
**AN IMPROVED SYSTEMATIC MANAGEMENT MODEL FOR CCTV FOOTAGE IN
POLICE CRIMINAL INVESTIGATIONS
A CASE STUDY OF UGANDA POLICE FORCE**

BY

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MAY 2022

DECLARATION

I, **Ogwang Nickson** declare that all the content of this dissertation is my original work except the parts cited by references and that no similar work has been presented to any institution for any award to the best of my knowledge

Signature:.....

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APPROVAL

This dissertation submitted as a partial fulfillment for the award of Masters of Science degree in Computer Forensics of Busitema University, with our approval as the academic supervisor (s)

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DEDICATION

My special dedication goes to my parents Mr. Acol Tomson and Mrs. Catherine Acol for laying a firm foundation for my education and my life. I also dedicate this work to my supervisors, mentors, siblings, friends and workmates for the unconditional support they gave me throughout my studies. Lastly, I dedicate this research report to the Inspector General of Police, Martin Okoth Ochola for the financial support and time given to me during my studies.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACP	Assistant Commissioner of Police
CCTV	Close Circuit Television
CIA	Central Intelligence Agency
CID	Criminal Investigation Directorate
CP	Commissioner of Police
CPC	Chief Political Commissar
GCHQ	Government Communications Headquarters
GKMA	Greater Kampala Metropolitan Area
ICT	Information and Communication Technology
IDPC	Information and Data Protection Commissioner
ISMM	Improved Systematic Management Model
IT	Information Technology
KEI	Key Experience Indicator
NSA	National Security Agency
PCI DSS	Payment Card Industry Data Security Standard
RVA	Remote Video Auditing
UBOS	Uganda Bureau of Statistics
UBC	Uganda Broadcasting Commission
UK	United Kingdom
UMEME	Uganda Electricity Distribution Company
UNRA	Uganda National Road Authority
UPF	Uganda Police Force
US	United State

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ABSTRACT

Criminal investigations have faced a lot of challenges arising from a lot of uncertainties and misconducts though CCTV footages have come along and curbed down few more challenges. Investigations with CCTV footages is still having a lot of challenges being faced most especially disruptions involving sudden disappearance of CCTV footage, part of the video going missing, unexpected CCTV disconnections, mentioned only a few and an urgency in managing these unexpected occurrences was needed, thus called for an improvement in the current CCTV management model. A qualitative study involving getting opinions from experienced CCTV management team and investigation team has been conducted to gather some information regarding the current standing of CCTV management model that affects investigations. Self-enumerated questionnaires were used to gather data from sample respondents that comprised of CCTV administrators, CCTV analysts and Investigators within Kampala Metropolitan Area. The study focused on CCTV access control management which turned out that the access is highly restricted to responsible staffs. Focus was also on CCTV system audit which the study revealed that the CCTV system is not often audited and CCTV system quality assurance and maintenance was also considered. The study revealed that little attention is paid to CCTV footage quality assurance and maintenance. 90 days footage retention period is yet another parameter that received controversial response from the respondents though the 90 days retention period set by UPF was found to be adequate with long backups. Recording of footage with personal devices and leaking the videos were registered though strict laws against this and strict monitoring was recommended. Insufficient linkages and coordination by UPF with stake holders concerned with constructions, weather and electricity power supply was registered in the study and these was revealed to interrupt CCTV operations when related activities/occurrence that affect CCTV operations occur.

Recommendations for UPF to utilize cloud storage for backing footages and for faster footage processing process were made. Signing memorandum of understandings between UPF and other stakeholders concerned with weather, constructions and electricity power supply to reduce on unexpected CCTV power cuts and CCTV operations were recommended. Finally, setting up of field technical patrol and investigation teams to continually check CCTV and to approve putting up of banners and billboards after carefully considering if it will not interrupt CCTV operations has been recommended. An improved systematic model has been outlined in this research to enable Uganda police Force handle investigation using a computerized standard model (ISM model).

CHAPTER ONE

1.1 Introduction

This chapter presents the background of the study, statement of the problem, study objectives, research questions, significance of this study, justification of the study and a framework outlining the key practices that could lead to the improvement of CCTV footage management model for Police criminal investigation.

1.2 Background of the study

1.2.1 Criminal investigations and evidence presented

Criminal investigation had been one of the most challenging tasks across the entire world simply because, it is a multi-faceted, problem-solving challenge that involves arriving at the crime scene and rapidly making critical decisions, sometimes involving life and death (Garis, 2018). This is normally based on limited information in a dynamic environment and, after a criminal event is over, the investigator is expected to preserve the crime scene, collect the evidence, and devise an investigative plan that will lead to the forming of reasonable grounds to identify, arrest and/or prosecute the person or persons responsible for the crime (Gehl & Plecas, 2019).

The evidence that is always collected from eye witnesses is highly subject to the beliefs and inconsistent information provided by the eye witnesses. For instance, Laney & Loftus (2021) reported that “Eyewitnesses can provide very compelling legal testimony, but rather than recording experiences flawlessly, their memories are susceptible to a variety of errors and biases. They (like the rest of us) can make errors in remembering specific details and can even remember whole events that did not actually happen.” The information provided are not real facts that makes prosecution of the culprits or principle suspects hard or even impossible if the court-house is least satisfied with the evidence provided (Agirre et al., 2020).

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