle.

1.3 STATEMENT OF THE PROBLEM

Both of the scenario's which have been specified before, there is no doubt that the implementation of the CCTV is important in this country. Regardless of quantity of CCTV, the main issued need to be address seriously is the quality of CCTV. Despite of having an installation of the CCTV systems, we would still need to find an effective and a permanent solution of the safety and security of the framework for the implementation of the system. Definitely, besides considering the cost, we also need to look into at the best operational requirements and it mechanism to run the system. By referring to best example for Nurins's case, to get the most out of CCTV in terms of detection and the problems:

- i. The cameras are not active and the not recording medium is recording, whether on tape or hard disk.
- ii. The images not meet the standards required by the objectives, if we want the images to be used as evidence in legal proceedings then they cannot acceptable quality.
- iii. The cameras not focusing on the incident concerned. So if we are protecting a specific entrance or boundary, the camera not be static and not monitored cannot record someone in its field of vision. The problem though is that an incident cannot be detected or recorded if it occurs out of

the camera range. If you are covering an area with a lot of movement of people you will want to be able not to identify the incident and the operator ensure they capture the relevant details on camera.

- iv. We will not be able to identify areas of concern, and have procedures in place for analysing the information and cannot act on the information gathered.

It is also crucial to be mindful of the implications of the different state as well as territory legislations that might be effectuating or might affect the use of the CCTV devices and the images obtained. The areas to be of concern include human rights, freedom for the provision of the information and the need for the data storage as well as access.

There is also a need to formulate a number of standardized and formal rules pertinent to the use of these systems. There is no sort of control which is being exercised on the manner in which the technology is being used which indeed raises a number of other questions. In other words, there is a general perception that in the present times the technology usage is unregulated in lines to which any person can have the installation of these devices at any place and might also use the video for any purpose.

The effects of the usage of these systems primarily on the criminal justice system include:

- i. Evidence in terms of the detection effects
- ii. Evidence for the response times
- iii. Evidence for the apprehension rates
- iv. Evidence in lines to the rates of conviction

1.4 OBJECTIVES OF THE STUDY

Due to never ending vissues, this study was conduted to find out:

- i. Adequate are the CCTV systems to bring down the crime rate and what is exact implementation system of these devices which is being used in Malaysia?
- ii. What is the view of the public on the effectiveness of these systems?

1.5 SCOPE OF THE STUDY

The study had been carried out the Bank Negara Malaysia which is the prime focus of the study in terms of the installation of the CCTV systems at the overhead bridge used by the public which passes over the building of the bank. CCTV systems have been installed in the areas in order to give an assistance in terms of the monitoring the events that take place and for acting in a more proactive manner to deal with the crimes. With the change and transformation in the use of technology in the country, the systems are now being widely used including the banking institutions, luxury residences, the open spaces and in the parking lots. Therefore, the scope of the study are as follows:

- i. Evaluate and examining the effectiveness and useful of the CCTV systems at the Bank Negara Malaysia.
- ii. Identifying of the most efficacious approach of the implementation of the systems including the need for having powerful CCTV systems and devices.
- iii. Highlighted the rules, policies and regulations in using the CCTV systems.

The scope covers the best mechanisms and the related operational requirements for the implementation of the CCTV systems. However, this study has

not been designed to include the legal, technical components and factors linked to the deployment of the CCTV systems.

1.5.1 Location of the Study

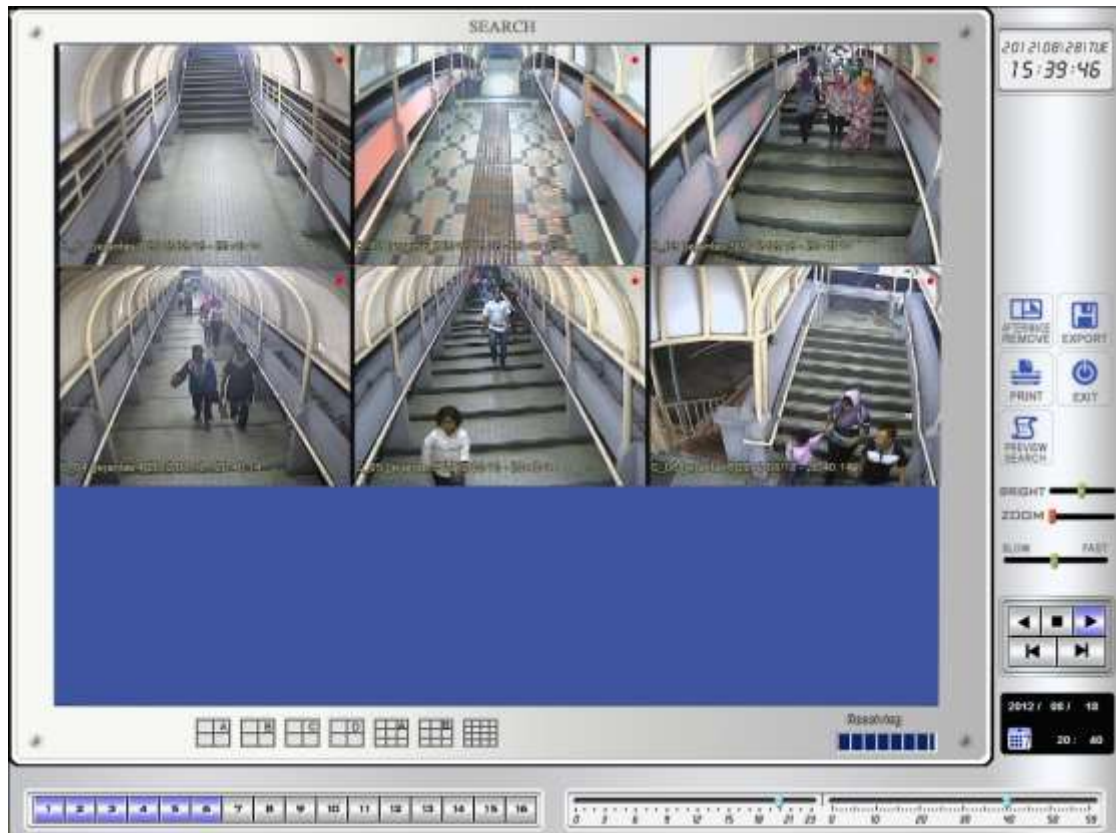


Figure 1.2 The view of the CCTV cameras placed near the Pedestrian bridge near SOGO complex

1.6 SUMMARY: ORGANISATION OF THIS DISERTATION.

This project is to analyse the implementation of CCTV system as a crime prevention tool with a view to suggest the secure framework for Bank Negara Malaysia environment. This project is also to study the available literature about usage of CCTV systems as a crime prevention tool. The project objectives are as follows:

- (i) To analyse the capabilities of CCTV systems as crime prevention tool from technology been introduced and widely used by other countries.
- (ii) To examine the current CCTV system implementation in Malaysia and the public acceptability level.
- (iii) To study the secure framework in implementing CCTV system as crime prevention tool and subsequently propose the suitable framework for Malaysia environment.

As technology rapidly changed, the CCTV system already widely been used in Malaysia by the bank institutions, the high cost residences, post offices, parking lots in the shopping complex and many more. Furthermore, some of the places just fixed the system for the sake of having the technologies but not really optimising the system functions. Therefore, the scope of this project will be as follows:

- (i) Examining the effectiveness of current CCTV systems implementation in Bank Negara Malaysia Overhead bridge.
- (ii) Identifying an approach in implementing CCTV systems including the needs of CCTV systems and its function as crime prevention tool.
- (iii) Highlighting the clear policy/rules and regulation/code of conduct for CCTV systems.
- (iv) Obtaining the best operation requirements and mechanism for CCTV systems.

However, this study will not cover the technical part and the legislation part of CCTV system in detail.

As seen in the picture of the CCTV system, the visual information of the public can be obtained and can be subjected to some legal use when required. Moreover, the systems have been placed in a static manner and at the places where the

360 degree surveillance might not be required. The quality of the image which can be seen is also good which can be used at times of need. Furthermore, the systems have also been placed at different positions to offer different forms of visual imagery.

Initially, the Bank Negara Malaysia has used the CCTV systems to monitor all the high security areas and also intergrated with Perimeter Intruder Systems and linked to BNM Security Control Room to monitor the crime activities and they can take immediate action accordingly. Based on all cameras which has been fixed by BNM has decided to operate the cameras where had been located in high security areas.

CHAPTER TWO

LITERATURE REVIEW

2.1 REVIEW OF LITERATURE

The purpose of this literature review is to understand the previous work done on effectiveness of Close Circuit Television (CCTV) to prevent crime and identify the factors for which CCTVs are used and its relevance in today's society. It also aims at understand the issues related to privacy and surveillance that affects the social behavior. Much of the literature available is about prevention of crime. Only few articles deal with the effect of surveillance on casual or non-criminal behavior. The review of literature aims to assess the available research evidence about CCTVs and its role in preventing crime.

Modern Society is characterized by increasing levels of global social mobility and uncertainty relating to levels of risk posed by internal and external armament peril. Within this aridity armament motivated by automation is being used by governments, communal constitution and individuals to supervise and reduce risk Flight, S. Heerwaarden, Y. van Soomeran, P. (2003) There has been an acceptance that the criminal justice system is limited in its capacity to control crime which has been led to the exploration of other avenues for tackling crime (Zender, 2003) and this has provided a market for private companies to push forward the growth of technological armament contraptions. Security automations are principally a category of surveillance tool that takes a number of forms and is used to inspect existence, inhibit and avert violations, deflect transmission and they address the 'demand for awareness and protection, coming from the urban and private stratum. The technological developments that have infiltrated security and crime prevention

strategies have allowed increased surveillance and recording of the movement and behavior of people ‘without the need for constant direct observation or containment of those monitored in particular spaces’(Graham & Wood, 2003).

Welsh & Farrington (2002) have examined the effectiveness of CCTVs over crime in their study ‘Effects of Closed Circuit Television Surveillance on Crime’. Their study was based on secondary information for which they have used 44 studies. The studies included in this systematic review indicate that CCTV has a modest but no Figure desirable consequence on violation, is most adequate in lowering violation in car parks, is most adequate when targeted at vehicle violations (largely a function of the frequently used car park rules), and is more adequate in lowering violations in the U.K. than in other nations. Violation reduced by about 50 per- cent in car parks with CCTV compared with control car parks. The reviewers pinpoint that CCTV surveillance should continue to be used to inhibit crime in urban space.

2.2 CRIME PREVENTION CONCEPT

Crime prevention is a term describing techniques used for reducing victimization as well as deterring crime and criminals. It is applied specifically to efforts made by governments to reduce crime, enforce the law, and maintain criminal justice. Obviously, crime prevention is including any initiative or policy which reduces or eliminates the aggregate level of victimization or the risk of individual criminal participation. It includes government and community based programs to reduce the incidents of risk factors correlated with criminal participation, the rate of victimization as well as efforts to reduce perceptions/fear of crime.

A study by College of Policing in collaboration with Campbell Collaboration (2013) is focused on consequence of CCTV on personal and property violations.

They have applied a vigorous selection criteria and have vigilanced 44 projects in which CCTV was installed and compared the violation rates in these areas to that where CCTV was not installed. The findings of study indicated that CCTV has a modest but no Figure desirable consequences on violation, is most adequate in lowering violations in car parks and is most adequate when targeted at vehicle crimes CCTV schemes have been found to be most effective with high coverage and when other interventions are used such as improved lighting and/or increased security guards. They further suggested that CCTV should be used to inhibit crime in urban space, but propose that it should be more specifically aimed than its present use would signify. Future CCTV blueprints should utilize high-feature evaluation designs with long follow up periods.

Welsh and Farrington (2002) assessed the comparative effectiveness of two forms of vigilance in inhibiting crime in urban space: formal vigilance, in the structure of closed-circuit television (CCTV) vigilance cameras, and essential vigilance, in the structure of improved street lighting in their study surveillance for vigilance prevention in public space: results and policy choices in Britain and America.. Based on the highest feature available research proof on these two procedures—from systematic reviews incorporating meta-analytic techniques—it was found that they are equally adequate in reducing violations. More precise investigations showed that enhanced street lighting was more adequate in lowering violation in municipal centers, that both were more adequate in lowering property violations than savage violations, and that both regulations were far more adequate in lowering violation in Britain than in America. The results of this study hands aid for the continued use of CCTV and improved street lighting to lower violation, but they suggest that they have to be pointed more specifically on property violations. An approach that integrates the two

mediations may produce a greater yield in lowered violation rates, but this may be restricted to transportation violations in car parks. Enhanced street lighting is an adequate type of vigilance to reduce violations in urban space, and it may attract less public resistance than CCTV vigilance cameras..

Hope (2009) opined that increasing fears for safety in UK schools have resulted in a rapid growth in the use of various security regulations, most specifically closed-circuit television (CCTV) systems. He examines how CCTV is used in schools and explores the manner in which this facilitates social control and considers the wider consequences of such vigilance automation. He argued that this automation, which principally concentrates on students, is adequate in easing unambiguous scrutiny, but does little to protect self-vigilance in the lengthy term. It is achieved that CCTV use in institutes describes a veiled turn in principles, away from operating public inhibition through enculturation towards arrangement assimilation. This has vital ethical significance.

2.3 THEORY AND METHOD IN EVALUATING THE EFFECTS OF CCTV

Gill, M & Spriggs, A (2005). examined the data from an observation study of four CCTV survey rooms in Denmark and Norway. The paper questions either concerns apart from secrecy might be at stake when urban spaces are placed under video vigilance. Beginning with a consultation of what norms urban spaces produce for society and for citizens and then examining CCTV practices in terms of those values, they found that video vigilance might have both positive and negative effects on key 'products' of urban spaces. They are especially concerned with potential consequences on public union. If CCTV promotes wide involvement and

communication in urban spaces, for example, by expanding civilians' impression of safety, then CCTV may boost public union. But the discriminatory practices observed by the authors had an opposite consequences by excluding whole categories of the populace from public territory, therefore combining those spaces and obstructing urban interactions. Though their results were tentative due to limited data, their analysis indicates that structural properties of CCTV operations may consider the limit of discriminatory practices that occur. They suggest that some of these properties may therefore present by which CCTV practices can be regulated to avoid negative consequences on social cohesion.

It said that Asia and the Middle East would soon come up for about one quarter of that market, gratitude in huge part to expanding requirement for the commodities in India and China. It added that the adoption of internet-connected cameras meant that more footage was being stored off-site for longer periods of time, and that gig pixel camera technology would mean even higher feature images in the future.

With the above literature survey it can be summarised that much of the studies of are based on inhibiting violations using CCTVs. Few articles talk about consequences of CCTV in urban places. Should understood that various studies have been conducted on CCTVs in inhibiting violations a try has been made to provide a description and an analysis of the different socio spatial perceptions shown by the urban; and to conduct an investigation of the knowledge, assessments as well as the related manners towards the use of the vigilance systems.