

8 Crime Investigations

Cyber crime investigations have both similarities and differences when compared to traditional crime such as burglary and robbery. Traditional crime generally concern personal or property offences that law enforcement has continued to combat for centuries. Cyber crime is characterized by being technologically advanced, it can occur almost instantaneously, and it is extremely difficult to observe, detect, or track. These problems are compounded by the relative anonymity afforded by the Internet as well as the transcendence of geographical and physical limitations in cyberspace. Criminals are able to take advantage of a virtually limitless pool of potential victims (Hinduja, 2007).

Policing financial crime generally – according to Pickett and Pickett (2002) – is concerned with whistle blowing and detection, roles of shareholders and main board and chief executive officer and senior executives, investigations, forensics. Policing financial crime – according to Levi (2007) – is concerned with the organization of policing deception, the contexts of police undercover work, covert investigations of white-collar crime, prosecution and relationship to policing fraud. Covert activity is restricted mainly to the informal obtaining of financial information or the official obtaining of information about suspected bank accounts without the knowledge of the account-holder. Policing cyber crime is concerned with all these issues as well as a tight surveillance of relevant activities on the Internet.

Within crime investigations, IT forensics and cyber crime investigations are an extremely complicated field (Callanan and Jones, 2009). Kao and Wang (2009) suggest an approach to improving cyber crime investigation consisting of three stages: independent verification of digital clues, corresponding information from different sources, and preparation of a valid argument. Furthermore, covert investigations in the workplace represent a debated practice when investigating financial crime (Tackett, 2008).

8.1 Value Shop Configuration

Investigation and prevention of cyber crime and building corporate reputation have the value configuration of a value shop. As can be seen in Figure 1, the five activities of a value shop are interlocking and while they follow a logical sequence, much like the management of any project, the difference from a knowledge management perspective is the way in which knowledge is used as a resource to create value in terms of results for the organization. Hence, the logic of the five interlocking value shop activities in this example is of a policing unit and how it engages in its core business of conducting reactive and proactive investigations.

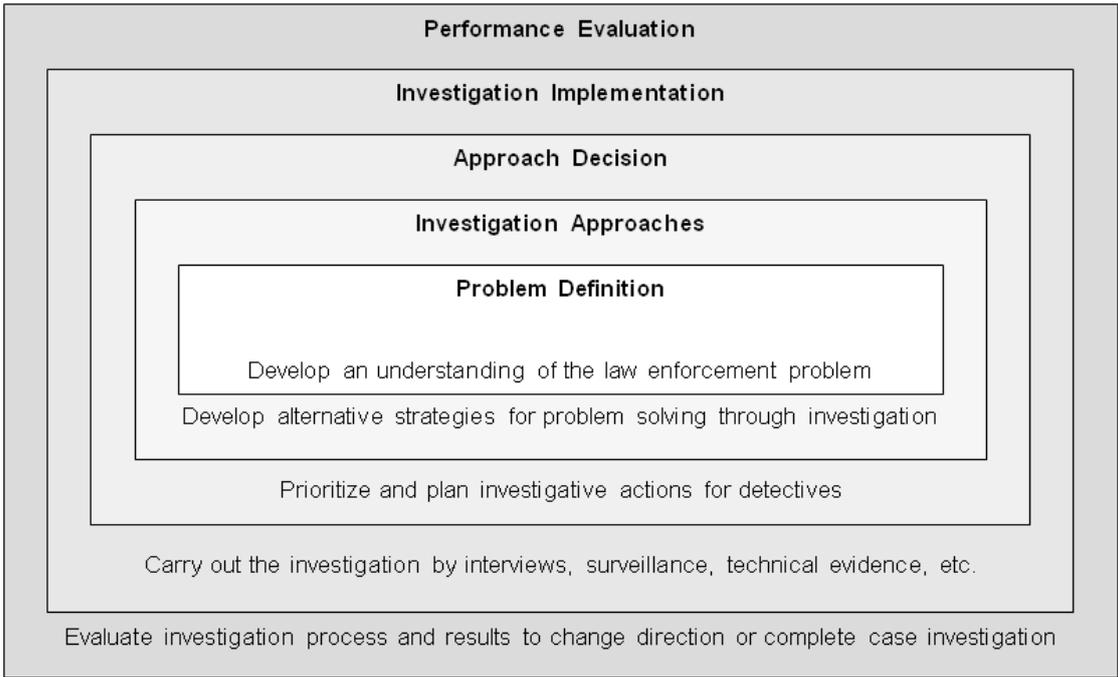


Figure 1. The knowledge organization of investigation and prevention units as value shop activities

The sequence of activities starts with problem understanding, moves into alternative investigation approaches, investigation decision, and investigation implementation, and ends up with criminal investigation evaluation (Sheehan and Stabell, 2007). However, these five sequential activities tend to overlap and link back to earlier activities, especially in relation to activity 5 (control and evaluation) in policing units when the need for control and command structures are a daily necessity because of the legal obligations that policing unit authority entails. Hence, the diagram is meant to illustrate the reiterative and cyclical nature of these five primary activities for managing the knowledge collected during and applied to a specific investigation in a value shop manner.

Furthermore, Figure 1 illustrates the expanding domain of the knowledge work performed in financial crime investigations, starting in the centre with problem understanding and ending at the edge with evaluation of all parts of the investigation process.

These five primary activities of the value shop in relation to a financial crime investigation and prevention unit can be outlined as (Sheehan and Stabell, 2007):

1. *Problem Definition.* This involves working with parties to determine the exact nature of the crime and hence how it will be defined. For example, a physical assault in a domestic violence situation depending on how the responding officers choose and/or perceive to define it can be either upgraded to the status of grievous bodily harm to the female spouse victim or it may be downgraded to a less serious common, garden variety assault where a bit of rough handling took place towards the spouse. This concept of making crime, a term used on how detectives choose to make incidents into a crime or not, is highly relevant here and is why this first activity has been changed from the original problem finding term used in the business management realm to a problem definition process here in relation to policing work. Moreover, this first investigative activity involves deciding on the overall investigative approach for the case not only in terms of information acquisition but also as indicated on Figure 1 in undertaking the key task, usually by a senior investigative officer in a serious or major incident, of forming an appropriate investigative team to handle the case.



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2. *Investigation Approaches.* This second activity of identifying problem solving approaches involves the actual generation of ideas and action plans for the investigation. As such it is a key process for it sets the direction and tone of the investigation and is very much influenced by the composition of the members of the investigative team. For example, the experience level of investigators and their preferred investigative thinking style might be a critical success factor in this second primary activity of the value shop.
3. *Approach Decision.* This solution choice activity represents the decision of choosing between alternatives generated in the second activity. While the least important primary activity of the value shop in terms of time and effort, it might be the most important in terms of value. In this case, trying to ensure as far as is possible that what is decided on to do is the best option to follow to get an effective investigative result. A successful solution choice is dependent on two requirements. First, alternative investigation steps were identified in the problem solving approaches activity. It is important to think in terms of alternatives. Otherwise, no choices can be made. Next, criteria for decision-making have to be known and applied to the specific investigation.
4. *Investigation Implementation.* As the name implies, solution execution represents communicating, organizing, investigating, and implementing decisions. This is an equally important process or phase in an investigation as it involves sorting out from the mass of information coming into the incident room about a case and directing the lines of enquiry as well as establishing the criteria used to eliminate a possible suspect from further scrutiny in the investigation. A miscalculation here can stall or even ruin the whole investigation. Most of the resources spent on an investigation are used here in this fourth activity of the value shop.
5. *Performance Evaluation.* Control and evaluation involves monitoring activities and the measurement of how well the solution solved the original problem or met the original need. This is where the command and control chain of authority comes into play for investigation and prevention units and where the determination of the quality and quantity of the evidence is made as to whether or not to charge and prosecute an identified offender in a court of law.

Application of an intelligence strategy in the company should strengthen its core competencies. According to Prahalad and Hamel (1990), core competencies are the collective learning in the organization, especially how to coordinate diverse service skills and integrate multiple streams of technologies. Since core competence is about harmonizing streams of technology, it is also about the organization of work and the delivery of value. Core competence does not diminish with use. Unlike physical assets, which do deteriorate over time, competencies are enhanced as they are applied and shared.

8.2 Investigation Issues

Hinduja (2007) developed a number of issues that are of particular relevance to computer crime investigations. He argues that the following points will result in greater investigative efficacy when addressing high-tech wrongdoing:

- *Role of first-responding officer.* This role in computer crime cases is of critical importance because the evidence associated with cyber crime is often intangible in nature. Certain precautions must be taken to ensure that data stored on a system or on removable media is not modified or deleted – either intentionally or accidentally. Even the simple shutting-down of a computer can change the last-modified or last-accessed timestamp of certain system files, which introduces questions associated with the integrity of the data. To preclude vulnerabilities in the prosecutor's case and to adequately defend against any related challenges, responders should exercise grave care during the search and seizure of computer equipment.
- *Role of investigator.* In traditional crime, a significant amount of information is provided to the responding officer by the victim(s). In computer crime, much effort will be expended in order to identify evidentiary facts, interpret clues, follow leads, and gather data to make a compelling case against the suspect(s). Due to the veiled nature of the techniques associated with computer crime, a victim may have none of little valuable and relevant information for the police investigation.
- *Information, instrumentation, and interviewing.* Information refers to the fact that criminal investigation is centered in the gathering, organizing, and interpreting of data directly or tangentially related to the case. Instrumentation refers to forensic science and specific techniques afforded to crime-solving investigators. Interviewing refers to the process of soliciting and lawfully extracting information from individuals who are knowledgeable about the circumstances of a crime in some capacity. Instrumentation in investigating financially related and profit-oriented crime involving computer systems primarily revolves around the tracking and analysis of records and logs to determine discrepancies or irregularities in the normal order. For example, money laundering with the use of computers concerns the process of concealing the source of illegally obtained money and often involves the creation, fabrication, or alteration of documents to create a legitimate paper trail and history. Interviewing appears to be less salient as a direct method to investigate computer crime, largely because the victim is often unaware (either immediately or even for a great length of time) that a crime has occurred and that harm has resulted. However, interviews can be extremely useful in terms of expert interviews and stakeholder interviews that can provide new insights and new perspectives for the investigation.

- *Evidence collection and processing.* In terms of evidentiary issues, the preliminary strategies associated with computer crime will normally be executed as any other type of crime. Police departments have procedural requirements for evidence collection that is followed, but certain subtleties endemic to computer crime can be noted. The complexity associated with the lack of tangible evidence and an actual crime scene can cause the investigator to concentrate on evidence collection related to individual-level variables as predictors of this form of criminality. The detailed analyses of logs, records, and documents associated with the unlawful transaction or action has to be organized in a structure that is retrievable and combinable as evidence.

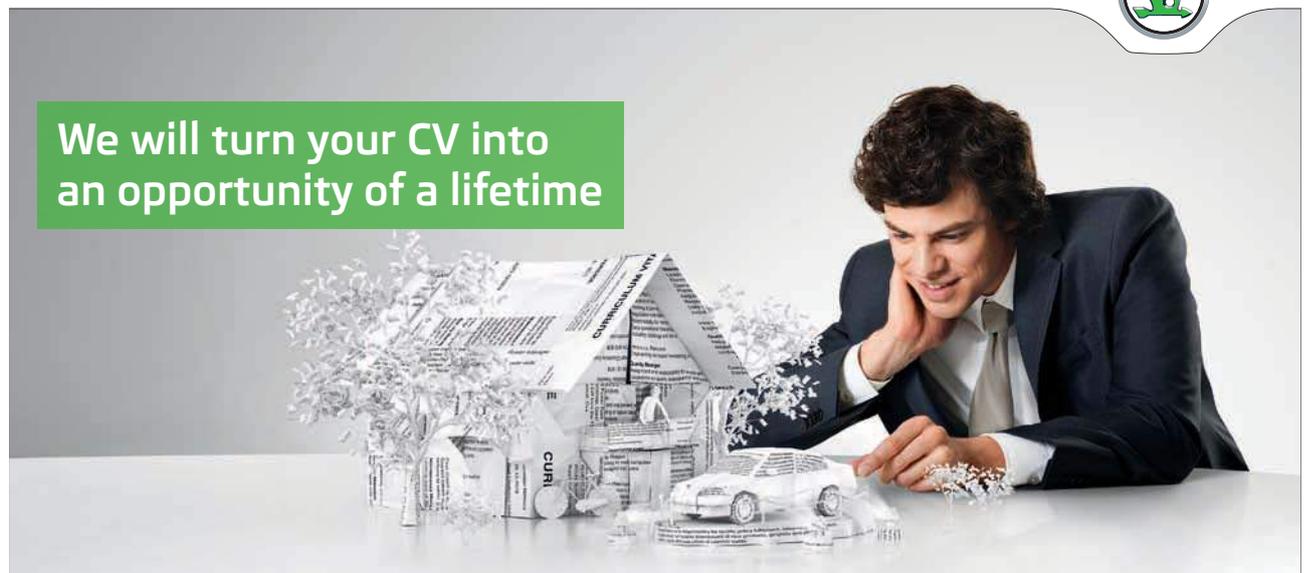
Once evidence associated with a computer crime is lawfully discovered, Hinduja (2007) stresses the importance of multiple safeguards to preserve evidence continuity and integrity. Physical and removable media have to be protected because of their sensitive nature. Magnetic fields and even static electricity have the potential to render unusable and unreadable certain electronic equipment such as data storage devices and disks. The suspect should be restricted from the computing environment because of the possibility that digital evidence might be altered or deleted.

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8.3 Senior Investigating Officer

The performance of the financial crime investigation and prevention unit should be continually under scrutiny by the executive leadership of the business or public organization. There is widespread recognition within the policing service that there is a need to improve the professionalism of the investigative response. In the UK, the professionalizing investigation program was introduced in 2005 for police units. The purpose is to significantly improve the personal, functional and organizational ability of the service to investigate crime of any category. In performance terms the aim of the program is to deliver (Home Office, 2005b):

- Improved rates of crime detection
- Improvement in the quality of case files
- A reduction in the number of failed trails
- Improved levels of judicial disposal
- Increased public confidence in the police service

The long-term outcomes of the program shall deliver the professional development of staff against robust national occupational standards by developing police staff that is better-qualified and thereby better skilled in investigation, more focused training for investigation, and minimal accreditation bureaucracy.

In all complex or serious cases, on which a team of investigators is deployed, the senior investigating officer sets out what the main lines of enquiry are, and record his or her decisions on those lines of enquiry as the investigation progresses. For example, the SIO directs which policy decisions are recorded in the HOLMES system in the UK. The Major Incident Policy Document is maintained whenever a Major Incident Room using HOLMES system is in operation (Home Office, 2005a).

The SIO plays a pivotal role within all serious crime investigations. Concerns have been expressed, however, that there is a shortage of investigators with the appropriate qualities to perform this role effectively. The consequences of such a shortage could be severe. Not only might it threaten the effective workings of the judicial process, it can also waste resources, undermine integrity and reduce public confidence in the police service. The principal aim of the research conducted by Smith and Flanagan (2000) was to establish what skills, abilities and personal characteristics an SIO ought to possess to be effective in the investigation of low-volume serious crimes (stranger rape, murder and abduction).

Interviews were conducted with 40 officers from ten forces in the UK. These were selected to reflect a range of roles and experience with Criminal Investigation Departments (CID). Ten of these officers were nominated by their peers as examples of particularly effective SIOs.

Although the debate around SIO competencies has often polarized into arguments for and against specialist or generalist skills, the research highlighted the fact that the role of an SIO is extremely complex and the skills required wide-ranging. By applying a variety of analytical techniques, a total of 22 core skills were identified for an SIO to perform effectively in the role. The 22 skills were organized into three clusters:

- *Investigative ability.* This includes the skills associated with the assimilation and assessment of incoming information into an enquiry and the process by which lines of enquiry are generated and prioritized.
- *Knowledge levels.* This relates to the different types of underpinning knowledge an SIO should possess.
- *Management skills.* These encompass a broad range of skill types that were further sub-divided between people management, general management and investigative management.

The research revealed that the effective SIO is dependent upon a combination of management skill, investigative ability and relevant knowledge across the entire investigative process, from initial crime scene assessment through to post-charge case management.

Ideally, an SIO should possess a high level of competency across each of the three clusters. In reality this is not always possible and, when this happens, there is an increased risk that the investigation will be inefficient or, in the worst case, will fail.

For example, an SIO from a predominantly non-CID background will have little experience within an investigative context. Hence there is an increased risk that an investigation will fail due to sub-optimal investigative decisions being made. Similarly, an SIO from a predominantly CID background may have less general management experience. Hence there may be an increased risk of failure from sub-optimal management decisions.

The research suggested that some – but not all – deficiencies in an SIO's skill portfolio can be compensated for by drawing on the skills and abilities of more junior officers within his/her investigative team. However, it was recognized that this was still a high-risk and short-term strategy.

In police investigations the manager of an investigative unit is generally referred to as a SIO. This is a middle management type position in the command and control hierarchy of a police organization. Such a middle ranking position carries much responsibility for making sure an investigation stays on track, within budget and produces good results in terms of evidence and prosecution. Such responsibility places strong leadership demands on an SIO. Hence, Mintzberg's (1994) research on management roles is relevant and provides a firm basis on which to appreciate and understand the inter-related activities of a manager.

A manager's job consists of several parallel roles. At a certain point in time, the manager may perceive one role as more important than the others. Mintzberg (1994) found that it is a peculiarity of the management literature that its best-known writers all seem to emphasize one particular part of the manager's job to the exclusion of the others. Together they cover all the parts, but even that may not describe the whole task of managing.

Mintzberg's role typology is frequently used in studies of managerial work. When such role terminology is applied to a financial crime investigation and prevention context, some modification is required as an SIO will not necessarily be responsible for all aspects of each role. Furthermore, business management terminology does not fit so well in a policing and law enforcement domain. Hence, some of the role labels have been changed to provide a more accurate fit with police terminology.

These six policing manager roles for corporate social responsibility are briefly described below along with the police-specific role label noted in brackets.

- **Personnel leader (Motivating Role).** As a leader, the manager is responsible for supervising, hiring, training, organizing, coordinating, and motivating a cadre of personnel to achieve the goals of the organization. This role is mainly internal to the investigation and prevention unit. As stated previously, an SIO would not be generally be responsible for hiring a particular individual in a business sense, but would have a say in which particular investigator might join his team for a particular investigation. However, the main thrust of this role for an SIO is that of motivating his/her staff and keeping such motivation up especially in a difficult and protracted investigation.
- **Resource allocator (Resourcing Role).** The manager must decide how to allocate human, financial and information resources to the different tasks of the investigation. This role emphasizes planning, organizing, coordinating and controlling tasks, and is mainly internal to the financial crime investigation and prevention unit. Often, an SIO has to be an advocate in this regard to get the necessary resources for his team to be able to conduct the investigation efficiently and effectively.
- **Spokesperson (Networking Role).** As a spokesperson, the manager extends organizational contacts to areas outside his or her own jurisdiction. This role emphasizes promoting acceptance of the unit and the unit's work within the organization of which they are part. For the manager it means contact with the rest of the organization. Frequently, he or she must move across traditional departmental boundaries and become involved in personnel, organizational and financial matters. Hence, with regard to an SIO this key role is one of networking within the business organization.

We distinguish between the following roles as illustrated in Figure 2:

- **Entrepreneur (Problem-solving Role).** The manager identifies the policing needs and develops solutions that change situations. A major responsibility of the manager is to ensure that rapidly evolving investigation methods are understood, planned, implemented, and strategically exploited in the organization. Such a role is more akin to being a problem-solver than an entrepreneur in a policing setting.
- **Liaison (Liaising Role).** In this role, the manager communicates with the external environment, and it includes exchanging information with government agencies, private businesses, and the media. This is an active, external role. This is a very similar role description for an SIO who has to liaise with a wide range of people throughout an investigation who are external to the investigation and prevention unit like executive management but which are part of the overall criminal justice system in the organization.

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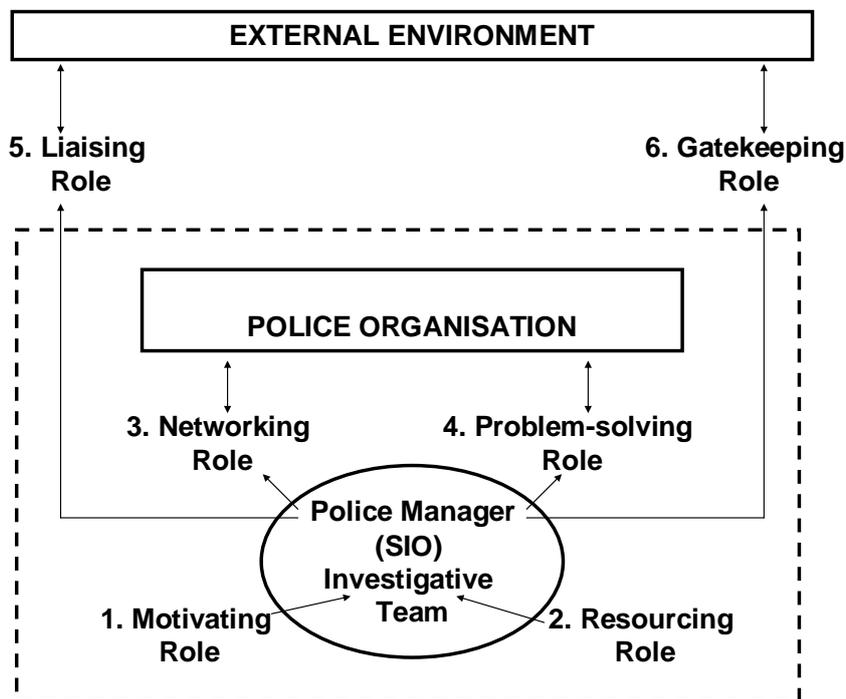
- **Monitor (Gatekeeping Role).** This role emphasizes scanning of the external environment to keep up with relevant changes, such as politics and economics. The manager identifies new ideas from sources outside his or her organization. To accomplish this task, the manager uses many resources, including vendor contacts, professional relationships, and a network of personal contacts. While an SIO clearly monitors the progress or otherwise of an investigation, the role description here is more like a gatekeeping role. In that it is not so much external politics or economics, which an SIO has to contend with but rather making sure the media and other outside forces do not disrupt the progress on an investigation. Hence, in that sense this is a gatekeeping role to protect the investigative team and undue external pressure.

These investigation and prevention manager roles are illustrated in the figure. As can be seen the motivating and resourcing roles are internal to the investigation team for the SIO. The networking and problem-solving roles are directed towards the policing organization, and the liaising and gatekeeping roles are linked to the external environment for the SIO.

We would expect that these roles are not equally important for a SIO in relation to creating investigative success. Moreover, some roles may be more influential in terms of stimulating knowledge sharing. For example, adopting a motivating role may be more important for an SIO to engage in within the investigative team, but not as important in relation to the wider policing organization. There is some research that suggests that the networking role (or spokesperson) is the most important for dealing with the larger organization when knowledge is communicated to stakeholders (Lahneman, 2004).

A survey instrument was applied in this research, where respondents filled in a space. In the open electronic space, respondents could write five characteristics in their own wording. To classify these responses, content analysis was needed. According to Riffe and Freitag (1997), seven features of content analysis distinguish poor studies from excellent studies. First, an explicit theoretical framework is needed. In this research, the theoretical framework of management roles as developed by Mintzberg (1994) is applied. Second, hypotheses or research questions are needed. In this research, the research question 'what' is concerned with descriptions of characteristics. Third, other research methods should also be applied. In this research, a survey is supplemented with content analysis. Forth, extra-media data should be incorporated. In this research, results from another investigation survey were incorporated. Fifth, inter-coder reliability should be reported. In this research, the characteristics content construct was coded by two researchers independently. Sixth, reliability based on random sample of coded content was not relevant in this research, as there is a complete set of responses. Finally, presentations of only descriptive statistics should be avoided.

Police Management: Role Activities in Investigation Process



(Adapted by Dean [2006] from Karlsen and Gottschalk, 2002)

Figure 2. Manager roles in financial crime investigation and prevention

The questionnaire was sent to 325 detectives by email. With 110 responses returned, this gave a response rate of 34%. However, only 71 detectives filled in the open space for characteristics of effective detectives, thereby reducing the response rate to 22%. Since each detective wrote five characteristics each, a total of 355 characteristics were collected, as listed in Table 1.

Two raters were involved in the classification of responses. There was no need to develop key words in this research, as respondents provided responses in terms of key words. Acceptable inter-rater judgment reliability (IJR) of 0.94 was achieved. Reliability is an assessment of the degree of consistency between multiple raters of a variable (Hair et al., 2006).

| | | | | |
|---------------------|-------------------------|-----------------------|-----------------------|-----------------------|
| Objectivity | Cooperative skills | Authority when needed | Keeping overview | Organizational skills |
| Creative | Investigative knowledge | Cooperative skills | Organizational skills | Motivational skills |
| Creative | Motivational skills | Listening skills | Participating in work | Managing the case |
| Curious | Detailed | Knowledge of law | Not giving up | Human knowledge |
| Motivational skills | Inspirational | Professional | Patient | |

| | | | | |
|--------------------------|--------------------------|-------------------------|-------------------------|----------------------|
| Open mind | Communicative skills | Empowering skills | Exploring personnel | Analytic skills |
| Communicative skills | Feedback skills | Identifying connections | Investigative knowledge | Resisting pressure |
| Experience | Broad competence | Action oriented | Understanding the case | |
| Communicator | Good listener | Ability to motivate | Avoiding details | Creating ideas |
| Investigative insights | Integrity | Ability to listen | Judgment | Decision maker |
| Analytic skills | Creative | Systematic | Showing empathy | Good leader |
| Objective | Sensitive | Analytic | Structured | Creative |
| Listening to others | Experienced in the field | Motivational | Good mood | Make decisions |
| Ability to lead | Find good solutions | Value employees | Cooperation | Good mood every day |
| Clever at organizing | Clear speech | Cooperative | Creative | Lots of experience |
| Good organized | Speed | Knowledgeable | Good memory | Divide work |
| Good overview | Delegation skills | Analytic ability | Team leadership | Motivational skills |
| Stimulate officers | Delegate | Humor | Structured | |
| Ability to communicate | Positive attitude | Flexibility | Investigative knowledge | Involvement |
| Structure | Goal oriented | Self confidence | Engaged | Creative |
| Motivational | Engaged | Analytic | Professional skills | Systematic |
| Seeing the whole picture | Motivator | Good at delegating | Good feedback | Does care |
| Ability to supervise | Knowledge of the cases | Ability to delegate | Investigative knowledge | Open minded |
| Openness | Organized | Motivating | Results oriented | Fair |
| Systematic | Thorough | Honest | Calm | Empathetic |
| Objectivity | Good at listening | Good mood | Ability to prioritize | Having good overview |
| Motivational | Systematic | Good communication | Human | Balanced |
| Concrete | Caring | Thorough | Open to proposals | Experience |
| Patient | Seeking options | Listening | Motivational | Giving feedback |
| Results oriented | Not afraid | Communicative skills | Stimulate employees | Action oriented |
| Leadership skills | Offensive | Active | Curious | Fair |
| Cooperative skills | Structured | Creative | Listening | Engaged |
| Investigative insights | Ability to receive | Ability to systematize | Ability to delegate | Ability to motivate |

| | | | | |
|-------------------------|---------------------------|----------------------------|-------------------------|---------------------------|
| Structured | Investigative knowledge | Fair | Positive attitude | Ability to have oversight |
| Understanding people | Honesty | Offensive | High moral | Objective |
| Creative | Encouraging | Open | Knowledgeable | Overview |
| Cooperative skills | Sees person potential | Ability to listen | Tactical | Open to new ideas |
| Knowledgeable of law | Delegating | Being creative | Make decisions | Motivate officers |
| Ability to see all | Ability to inspire | Ability to listen | Ability to implement | Ability to correct |
| Professional | Decision oriented | Engaged | Motivational | Team leader |
| Human | Professional | Openness | Honesty | Energy |
| Investigative insights | Motivational | Including | Ability to delegate | Goal oriented |
| Broad experience | Ability to cooperate | Listen to others' opinions | Being explicit | Ability to delegate |
| Open mind | Good at communicating | Decision minded | Investigative knowledge | Present |
| Distribute tasks | Thinking creatively | Good monitoring | Good consulting | Thinking new |
| Having good overview | Give credit and criticism | Good at encouraging | Suggesting solutions | Ability to cut the crap |
| Mature soul | Investigative level | Good organizer | Communicative skills | Contribute to openness |
| Communication | Humility | Authority | Self insight | Humor and good mood |
| Open to proposals | Let others lead | Give feedback | Push progress | Make decisions |
| Systematic | Analytic | Creative | Determined | Knowledgeable |
| Good team leader | Stimulating creativity | Having overview | Open minded | Patient |
| Motivator | Keeping calm | Decision power | Creative | Listening |
| Objectivity | Listen | Leading | Think new | Cooperation |
| Professional skills | Thorough | Create team feeling | Ability to motivate | Analytic ability |
| Motivational | Ability to stimulate | Communicative skills | Including personnel | Systematic |
| Leadership skills | Investigative skills | Organizational skills | Creative | Supervising skills |
| Stimulating team | Full of initiatives | Knowledgeable | Involving officers | Clear messages |
| Listening | Relevant attitude | Objective | Humble | Person oriented |
| Open | Creative | Innovative | Inspirational | Integrity |
| Knowing how to motivate | Able to cooperate | Thinking creatively | Being structured | Being effective |
| Creative | Motivational | Listening | Social | Investigative competent |

| | | | | |
|-------------------------|------------------------|--------------------------|-------------------------|-------------------------|
| Integrity | Objective | Cooperative skills | Reliable | Experience |
| Objective | Motivational | Structured | Competent | Thinking systematically |
| Investigative strengths | Ability to lead | Having good overview | Being creative | Good to communicate |
| Knowledge | Experience | Attitude | Patience | Overview |
| Ability to motivate | Ability to listen | Investigative competence | Identifying limitations | Creativity |
| Good to communicate | Ability to delegate | Ability to prioritize | Decision power | Ability to cooperate |
| Ability to motivate | Ability to be critical | Decision making ability | Ability to delegate | Ability to evaluate |
| Ability to motivate | Having patience | Relevant experience | Being team oriented | Listen to others |
| Motivator | Listening | Supervising | Create good environment | Let all in the team act |
| Focus | Cooperative skills | Knowledge | Creativity | Humility |

Table 1. Characteristics of effective SIOs according to respondents (5 characteristics by 71 respondents)

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As can be seen in the table, most respondents provided 5 characteristics of effective SIOs as requested. Only three respondents provided 4 characteristics. A total of 352 characteristics represent our data in this research. Respondents were not asked to prioritize their five characteristics. Therefore, all 352 characteristics are treated as equally important in this research.

Our first analysis was simply to look for words, which were mentioned by several respondents. We find words such as ‘creativity’, ‘communication’, and ‘cooperation’, indicating that the manager of the investigation should contribute with new ideas (creativity), should talk to people (communication) and should work with people (cooperation).

Our second analysis was concerned with person focus versus task focus. It was assumed that SIOs tend to be task focused, while investigators would like them to be more person focused. When classifying all responses in Table 7.1 along these two categories, we found that 54% of the statements are person focused, while 46% are task focused.

Our third analysis was classification of items in the table according to management areas.

We make distinctions between four management areas:

- *Task management.* Managing the tasks of the investigation.
- *Person management.* Managing the officers involved in the investigation.
- *Administration management.* Managing the systems supporting the investigation.
- *Strategy management.* Managing the direction of the investigation.

When independent raters applied this classification scheme to the 352 items in Table 7.1, the following distribution emerged:

- 40 percent of the characteristics were assigned to *person management*.
- 30 percent of the characteristics were assigned to *task management*.
- 18 percent of the characteristics were assigned to *strategic management*.
- 12 percent of the characteristics were assigned to *administrative management*.

The fourth analysis was concerned with our adoption of Mintzberg’s (1994) management roles into motivating role, resourcing role, networking role, problem-solving role, liaising role, and gatekeeping role. Although not explicitly asked for, characteristics of effective detectives can be interpreted in terms of their importance to the management roles. Each characteristic might be assigned to one of the roles according to importance of the characteristic in that specific role. This was done in the research, which resulted in the following distribution:

- 38 percent of the characteristics were assigned to the motivating role of *personnel leader*.
- 23 percent of the characteristics were assigned to the resourcing role of *resource allocator*.
- 11 percent of the characteristics were assigned to the networking role of *spokesperson*.
- 19 percent of the characteristics were assigned to the problem-solving role of *entrepreneur*.
- 5 percent of the characteristics were assigned to the liaising role of *liaison*.
- 4 percent of the characteristics were assigned to the gatekeeping role of *monitor*.

The fifth and final analysis was concerned with the distinction between investigative ability, knowledge levels, and management skills, as suggested by Smith and Flanagan (2000). When these three categories were applied to Table 1, we found 38% investigative ability, 9% knowledge, and 53% management skills as characteristics of effective SIOs as defined by investigators.

Survey results indicate that the most important leadership role for SIOs is the motivating role of the personnel leader. In this role, the SIO is responsible for the supervising, hiring, training, organizing, coordinating, and motivating a cadre of personnel to achieve the goals of the organization. This role is mainly internal to the police investigation unit. As stated previously, an SIO would not be generally be responsible for hiring a particular individual in a business sense, but would have a say in which particular police investigator might join his team for a particular investigation. However, the main thrust of this role for an SIO is that of motivating his/her staff and keeping such motivation up especially in a difficult and protracted investigation.

In different study, we asked SIOs how they would rate the importance of each leadership role. Their results are listed in Table 2. SIOs themselves find the problem-solving role most important (5.0), followed by the resourcing role (4.8).

| Management roles in police investigations | Mean |
|--|-------------|
| Motivating role – responsible for guiding and follow-up personnel who participate in the investigation | 4.7 |
| Resourcing role – making decisions about allocation of resources in the investigation | 4.8 |
| Networking role – informing other involved units in the Police about the investigation | 4.4 |
| Problem-solving role – identifying opportunities and initiatives in the investigation | 5.0 |
| Liaising role – managing information & knowledge about external matters that might be relevant for the investigation | 4.6 |
| Gatekeeping role – communicating with the external environment about the progress in the investigation | 4.4 |

(Scale: 1=not important to 7=very important)

Table 2. Measurement of management roles

When compared to the current responses from detectives, we find some interesting results. While the SIOs do not find the motivating role particularly important, detectives that are supervised by SIOs find this role most important. Opposite, while SIOs find the problem-solving role most important, detectives do not find this role particularly important.

When combining the results from all five analyses, we find that an effective detective is characterized by being person focused in person management as a personnel leader with management skills.

Two important limitations in the current study have to be addressed. First, the response rate of 22 percent is low. As there were no follow-ups in the survey administration, and responding to each open-ended question was voluntary, the response rate as such is as expected. However, a bias in responses is not unlikely, limiting the possibility of generalized findings. For example, only detectives with strong opinions about leadership and management may have articulated their views in the survey. Future research designs should strive for higher response rates and include contacting some random non-respondents.

Second, the construct 'effective' SIOs is problematic. Implicitly, we argue that there is a significant, positive relationship between detectives' opinions and actual effectiveness, since we only measured what detectives consider to be effective. Also, since effectiveness was not defined in the questionnaire, responding detectives might have emphasized very different interpretations of this construct. Future questionnaire designs should strive to solve such research design problems.



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Effective SIOs as evaluated by their subordinates are characterized by being person oriented rather than case oriented. Important skills are motivational skills, communicative skills, listening skills, and organizational skills. According to this study, the least important for SIOs is investigation knowledge, when compared to investigative ability and management skills.

8.4 Electronic Evidence

Electronic evidence and computer forensics have become essential for responding to legal actions against financial crime. More and more of the evidence for crimes such as fraud, theft, corruption and embezzlement is in digital form. Legal cases today increasingly rely on evidence represented as digital data stored on computers and storage media. In legal actions, organizations are obligated to respond to a discovery request for access to information that may be used as evidence in court, and the organization is required by law to produce those data. Courts all over the world now impose severe financial and also criminal penalties for improper destruction of electronic documents that should have been stored safely and retrievably (Laudon and Laudon, 2010).

Laudon and Laudon (2010) argue that all organizations should have an effective electronic retention policy that ensures that electronic documents, e-mail, and other records are well organized, accessible, and neither retained too long nor discarded too soon. It also reflects an awareness of how to preserve potential evidence for computer forensics.

Computer forensics is the scientific collection, examination, authentication, preservation, and analysis of data held on or retrieved from computer storage media in such a way that the information can be used as evidence in a court of law. Computer forensics or digital forensics is the art and science of applying computer science to aid the legal process. It is more than the technological, systematic inspection of electronic systems and their contents for evidence or supportive evidence of a criminal act. Digital forensics requires specialized expertise and tools when applied to intelligence in important areas such as financial crime. As a term, digital forensics refers to the study of technology, the way criminals use it, and the way to extract and examine digital evidence (Ferraro and Casey, 2005).

Digital forensics is an approach to identifying evidence from computers that can be used in trials. A typical forensics investigation consists of two main phases, exploration and evidence respectively. During the exploration phase, investigators attempt to identify the nature of the problem and what exactly happened or is expected to happen at the crime scene. The evidence phase takes place after the exploration has been concluded. It consists of accumulating all documentation, which will work in court.

From a data viewpoint, this two-phase procedure can be broken down into six stages: preparation, incident response, data collection, data analysis, presentation of findings, and incident closure. Some of these stages may be so complex in certain circumstances that they are divided into sub-stages. The most time consuming tasks in digital forensics investigation are searching, extracting, and analyzing. Therefore, there is a need for a forensics model that allows formalization of the digital forensics process, innovative data mining techniques for the forensics process, and a dedicated infrastructure for digital forensics.

Computer forensics deals with the following problems (Laudon and Laudon, 2010: 338):

- Recovering data from computers while preserving evidential integrity
- Securely storing and handling recovered electronic data
- Finding significant information in a large volume of electronic data
- Presenting the information to a court of law

Laudon and Laudon (2010) argue that an awareness of computer forensics should be incorporated into an organization's contingency planning process. The CIO, security specialists, information systems staff, and corporate legal counsel should all work together to have a plan in place that can be executed if a legal need arises.

8.5 How Detectives Work

According to Tong (2007), the secretive nature of the detective world has attracted little attention from researchers. However, competing perspectives about detective work can be discerned from available literature. Detective work has been characterized as an art, a craft, a science, and a combination of all three. The old regime of the seasoned detective highlighted the notion of detective work as a craft. An alternative perspective highlights the scientific nature of detective work, which focuses on the skills needed for crime scene management, the use of physical evidence, investigative interviewing, informant handling, offender profiling, management of the investigative process, and knowledge management.

It is important for detectives to be effective in their work, as new public management is focusing closely on the effective use of resources. However, measuring effectiveness is no easy task. Measurement, in an investigative context, has focused upon the outcome of cases, often at the expense of evaluating the process of the investigation and quality of its outputs. Tong (2007) argues that not only have the police been subject to inadequate measurement criteria such as clear-up rates, there has also been a lack of recognition of good quality police work. The task of recognizing good detective work involves more than providing an appropriate method of measurement; it also implies an awareness of the impact of practice as well as an awareness of the knowledge accumulation, sharing and reuse.

It follows that the most useful approach to measuring detective effectiveness will not necessarily be the measurement of specific outcomes, although such measures will be useful for resource management. Tong (2007) argues that effectiveness in the context of detective work is best measured by focusing on the key processes and decisions in which detectives engage to encourage a professional working culture based on how detectives come to decisions. In the context of the value shop for knowledge work, decisions are made in all five primary activities: understanding the problem, identifying problem solutions, prioritizing actions, implementing investigation, and evaluating and controlling detective work.

Tong (2007) constructed the following profile of an effective detective after analyzing the academic literature relating to detective skills and abilities:

1. *Personal Qualities*. Intelligence, common sense, initiative, inquisitiveness, independence of thought, commitment, persistence, ability to talk to people, flexibility, ability to learn, reflexivity, lateral thinking, creative thinking, patience, empathy, tolerance and interpreting uncertain and conflicting information, ability to work away from family and home, interpreting feelings, ideas and facts, honesty and integrity.
2. *Legal knowledge*. Knowledge of the law referring to police powers, procedure, criminal justice process, a good grounding in criminal law, awareness of changes to legislation, courtroom protocol, rules of disclosure, use of evidence, format of case file and awareness of defence arguments.
3. *Practical knowledge*. Technology available to detectives and used by criminals, understanding the context in which crime is committed and awareness of investigative roles of different functions of the police organization and specialist advisors. Recognition that crime changes with time and place and may require police responses that are tailored to specific context. Forensic awareness and practical expertise (e.g. crime scene preservation and packaging of evidence).
4. *Generic knowledge*. Recognition that knowledge changes, awareness of developments in practice will allow the detective to remain up to date.
5. *Theoretical knowledge*. Understanding of theoretical approaches to investigative reasoning and theories of crime.
6. *Management skills*. The management and control of case information, implementing investigative action, formulating investigative strategies, verify expert advice, prioritize lines of enquiry, formulate media strategies, awareness of resource availability and knowledge of roles of personnel available to the investigation. Manage knowledge and learning through the use of research skills to enable the detective to remain up to date.
7. *Investigative skills*. Interview technique, presenting evidence, cultivating informants, extracting core information (from files, reports, victims and witnesses), file construction, appraising and evaluating information, ability to absorb and manage large volumes of information, statement taking, problem-solving, formulating lines of enquiry, create slow time, assimilate information from crime scene, continually review lines of enquiry, question and challenge legal parties.
8. *Interpersonal skills*. Ability to communicate and establish a rapport with a range of people, remain open minded, awareness of consequences of actions and avoid speculation.

Stelfox and Pease (2005) argue that there has been surprisingly little empirical research into the way in which individual officers approach the task of investigating crime. In their own research they found that investigators are practical people. Assuming that the cognitive abilities of the average investigator are no more nor less than the population as a whole, it can be anticipated that he or she will remain liable to make the same cognitive errors as the rest of us. Assuming also that the decision-making environment the detective works in is unlikely to change much, it can be anticipated that errors will recur.

Intelligence has emerged as an important component of contemporary policing strategies. However, Innes et al. (2005) argue that crime intelligence analysis is used in line with traditional modes of policing; is a way of claiming 'scientific objectivity' for police actions; and is largely shaped by police perspectives on data. They argue that the sense of enhanced objectivity often attributed to the products of 'intelligence work' is frequently overstated. Therefore, the products of crime analysis might better be understood as an artifact of the data and methods used in their construction, rather than providing an accurate representation of any crime problems.

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Added to which, Innes et al. (2005) found that there has been increasing frustration within certain sections of the police organization, with the perceived failure of community-policing programs to facilitate the routine supply of high-quality information to the police from members of the community. Any such concerns with low policing have been reinforced and amplified by recent developments at the 'high policing' level, where there is a well documented shift towards trying to effect enhanced national security from threats posed by terrorist groups, drug cartels and organized-crime networks.

The presence of criminal markets and networks implies a degree of organization to the conduct of crime. In turn, this serves to recursively justify the investment in technologies of analysis. It signals to the police themselves that simply arresting isolated individuals will have only a temporary effect on crime levels, before the adaptive qualities and replacement mechanisms of the surrounding networks and markets cause them to reform. Therefore, they need to conduct analysis so as to improve their awareness of the shape and make-up of the supporting networks and markets in which motivated criminals are located, so that any interventions taken against them are made to have more impact (Innes et al., 2005).

One of the bottlenecks in international police cooperation is the targeting of the proceeds of crime. International agencies such as Interpol and Europol are sometimes involved in the interaction between the authorities and enforcement organizations of the countries concerned. Borgers and Moors (2007) studied bottlenecks in international cooperation for the Netherlands in targeting the proceeds of crime. While no bottlenecks were found in cooperation with countries such as Belgium and the United Kingdom, bottlenecks were found in relation with countries such as Spain and Turkey. In relation to Turkey, the Netherlands acts mainly as the requesting state and not the requested state (Borgers and Moors, 2007: 8):

Regarding the cooperative relations with Turkey, Turkish respondents state that the framing of Dutch mutual assistance requests is inadequate. On the part of the Netherlands, there are different opinions on the depth of the investigation conducted at the request of the Netherlands. As far as the way in which people address one another is concerned, it is striking that the Turkish respondents sometimes consider the Dutch manner of operation as haughty and impatient. According to Dutch respondents, communication difficulties also occur if Dutch police officials directly contact the Turkish judges involved.

To fight organized crime, law enforcement in the UK reorganized. The United Kingdom's Serious Organized Crime Agency (SOCA) commenced operations in 2006 with an annual budget of £400 million. SOCA amalgamates the National Crime Squad, the National Criminal Intelligence Service (NCIS), and investigators from Customs and the Home Office's Immigration Service (Segell, 2007).

8.6 Detective Thinking Styles

In criminal investigations, detectives apply different thinking styles, such as method style, challenge style, skill style, and risk style. In a survey in Norway, detectives were asked to list the five most important characteristics of effective investigators. This was done in a free format, requiring content analysis to categorize responses. Responses were categorized according to thinking styles. While creativity was the most frequently mentioned characteristic, content analysis shows that the skill style of detectives is the most effective thinking style. To be effective, detectives need to practice good empathic communication, open-minded curiosity, logical reasoning, creative thinking, and dogged determination.

Creativity is often mentioned as a characteristic of effective detectives. Detectives can be creative in their job by generating new ways to perform their work, by coming up with novel procedures and innovative ideas, and by reconfiguring known approaches into new alternatives (Perry-Smith and Shalley, 2003). Yet, detectives are often told to work by the book, forgetting the importance of creative thinking and the importance of creative persons.

We distinguish between four thinking styles in police investigations. The method style is driven by procedural steps and conceptual processes for gathering information. The challenge style is driven by intensity of the job, the victim, the criminal and the crime. The skill style is driven by personal qualities and abilities of relating to people at different levels. The risk style is driven by creativity in discovering and developing information into evidence.

These four investigative thinking styles as illustrated in Figure 7.3, were introduced in this book to classify characteristics of effective detectives into relevant thinking styles. Such classification enables identification of important thinking styles and learning forms (Garcia-Morales et al., 2006).

Our study was concerned with how police detectives experience, understand, and think about the process of doing serious and complex criminal investigations. In police investigations, the experience of investigation begins for detectives when they are given a crime to solve. When handed a case detectives apply the basics of the procedural method they were trained in.

There are a variety of procedural steps within the criminal investigation training literature for various types of crimes but in essence all such steps follow a logical sequence that can be subsumed under a set of basic steps, referred to as the '5 C's' of the police procedural method of investigation. The 5 C's are the procedural steps of – collecting, checking, considering, connecting, and constructing – information into evidence.

Conceptually, this 'procedural method' presents a problem for detectives in that since their formal investigative training only equips them with this one way of 'thinking' investigation, the question becomes how do they learn to think in any other way or do they when investigating?

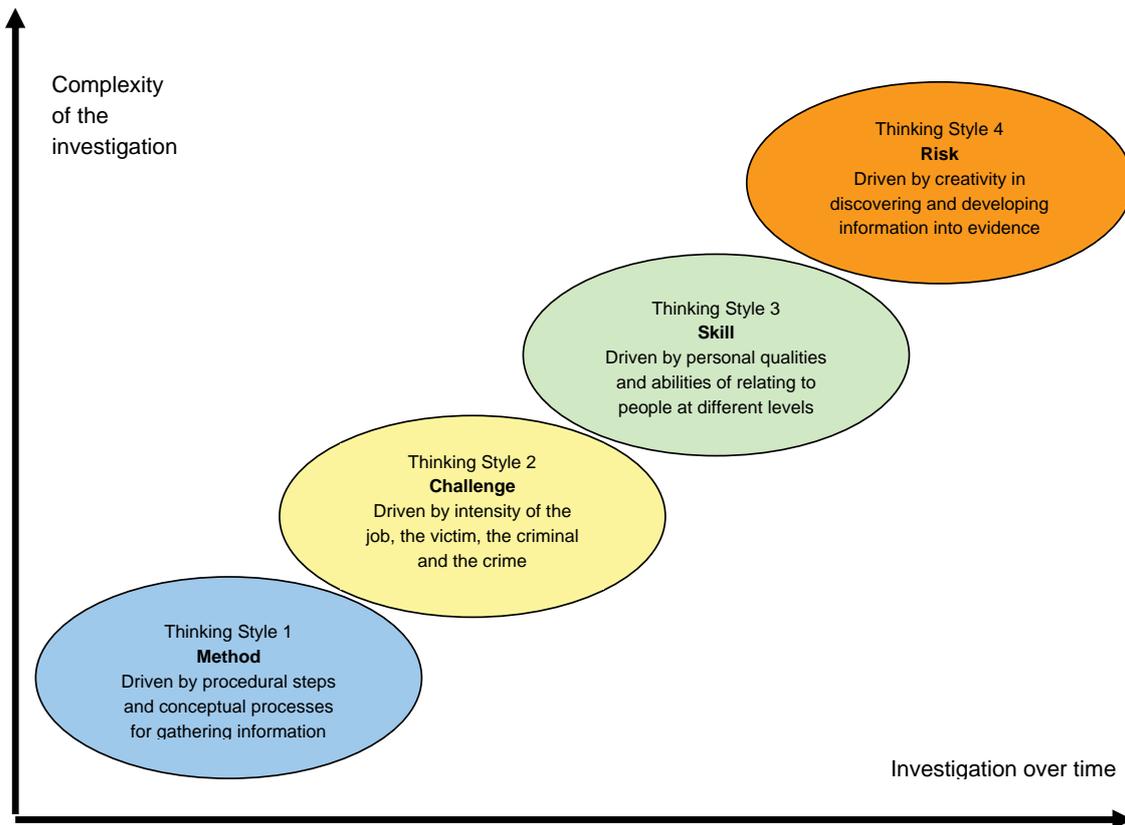


Figure 3. Ways of thinking about the investigation process

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Previous empirical research has identified that apart from the above mentioned 'method' style of investigative thinking there are three other qualitatively different ways or styles of thinking that potentially can come into play when detectives investigate a crime. The three other styles or preferred ways of thinking about the investigative process that experienced detectives use with serious and complex crimes are the challenge style, the skill style, and the risk style of investigative thinking. How each of these other three investigative thinking styles works in conjunction with the basic method style is briefly outlined.

As detectives conduct a serious and/or complex investigation, they become driven by the intensity of the challenge, which motivates them to do the best job they can for the victim(s) by catching the criminal(s) and solving the crime through the application of the 'basic 5C's' of the investigative method style of thinking they were trained in. This challenge style of thinking is all about what motivates that drive detectives to do the best they can do in a particular investigation (Home detectives. At this level detectives think about the job, the victim, the crime, and the criminal. These four elements (job-victim-crime-criminal) are the key sources of intensity (Home Office, 2005b).

In meeting this investigative challenge detectives require skill to relate and communicate effectively to a variety of people to obtain information so as to establish a workable investigative focus (Kiely and Peek, 2002). Such skill also requires detectives to be flexible in the how they approach people and the case, while maintaining an appropriate level of emotional involvement towards victims, witnesses, informants, and suspects. With this skill style of investigative thinking, detectives are concerned with how they relate to people. Detectives must think about how they are going to relate to the victim, witnesses, possible suspects, the local community, and the wider general public in order to get the information they need to make the case.

When exercising their investigative skill detectives seek to maximize the possibilities of a good result by taking legally sanctioned and logically justifiable risks across wide latitude of influence. Such justifiable risk-taking requires detectives to be proactive in applying creativity to how they seek to discover new information and, if necessary, how they develop such information into evidence. This risk style revolves around how detectives think through being proactively creative enough to discover new information and if necessary develop it into evidence that will stand up to testing in a court of law.

Although experienced detectives and investigators intuitively use these four levels of thinking in an investigation, it is rare that any one detective will give equal weight to all four styles of investigative thinking in a particular case, because detectives like everyone else, have a preference for maybe one or two particular styles or ways of thinking.

This phenomenon is about the cognitive psychology of police investigators. At its core, investigation is a mind game. When it comes to solving a crime, a detective's ability to think as an investigator is everything. Four distinctively different ways of thinking are investigation as method, investigation as challenge, investigation as skill, and investigation as risk. All four ways of describing a criminal investigation can be seen as more or less partial understandings of the whole phenomenon of investigation.

The four distinctively different ways of thinking (styles) about the investigation process by detectives is illustrated in the figure. As can be seen in the figure, there is a hierarchical structure to how investigators think. Not all cases will require the use of all four investigation-thinking styles to solve them. However, as time matches on in an investigative without a result then other styles of investigative thinking will need to come into play to increase the likelihood of a successful outcome. In essence, the more complex the crime the higher the investigative thinking style required solving it.

8.7 The Case of Økokrim in Norway

The Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime (Økokrim) is tasked with combating economic crime, environmental crime and the laundering of proceeds of crime. The work entails mainly investigating and prosecuting specific criminal cases. Økokrim (NAIPEE) is a national centre in the Norwegian police in combating financial crime. Økokrim is both a police specialist agency and a public prosecutor office with national authority (Økokrim, 2008).

Investigation work is carried out by permanent and interdisciplinary teams at Økokrim (2008). There were 12 such teams in 2007. Each individual team has primary responsibility for specific areas, and most teams are primarily tasked with investigating and prosecuting their own criminal cases. The teams were: (i) tax and duties team, (ii) fraud team, (iii) corruption team, (iv) securities team, (v) criminal assets team, (vi) financial intelligence unit, (vii) tax and competition team, (viii) bankruptcy team, (ix) subsidies fraud team, (x) stolen goods and money laundering team, (xi) assistance team, and (xii) environmental team.

The Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime (Økokrim) is a resource centre for the police and the prosecuting authorities in combating these types of crime. Økokrim was established in 1989, and is both a police specialist agency and a public prosecutor's office with national authority. The formal rules for Økokrim can be found in chapter 35 of the Prosecution Instructions. Økokrim's main objective is to combat economic crime, environmental crime and laundering of proceeds of crime. Økokrim has approximately 136 employees.

Økokrim's tasks are to:

- Uncover, investigate, prosecute and bring to trial its own cases
- Assist the national and international police and prosecuting authorities
- Boost the expertise of the police and the prosecuting authorities and to provide information
- Engage in criminal intelligence work, dealing in particular with reports of suspicious transactions
- Act as an advisory body to the central authorities
- Participate in international cooperation

Deterrence is one of our main objectives. Though our work on specific criminal cases, we demonstrate to the public that anyone breaking the rules in our area of jurisdiction will be liable to penalties. Most of Økokrim's resources are devoted to working on specific criminal cases.

Økokrim engages in extensive external training and information work in the form of talks, lectures and presentations at meeting, conferences and seminars. Such training and information measures also have a preventive effect. Økokrim actively uses its website to provide information about court sentences and other news, and to inform and provide warnings about different forms of crime (e.g., Nigerian scams, investment scams and various Internet and e-mail scams).

Økokrim has been heavily criticized in the media for public exposure of suspects and long investigation periods. In terms of public exposure, Økokrim tends to carry out razzias in the beginning of an investigation, thereby attracting media attention. A short while after the razzia in offices or homes, media is able to identify suspects and publish pictures of the suspects, their homes and families. In terms of long investigation period, it is not uncommon that it takes more than a year for Økokrim before they decide to prosecute or to dismiss the case. In the meantime, suspected white-collar criminals have been exposed in the media, and everyone remembers them as criminals, even though they were never convicted (DN, 2009).