

Using knowledge management to assist in the transformation of the Jamaica Constabulary Force

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by

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ABSTRACT

Over several years Jamaica has suffered from a high crime rate which has negatively affected its economic growth. According to a United Nation Report (2008) Jamaica is categorized amongst the most dangerous countries in the world today. In such an environment the responsibilities of the police have increased, as more and more Jamaican gangs have international connections. This has negatively impacted the human and social capital, and security has become the primary focus area for all Jamaicans. For police to function effectively in such an environment the use of Information and Communications Technology (ICT) is needed for managing knowledge from multiple sources. In this paper we present the current status of knowledge management practices in the Jamaica Constabulary Force (JCF) which could be used to transform the JCF into a knowledge organization.

Keywords: knowledge management, ICT and crime, Jamaica Constabulary Force.

INTRODUCTION

Jamaica has one of the highest rates of violent crime in the world. In 2005 and again in 2009, the country which is better known for its tourism, cultural and sports products became the most murderous place on earth (<http://www.nationmaster.com/graph/crime/crime-percap-crime-murders-per-capita>). For the last ten years Jamaica has consistently been in the top five countries in the world in terms of homicides per capita. Countries at war record fewer violent deaths than Jamaica. The high rate of violent crime has a negative impact on the business and investment climate, eroded the development of the human and social capital, and diverted public resources from productive use (<http://siteresources.worldbank.org/INTLAWJUSTINST/Resources/JamaicaPaper.pdf>).

Citizens require that the police create a safe environment in which they can go about their normal activities. The responsibilities of the police have increased over the years as police duty now involves dealing with problems of greater complexity, with criminals that have international connections and with people drawn from a wider range than ever before. Today the average Jamaican has greater access to information regarding their rights should any of these rights be abridged and channels available for redress, At the same time, police are expected to perform their duties in an atmosphere that lacks respect for authority and acceptance of their roles. Consequently, there is a far greater tendency among the public to challenge the authority of the police.

To operate in this environment, the quality of human resources, the way the organization manages its knowledge assets and the information and communications technology (ICT) supports that are engaged require focused attention to adequately tackle the problem of crime (Luen & Al-Hawandeh, 2001; Garicano & Heaton, 2007). The Jamaica Constabulary Force (JCF) must not only improve its managerial, intelligence and operational strategies but also introduce mechanisms to manage its knowledge to revolutionize its methods of accessing, storing, retrieving and utilizing knowledge to effectively support its personnel engaged in implementing crime management strategies.

Implementation of knowledge management (KM) strategy would first require an analysis of the existing knowledge management practices within the JCF. In this paper we analyze the current state of knowledge management activities in the JCF by first identifying the existing information

systems being used within the organization and then using the strategy to identify the current practices and gaps in the KM processes within the organization. The following section presents literature on knowledge management, knowledge organizations, Knowledge Management Systems (KMS) for police organizations, structure of police forces and knowledge work in policing. Next the research methodology and the existing information technology systems and practices at JCF are discussed in the case study. A KM strategy for implementing a KMS for transforming JCF is presented. The paper concludes with a summary, outlining the implications of the findings.

LITERATURE REVIEW

Knowledge Management

Knowledge management (KM) is a systematic process of finding, selecting, organizing, distilling and presenting information in a way that improves an employee's comprehension in a specific area of interest (Alavi & Leidner, 2001; Branjord et. al, 2006). Knowledge management helps an organization to gain insight and understanding from its own experience. Specific knowledge management activities assist the organization in acquiring, storing and utilizing knowledge for problem solving, strategic planning and decision making. A knowledge management system (KMS) enables these activities of managing knowledge, thereby increasing organizations intelligence.

All organisations, including police force, inherently contain large amounts of untapped knowledge which may be tacit, as opposed to explicit which is the formal, codified and documented knowledge of the organisation. Tacit is the knowledge contained within the minds of the employees; knowledge garnered from experience or created through innovation (Alavi & Leidner, 2001). Knowledge creation in an organization occurs by continually transforming tacit knowledge into explicit knowledge and vice versa (Nonaka, 1994).

The KMS cycle creates, captures, refines, stores, manages, and disseminates knowledge. The KMS utilise Information and Communication technologies (ICT) to capture, transform and distribute highly structured knowledge that can change rapidly. The primary objective of KM is to radically improve decision making, resource allocation and access to information.

Knowledge Organisations

A knowledge organization has emerged as the dominant structure of both public and private organizations as we transition from an industrial to a knowledge society (Gottschalk, 2009). Reflecting on the knowledge sharing process, Gottschalk (2009) stated that within organizations it is not a one way activity but requires collaboration between a source and a recipient, mutual adjustment through a process of trial and error and feedback. This mutuality therefore suggests that the process can be abstracted as a sequence of actions that may be either formal or informal. Talks, unscheduled meetings, e-bulletin boards and discussion databases are informal methods. The more formal mechanisms include training sessions, video conferencing, intranets and knowledge databases.

For the competitive advantage of firms, knowledge is the main resource available to a firm, and therefore the primary driver of a firm's value (Grant, 1996). Grant (1996) emphasized that strategic knowledge is valuable, unique, rare, non-transferable, combinable and exploitable. Performance differences can be explained by variance in the strategic knowledge of firms. Knowledge differs from other organizational resources in that the application of knowledge has the potential to generate new knowledge. Tacit knowledge resides within the individuals in a firm; in the employees who create, recognize, archive, access and apply knowledge in their everyday work activities. As a consequence, how knowledge is shared in the organization is heavily dependent on the knowledge-sharing behaviours of employees.

Knowledge organizations are very different from bureaucratic organizations in terms of organization and leadership (Davenport & Holsapple, 2006). These organisations emphasize using the ideas and capabilities of employees to improve decision making and organizational effectiveness while contrastingly, bureaucracies are run with autocratic decision making by senior leadership with unquestioned execution by employees. Knowledge organizations are therefore flexible and customer centric while bureaucracies are focused on stability and the accuracy of repetitive internal processes. The autocratic leader flourishes in a bureaucracy while charismatic and transformational leadership is important to the knowledge organisation's effectiveness, and motivating employees towards a collective goal set, mission or vision.

A learning organization is a knowledge organization that changes as a result of its experiences, leading to performance improvements (Garvin et al., 2008). Organizational intelligence is the

ability to perceive, interpret and respond to the environment in a way that meets the organization's goals and that satisfies multiple stakeholders. Creativity and innovation are of critical importance as knowledge is used in unique ways through processes that allow for creativity and tasks directed toward creative solutions.

Knowledge Management Models for Police Organisations

KM refers to identifying and leveraging the collective knowledge of an organization. The creation, storage & retrieval, transfer and application of knowledge have been identified as the knowledge processes (Alavi & Leidner, 2001). Information technology plays an important role in enabling these processes. Gottschalk (2006) proposed a KMS four growth-stage model that examines the extent of information technology deployed in a police organisation to identify the appropriate KMS stage.

1. **Officer-to-technology-stage:** In this stage the knowledge workers are provided with end-user tools such as networked personal computers to enable easy exchange of documents throughout the organization. These end user tools improve personal efficiency and in the context of police organizations, where every incident or policing activity generates a written report or record, the use of information technology has the ability to transform the workspace, freeing up officers who would have been otherwise used in record keeping activities to be additional "boots-on-the ground" (Garicano & Heaton, 2007).
2. **Officer-to-officer-stage:** In this stage the information about *who-knows-what*, is mapped and made available through the creation of a corporate directory to the people in the organization and to select outside partners (Wegner, 1995; Nevo and Wand, 2005). Because much of the expert knowledge in a police organization is not codified and remains in the head of individuals, the mapping of internal expertise is a useful and necessary step in the development of knowledge management systems.
3. **Officer-to-information-stage:** In this stage the information from knowledge workers is stored and made available to persons within the organization and select external partners. Large volumes of information are stored in data warehouses and data mining techniques are applied to extract knowledge (Atabakhsh et al., 2001). In this stage, information technology provides knowledge workers access to information typically stored in documents such as reports, manuals, handbooks, articles, letters, drawings, blueprints,

photographs, email, voicemails, video clips, presentations, policy statements and transcripts of meetings. A challenge for knowledge workers is to sift through the volume of content available, and in this they are assisted with rating systems and credibility indicators to find the most relevant content. A codification strategy, utilizing information technology, is employed in this stage. Knowledge is extracted from the person who developed it, is made independent of that person, codified and stored in the form of interview guides, work schedules and benchmark data. This knowledge can then be searched, retrieved and used by other persons in the organization.

4. **Officer-to-application-stage:** In this stage information systems that solve knowledge problems are made available to the knowledge workers. The systems in this stage focus on capturing the knowledge that exists with the experts in the domain and how they solve problems, therefore emphasis is on *how-they-think*. Domain specific knowledge is acquired from the experts and represented in a knowledge base as production rules or frames (Clymer and Wirkkala, 1994).

How Police Organizations Work

Worldwide police organizations have traditionally been bureaucratic, quasi-military and not knowledge organizations. Police officers on a daily basis tackle the society's most intractable problems. They work in constant danger, in situations that for extended periods are routine and repetitive, but which at any moment may expose them to the possibility of death. They are expected to be objective, fair, respectful, and professional and maintain control in chaotic situations involving injustice, public apathy, conflict, injuries and fatalities. They are expected to be independent problem solvers in a system, which by its structure encourages dependency. To effectively conduct a criminal investigation police officers require a particular set of knowledge and skills.

The Central Police Training and Development Authority (Centrex) in England identified four areas of knowledge required by investigators to conduct competent and effective criminal investigations (<http://www.official-documents.gov.uk/document/hc0708/hc09/0900/0900.pdf>). They are:

- a) The legal framework including criminal statutes and legal procedure regulating the process of investigation.
- b) The characteristics of crime including the categories of crime, the nature of crime, the behaviouristic tendencies of victims and offenders, and current crime trends.
- c) The policies of the particular police organization and general police procedures
- d) Investigative skills including issues of judgment requiring integrity, morality, proportionality, and the application of local cultural sensitivities.

Investigators acquire knowledge from formal training but also the practical experience gained on the job to underpin knowledge and buttress judgement. Centrex report however, argues that investigators ought not to rely on experience alone as experience is unique to the individual: each person takes away something different from the process. Practitioners need to *know-what, know-how and know-why* something works if they are to truly understand and use information effectively. Police investigation is knowledge work; it is concerned with collecting, and collating evidence in order to affect an arrest, and the presentation of evidence and testimony for the purpose of obtaining a conviction.

The Police as Knowledge Workers

The essence of the knowledge worker is to generate value from intellectual or knowledge based assets. While it might be a stretch to some to describe the average policeman as a knowledge worker, but that is exactly what they are. A policeman through training and experiences gathered over time accumulates a wealth of knowledge that assists them in their daily performance of duty. It is important to understand the knowledge intensive nature of policing and how accumulated experience adds value to it (Atzenbeck et al., 2009). The number of laws the policeman has to keep in memory and the application of these laws within the confines of established police procedure. The application of the laws is also never strictly black and white and is sometimes discretionary. Jamaican police procedures which have been codified are represented in a thousand page document.

Gottschalk (2006) opined that the knowledge areas involved in policing can be categorized as administrative, legal, procedural and analytical. He advanced that there were different levels of knowledge sophistication: core knowledge which is the minimum level required for daily

operations; advanced knowledge enabling intelligence led policing; and innovative knowledge which leads to an intelligence unit taking the lead within the force and/or community. In order to identify knowledge gaps, knowledge levels are combined with knowledge categories.

In Jamaica a typical JCF rank and file police officer (Constables, Corporals, Sergeants and Inspectors) is required to perform:

- protective policing duties;
- effective and efficient deployment of personnel and other resources for policing tasks;
- preparation of professional reports for assisting in the administration of justice in the courts;
- educating and informing citizens of their rights and obligation;
- how to access the organs of justice, impacting the image of the country, its environment for economic competitiveness and prosperity;
- social order;
- general safety of the community and its citizens.

Police officers are trained in the behavioural sciences and have working knowledge of a wide range of Jamaican laws governing the mandates of police duties, security technology, community relations, communications, team building, investigations and report writing. The 2008 JCF strategic review panel report identified thirty three (33) areas of required competencies as being necessary for the complete development of a police officer (http://pcoa.gov.jm/files/jcf_strategic_review_2008.pdf).

From as far back as 1973 the most valued police knowledge had been acquired in situational or street experiences and was informally organized (Rubinstein, 1973). The difficulty for police organisations was to transfer this wealth of knowledge from the officers who had the experience to young officers who didn't. The JCF attempted this transfer through regular, formal station lectures and a semi-formal mentorship program called the Tutor Constable Programme. Challenges to the process of transfer lie not only with the ability to learn but also with the willingness to teach, as within police institutions, a subculture had developed where knowledge was an empowering commodity to be brokered. Since the 1990s however, with the infusion of new philosophical thoughts in Community Oriented Policing and Problem Oriented Policing,

added to the benefits of the information technology revolution and the internet, access to organisational knowledge has become more open and democratic. To tackle crime there is a need for systematically implementing KMS in JCF (Donalds and Osei-Bryson, 2007). Donalds and Osei-Bryson (2007) have proposed an architecture which incorporates different knowledge sources in the domain and proposes different knowledge applications to fight crime in Jamaica. In this paper we examine the current stage of knowledge management in JCF and identify gaps which will need to be addressed before JCF can be transformed into a knowledge organization.

RESEARCH METHOD

In this study action research has been initiated with the Jamaica Constabulary Force. Action research is conducted in two phases, in the first phase the focus is on a collaborative study between the researcher and subjects of the research and in the second phase the emphasis is on implementing the findings of phase one and changing the system (Baskerville and Myers, 2004). In this paper, we focus on the first phase with the emphasis being on identifying the current status of knowledge management in JCF. The principal investigator is a member of JCF. Participatory observation method and interviews with two key personnel in JCF were conducted to collect data on the existing information technology systems being used and the existing KM activities. One interviewee is the person in-charge of all IT systems in JCF and the other person is responsible for identifying the mechanisms that can be implemented to reform JCF.

CASE STUDY

The Jamaica Constabulary Force

The Jamaica Constabulary Force was formed during colonial times, immediately following the 1865 Morant Bay Rebellion, with a staff complement of 984 members reporting to an Inspector General appointed by the British Government. The JCF has transitioned into an organization having 8,050 officers in an infrastructure suited to execute its role and functions. The JCF has responsibility for the maintenance of Law and Order, the prevention and detection of crime, the protection of life and property, the investigation of alleged crimes, and the enforcement of all Criminal Laws.

The duties and powers of The Jamaica Constabulary Force are defined and set out in Section 13 of the Constabulary Force Act, and states that, *The duties of the Police under this act shall be to*

keep the watch by day and night; to preserve the peace; to detect crime; apprehend or summon before a Justice persons found committing any offence, or whom they reasonably suspect of having committed any offence; to serve and execute all summonses, warrants, subpoenas, notices and criminal process issued by any Justice in a criminal matter, and to do and perform all duties appertaining to the office of Constable.

The Jamaica Constabulary Force is organised into nineteen geographic police divisions with an average of seven police stations within each division, with one serving as the divisional headquarters. These nineteen divisions are dispersed across the fourteen parishes and five police areas, each of which is headed by an Assistant Commissioner of Police (ACP), and together are organised into one hundred and sixty five (165) police locations across the island.

Each division is headed by a Superintendent who has in his/her management cadre, a Deputy Superintendent in charge of crime, a Deputy Superintendent in charge of operations and a Deputy Superintendent in charge of administration. On a day-to-day basis, an officer at the level of an Inspector or Sergeant, or in extreme cases, a Corporal, assumes the role of the Sub-Officer in Charge of the operations of a Police Station. The police stations feed information into the larger, more central Traffic Head Office and the Criminal Investigation Bureau (CIB). The CIB handles non petty crimes like murders, rape, wounding, etc.

Reporting & Recording Crime

The reporting and recording of crimes in Jamaica have historically been kept in registers. However, due to increases in criminal activity and criminal sophistication, and a need to establish collaborative links with other law enforcement agencies at the international level, the present system has proven to be inadequate. This inadequacy is reflected in 1) the inability to capture vital information for crime pattern and intelligence analysis, 2) considerable limitations for maintaining the efficiency and management of investigations, and 3) the inability to facilitate the free flow of information.

These shortcomings have been exacerbated by poor records management resulting in the failure of members to keep track of investigations and for proper accountability. By implementing Divisional Intelligence Units (DIU) and the development of 'intelligence led' community policing methodologies, the JCF has heightened its need for the introduction of more

contemporary systems.

Information Technology Support

In JCF a manual crime reporting system is supported minimally by the Police National Computer Center (PNCC) with its skeletal staff providing crime recoding support for only some types of crimes. The PNCC does not support the integral operations of police stations. There are longstanding plans for an island-wide police network for efficient access to information for processing and statistical analysis. There is also no means of interfacing with other criminal or intelligence systems especially at the international level. Useful information also resides in the databases of Jamaica's courts, the Revenue Department, the Corrections Department and in the manual systems of Division and Branch process offices in the JCF.

The Police National Computer Centre reports that it provides police stations with crime pattern analysis, gathering data through its Geographic Information System (GIS), enabling them to identify patterns and allocate resources as required. A Traffic Ticketing System (TTS) and a longstanding Human Resource Management System (HRMS) are operational. The JCF has also, in the last five (5) years, acquired an Automated Palm and Fingerprint Information System (APFIS) and an Integrated Ballistic Information System (IBIS). Both are specialized databases: APFIS allows the storage, search and retrieval of finger and palm prints from crime scenes and when such data is requested by the court, and IBIS allows storage, analysis, search and retrieval of ballistic evidence (guns, ammunition, warheads and spent shells) from crime scenes of interest to the police. Other recent information technology acquisitions include the Electronic Facial Identification Technique (EFIT) software, which allows the police to construct composites of suspect offenders from the memories of their victims and witnesses, and a Video Identification System (VIS) which improves the fairness and effectiveness of identification parades. The JCF has plans to integrate these systems in an Integrated Management Information System (IMIS), but the process has been plagued with problems.

Using Gottschalk's (2006) four stage KMS growth model, currently the Jamaica Constabulary Force would be at an early stage one, where JCF officers are just being provided with end user tools to improve personal efficiency. However, with the newly acquired systems which are either knowledge management or expert systems, the plans for an island-wide network of personal

computers, hand held PDAs to be used by police officers on patrol and with networked linkages to the courts and revenue systems they are striving to move to the higher stage KMS growth model. Therefore, by examining the existing applications (see table 1) the JCF is potentially ready to be transformed into a knowledge organisation.

| IT Systems In JCF | Objectives Of The System | KMS Stage |
|---|---|------------------------|
| Databases – Firearm, Revenue Department, Corrections Department and Justice and Security. | Information stored in separate databases for general and expert access and use. | Officer-to-Technology |
| TTS – Traffic Ticketing System | Tracking traffic tickets from issue to completion; revenue protection; road safety. | Officer-to-Technology |
| HRMS – Human Resource Management System | Administration of employee records and development. | Officer-to-Technology |
| Crime Reporting | Automate the reporting of crime. | Officer-to-Technology |
| CIMS – Crime Information Management Systems | A records management system combining incident and intelligence management with other data to aid analysis. | Officer-to-Technology |
| Knowledge sharing between offices- Manual system | Informal mechanisms of sharing knowledge between officers - using emails and radio communication systems. | Officer-to-Officer |
| GIS – Geographic Information System | Crime pattern and trend analysis. | Officer-to-Information |
| APFIS – Automated Palm & Fingerprint Information System | Storage and retrieval of prints from crime scenes and for criminal records checks. | Officer-to-Information |
| IBIS – Integrated Ballistic Information System | Storage, analysis, search and retrieval of ballistic evidence | Officer-to-Information |
| EFIT – Electronic Facial Identification System | Construction of suspect/victim facial composites | Officer-to-Information |
| VIS – Video Identification System | Suspect identification using video technology | Officer-to-Information |

Table 1 – List of IT systems, their objectives and the type of KM they support

KM strategy to transform the JCF into a Knowledge Organisation

Earlier we established that police work is indeed knowledge work hence the reliance on knowledge and KMS is critical to the police organization. Particularly, the tacit knowledge

stored in the minds of rank and file police officers needs to be used in the analysis and management of the criminal activities (Kavakli, 2006). The direction policing has taken in recent times and the innovations adopted by forces worldwide are knowledge centric. Community oriented policing; problem oriented policing; the growth in information and communications technology and facilitating the storage, access and processing of vast amounts of information are allowing the police to engage in data driven decision making and in intelligence led policing.

Research has shown that knowledge management strategies succeed in the larger context of organizational change with creation of an appropriate structural and administrative framework and cultural adjustment. While aspects of knowledge management have existed in policing before, KM is only now emerging as an organizing and empowering strategy in police organizations. Police knowledge management so far has been a loosely bundled but interconnected set of management activities designed to capitalize on organizations' knowledge assets. The challenge is to utilize knowledge management as a more purposeful organizational strategy which would create the enabling environment to capture, create, share, and apply knowledge to better manage crime. Thus creating social and economic opportunities for the larger society.

Innovative organizational change occurs as a result of either a natural interest in being innovative, or out of crisis. If the natural inclination is not present in the Jamaica Constabulary Force (or does not seem to be), Jamaica is within the vortex of a crime induced crisis. As the organization charged with the management of crime, the maintenance of order and the protection of people and property, the JCF must adapt to properly confront the crisis, and adopt KM to better do so.

Pendleton and Chavez (2002) proposed twelve steps as guidelines for police organizations in adopting and implementing knowledge management as a strategy for organizational development and management. For each of the twelve steps of the strategy the existing practices at JCF are discussed. This analysis helps in understanding the gaps which will be need to be addressed while implementing a KM strategy.

Creating the Environment for Organizational Innovation

1. **Formally adopt and promote an organizational mission and values that facilitate knowledge management.** In facilitating knowledge management, collaboration leverages existing expertise, locates best practices, and eliminates redundancy and openness eliminates the silo effect and defeats the physical boundaries within the organization.

The JCF as an organisation has not formally identified Knowledge Management as a strategy, but reform efforts in recent years have brought new values, policies and best practices to the forefront that can facilitate KM. One example is the CIMS. Currently in JCF formal mechanisms are being put in place at area level and through hot spot policing activity. Informal communication and collaboration is currently being actively promoted.

2. **Practice and promote innovation leadership centred on knowledge management.** Empower cosmopolitan leaders who are oriented and affiliated with a meaningful outside network (such as Jamaicans for Justice), develop awareness of innovation in other sectors, and identify a champion as its organizational sponsor. It must be recognized that police forces are not democracies, even with the adoption of contemporary management approaches. They are paramilitary systems based on power, status and technical expertise. The authority decision should be made by the Commissioner but implementation should be by consensus and with wide participation to fit the specific needs of the Jamaica Constabulary Force.

Currently, the leadership challenges facing the JCF are many, and the organisation finds itself trying to identify and prepare leadership that is accountable, responsible and responsive to the challenges. In the current Commissioner and the leader of its reform effort the JCF has leaders who can sponsor KM. IT leadership is however weak within the organisation. The JCF has encouraged linkages with the business, civic and intellectual communities; the challenge is however, how to move the cooperation from the strategic to the operational.

- 3. Restructure the Jamaica Constabulary Force to facilitate knowledge management adoption.** The implementation of knowledge management will both be determined by the existing structure of the police organization and will in turn affect and alter it. In recent years the police have been open to adopting new management approaches but have been just as reluctant to alter basic organization structures to accommodate these new approaches.

Several new approaches were identified, for example, the establishment of research and development units within the JCF, who report directly to the Commissioner of Police. These units are crime analysis units, and units engaging in proactive research projects, serving both a tactical and a policy function. To fully realise the benefits of these new approaches, the organisation will need to remain open to change existing structures and how they function.

Capturing Knowledge: Knowing What We Know

- 4. Build a knowledge inventory and establish a knowledge repository.** Strategically assess the internal and external police environment to document and link “know who” knowledge with “know how” knowledge in four key areas: professional expertise, tactics, administrative process, and political-community understanding. Transforming tacit police knowledge to explicit knowledge making it available to the organization is the primary focus of knowledge management.

An approach to building knowledge repositories is cataloguing knowledge at the individual level, allowing members of the organisation to know who to contact to access knowledge on specific topics, be it skill, expertise, case-based or problem specific. The organisation has large volumes of data/information and access to additional data sources that exist outside the force, for example island’s courts, the correctional services, schools, hospitals, local government authorities with information on physical infrastructure, newspapers and organisations who gather and disseminate business data. All this diverse sources data needs to be stored and made available for use. These sources when taken together, provides a more comprehensive understanding of the factors relating to crime and disorder. Donalds and Osei-Bryson (2007) have proposed an architecture which incorporates different knowledge sources in the domain and proposes different

knowledge applications to fight crime in Jamaica. To maximize the benefits of diverse and multiple knowledge sources such an architecture becomes necessary to implement.

Sharing Knowledge: Processing What We Know

5. **Understand, promote and accommodate the protocols for accessing data and knowledge.** Gaining access to data is often constrained by legal, cultural and practical barriers. In JCF based on our analysis it was observed that police culture must also be accommodated in the adoption of knowledge management. Given the preference for face to face interactions and a general aversion to writing amongst the rank and file, codification of knowledge is a challenge that the JCF will overcome only by acknowledging the culture and identifying ways around it. It is also critical that the individual and organizational participants recognize how knowledge management applications will affect their work and how they will benefit. A way to achieve this outcome is to share knowledge with those who you want to contribute knowledge. Information hoarding and the command and control management style suggest that knowledge has to be packaged in ways that naturally promote sharing.
6. **Structure police knowledge into policy, organizational and tactical packages to promote meaning and use.** Police knowledge is usefully categorized as policy knowledge, organizational knowledge and tactical knowledge and when developing police knowledge management systems, information should be processed and transformed into knowledge packages servicing these areas. In JCF several packages of knowledge sources exist and organization of the knowledge within these sources reduces its applicability. Hence packaging of knowledge into strategic, tactical and operational sources will improve access to the right knowledge at the right level. It is important to package policy knowledge within a broad based, multi agency, community based program where data from across the institutional spectrum can be warehoused and made accessible with web-based software and global tracking system mapping capabilities. This knowledge can inform policy debate and the implementation of multi-modal solutions to selected problem areas. It needs to be more than crime data; crime data needs to be combined with a wide range of other data to create knowledge about the causes and potential solutions to Jamaica's crime problem. Organizational knowledge packages can specifically focus on use of force, anti-corruption efforts, officer safety, budgetary issues

and training but the cutting edge of organizational packaging is the usage of crime mapping to hold divisional police managers accountable for the crime trends in their geographic area. While crime mapping is useful to display and understand crime and disorder more can be done to crime and disorder data so that knowledge informs tactical strategy. The tactical knowledge package for detectives should be an organizing framework within which situational case knowledge is understood; crime types, profiles of offenders and victims, and using place and criminal (movement and interaction) dynamics as well as a 'yellow paging' knowledge teams that are best suited for particular types of cases. The tactical package for patrol and operational teams should focus on real time mapping and casing with crime dynamics and trend data to inform daily briefings and conducting safe operations.

- 7. Create routine knowledge sharing processes not events.** Knowledge management is about the sharing of knowledge with others as a means to desired outcomes. Knowledge sharing is most effective when incorporated as ongoing routines with specific processes to facilitate sharing. If it is treated as an event, then it is not considered as a normal organizational routine and the objective is defeated. A fundamental feature of successful police knowledge management systems implementation is the creation of KM processes within programs or projects. These processes lead to specific applications, for example, Computer Statistic and Comparative Statistics (COMPSTAT) program at the New York City police department holds weekly meetings with the patrolling officers, executives and commanders to discuss problems relating to crime (<http://en.wikipedia.org/wiki/CompStat>). For knowledge sharing to become a process it is recommend that access to crime analysis units should be a complete open space for members to go during all hours of operation thus being the knowledge place for the majority of the organization. However, in analysing the knowledge sharing practices in JCF we found that access to the crime analysis unit i.e. the divisional Intelligence Unit for the JCF was restricted due to corruptions concerns. Major cultural barriers will have to be overcome to facilitate knowledge sharing processes.

Applying Knowledge: Using What We Know

- 8. Use knowledge management packages and processes to select applications.** The selection and development of knowledge applications should be based on the knowledge management processes that are designed to identify and prioritize crime and disorder problems. If community policing and crime analysis are important processes of police work then these processes should inform knowledge management applications that should be developed. In JCF knowledge applications are selected based on KM processes applicable to police work.
- 9. Avoid using knowledge management to police the police.** Police cultural traditions worldwide are resistant to efforts to monitor police behaviour. If knowledge management is used to police the rank and file, then adoption will be unlikely. Failure to address this issue is likely to result in the failure of any knowledge management effort. In JCF there is significant corruption and a major management problem will be to avoid using such systems to police themselves. This could lead to distrust and fear and hence would result in failure of knowledge management processes such as knowledge sharing and creation.
- 10. Use knowledge management to select and design interventions and solutions.** Knowledge management techniques and processes have been used to address crime and disorder problems and more recently, to address police organizational issues. The use of knowledge management should inform multi-modal interventions and reactive strategies, and facilitate preventive and proactive approaches to crime problems. In JCF in every division there are weekly meetings where commanding officer, all heads of sections and the head and members of divisional intelligence unit meet to discuss the effect of the interventions and the strategies for crime fighting in the coming week. Such a meeting heavily utilizes crime analysis applications. Solutions should be designed to facilitate knowledge sharing across management and rank-and-file officers.

Creating Knowledge: Increasing What We Know

- 11. Establishing specific programs and protocols for learning from organizational experience.** The police tradition of valuing the experience gained over the course of an individual career has been expanded to recognize that organizations can also learn from their experiences if they have a commitment to continuous improvement. Experiential

learning includes the experiences from within and without the organization. Police organizations typically learn experientially, through debriefing sessions, and through critical incident reviews when events are naturally large or when there are incidents of a serious nature. In JCF the review process should include the key questions: What did we do right? What could we do better? How do we share this information? The process is however constrained by the possibility of legal and personnel exposure where the review follows actions with fatal or serious consequences. Protocols to neutralize factors that impede full and complete disclosure should be developed.

12. Establish a specific research and development programme. Currently in JCF the research and development activities are based on international linkages. However the JCF as an organization should focus on partnering with academic institutions and international agencies in conducting research themselves. The Jamaica Constabulary Force must go beyond simply providing statistical descriptions of the organization and its work to actually employing trained researchers, conducting research and liaising with Universities to do likewise.

CONCLUSION

In the United States, the need for knowledge management solutions in law enforcement is illustrated by the mobility of the criminal element, disregarding jurisdictional boundaries, and in fact taking advantage of the lack of communication across jurisdictions. In Jamaica there exists the same mobility of crime issues, but in addition, the high rate of violent crime, the level and sophistication of crime, the high recidivism and the fact that police systems remain largely un-computerized, add urgency to the need for an information technology solution. As crime and incident reports migrate from paper based manual systems to automated systems, as more information is shared/accessed among government agencies, and as technology enables the greater ease of capture, storage, retrieval and access of information in police departments, access to information becomes easier but may not translate to use. The conversion of information to useful and easily understandable knowledge is a concern for most police organisations.

All that would then be required is for the management of the Force to make the choice and embark on the path laid out by Chavez et al. (2005) guidelines: to first create the enabling environment, then capture and share the knowledge, apply the knowledge and finally create new

knowledge. This will enable the organisation's bid to better manage its people and information resources and advance to higher stages of the knowledge management model and thus assisting in reducing the incidence of crime in Jamaica.

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