



Occupational culture as determinant of knowledge sharing and performance in police investigations

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Abstract

Police investigation units represent a knowledge-intensive and time-critical environment. Knowledge sharing is a key process in investigations. In this paper, we present an empirical study of performance in police investigations. Police investigation units are defined as value shops, where primary detective work is performed. Knowledge sharing is found to have a significant influence on the police investigation value shop. Furthermore, this research suggests that knowledge sharing is influenced by occupational culture. Occupational culture is a reduced, selective, and task-based version of organizational culture that is shaped by the socially relevant worlds of policing occupation. Four dimensions of occupational culture were identified: team culture, planning culture, theoretical culture, and traditional culture. Only the extent of team culture was found to have a significant influence on the extent of knowledge sharing and performance in police investigations.

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1. Introduction

Occupational culture is a reduced, selective, and task-based version of organizational culture that is shaped by the socially relevant worlds of the occupation (Christensen and Crank, 2001). Police culture is an occupational culture that has been studied for many years (Fielding, 1984; Reuss-Ianni, 1993; Lahneman, 2004). For example, Christensen and

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Crank (2001) studied police work and culture in a non-urban setting in the US. They found a police culture emphasizing secrecy, self-protection, violence, and maintenance of respect. Barton (2004) found that the English and Welsh police culture is steeped in tradition, while Reuss-Ianni (1993) made a cultural distinction between street cops and management cops.

Police culture is assumed to influence both knowledge sharing (Luen and Al-Hawamdeh, 2001) and performance (Fraser, 2004) in policing. In this paper, we present an empirical study of Norwegian police concerned with relationships between police culture, knowledge sharing and performance in police investigations. The potential impact of occupational culture and knowledge sharing on police performance is important, as policing institutions are experiencing higher demands on performance while working within tight resource constraints (Home Office, 2005).

However, performance assessments for police work are lacking clarity. In this paper, we suggest the value shop (Stabell and Fjeldstad, 1998) for performance assessment of police investigations (Glomseth and Gottschalk, 2005; Gottschalk, 2006). The value shop is a model for knowledge work consisting of the five primary activities of initial crime scene assessment, assessment of incoming information for alternative actions, selecting appropriate lines of inquiry, case development, and post-charge case management (Smith and Flanagan, 2000).

2. Performance in police investigations

A critical area of law enforcement—police investigations—can be innovatively conceived of as displaying the characteristics of a particular type of value configuration, to borrow a term from the business management literature: that of a value shop.

For a long time, Porter's (1985) value chain was the only value configuration known to managers. Stabell and Fjeldstad (1998) have identified two alternative value configurations. A value shop schedules activities and applies resources in a fashion that is dimensioned and appropriate to solve a specific problem, while a value chain performs a fixed set of activities that enables it to produce a standard product in large numbers. Examples of value shops are professional service firms, as found in medicine, architecture, engineering, and law. A value network links clients or customers who are or wish to be interdependent. Examples of value networks are telephone companies, retail banks, and insurance companies.

We argue that the police investigation process has the value configuration of a value shop, similar to law firms. The value shop is an organization that creates value by solving unique problems. Knowledge is the most important resource. A value shop is characterized by five primary activities: problem finding and acquisition, problem solving, choice, execution, and control and evaluation, as illustrated in Fig. 1.

As can be seen in Fig. 1, these five activities are interlocking and while they follow a logical sequence, much like the management of any project, the different 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 police organization and how it engages in its core business of conducting reactive and proactive investigations.

Also, noted in Fig. 1 is how in practice these five sequential activities tend to overlap and link back to earlier activities, especially in relation to activity 5 (control and evaluation) in police organizations when the need for control and command structures are a daily

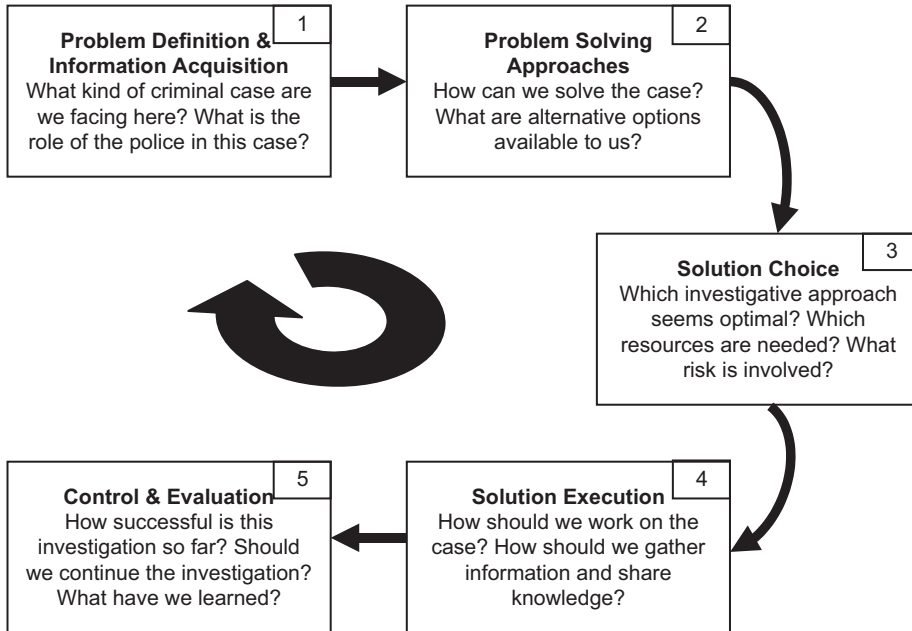


Fig. 1. Police investigation as value shop activities.

necessity because of the legal obligations that police authority entails. Hence, the diagram in Fig. 1 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 police investigation in a value shop manner.

These five primary activities of the value shop in relation to a police investigation unit can be outlined as:

1. *Problem definition and information acquisition.* 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 handing 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 apt 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 police 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 in Fig. 1 in undertaking the key task, usually by a senior investigative officer (SIO) in a serious or major incident, of forming an appropriate investigative team to handle the case.
2. *Problem solving approaches.* This 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. *Solution choice.* This represents the decision of choosing between alternatives. 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. *Solution execution.* As the name implies, this 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.
5. *Control and evaluation.* This 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 police organizations 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.

We define police investigation success in terms of the effectiveness of these five primary activities of police work organizations as value shops. Success is achieved if the unit is successful in understanding problems, finding investigation approaches, choosing an optimal investigation approach, implementing the optimal investigation approach, and solving the problem. Rather than a purely sequential procedure to solve a crime, police investigations move back and forth between all these five activities.

The value shop approach is very much in line with the investigative process as defined by Smith and Flanagan (2000). The process begins with an initial crime scene assessment where sources of potential evidence are identified. The information derived from the process then has to be evaluated in order to gauge its relevance to the investigation. During the next stage, the information is interpreted to develop inferences and initial hypotheses. This material can then be developed by the SIO into appropriate and feasible lines of enquiry. The SIO will then have to prioritize actions, and to identify any additional information that may be required to test that scenario. As more information is collected, this is then fed back into the process until the objectives of the investigation are achieved. Providing a suspect is identified and charged, the investigation then enters the post-charge stage, where case papers are compiled for the prosecution. Subsequently, the court process will begin.

3. Occupational culture

Organizational culture is a set of shared norms, values and perceptions, which develop when the members of an organization interact with each other and the surroundings. It is

holistic, historically determined, socially constructed, and difficult to change (Hofstede et al., 1990). Organizational culture might determine how the organization thinks, feels, and acts. Police culture as occupational culture, is an organizational culture shaped by the socially relevant worlds of the occupation of policing (Christensen and Crank, 2001).

Embedded in traditions and a history, occupational cultures contain accepted practices, rules, and principles of conduct that are applied to a variety of situations, and generalized rationales and beliefs (Bailey, 1995).

In analyzing the culture of a particular group or organization, Schein (1990) finds it desirable to distinguish three fundamental levels at which culture manifests itself: (a) observable artifacts, (b) values, and (c) basic underlying assumptions. When one enters an organization, one observes and feels its artifacts. This category includes everything from the physical layout, the dress code, the manner in which people address each other, to the more permanent archival manifestations such as company records, products, statements of philosophy, and annual reports.

Values at the second level can be studied through interviews and questionnaires in terms of norms, ideologies, charters, and philosophies. Basic underlying assumptions at the third and final level are concerned with perceptions, thought processes, feelings, and behavior.

4. Knowledge sharing

Knowledge sharing is a key process in knowledge activities such as police investigations. The value of knowledge sharing lies as a part of broader knowledge management incentives (Kwok and Gao, 2005). In discussing the scope of knowledge management in police work, Luen and Al-Hawamdeh (2001) take into consideration both tacit and explicit knowledge within the context of knowledge management. Tacit knowledge was first introduced by Polanyi (1966), who defined it as knowledge that is not formally taught and often not explainable in words. He stated that humans typically know more than they can tell.

Explicit knowledge is sometimes called articulable knowledge (Hitt et al., 2001). Articulable knowledge can be codified and thus can be written and easily transferred. Explicit knowledge is captured in the form of documents (e.g., doctrines, police general orders, standard operating procedures) that have been verified and ascertained to be of value to police officers. Examples of these documents include procedures for arrest, handling a fire scene, and illegal parking.

Knowledge transfer of both tacit and implicit knowledge can be defined as the communication of knowledge from a source so that it is learned and applied by a recipient (Ko et al., 2005). Knowledge transfer occurs at various levels in a police organization: transfer of knowledge between individuals, from individuals to explicit sources, from individuals to groups, between groups, across groups, and from the group to the organization.

Police investigation units represent a knowledge-intensive and time-critical environment (Chen et al., 2002; Holgersson, 2005; Hughes and Jackson, 2004). Successful police investigations are dependent on efficient and effective knowledge sharing. Furthermore, Lahneman (2004) argues that successful knowledge management in law enforcement depends on developing an organizational culture that facilitates and rewards knowledge sharing.

5. Research model and hypotheses

The research model is illustrated in Fig. 2. The model suggests that successful police investigations are dependent on the extent of knowledge sharing (Luen and Al-Hawamdeh, 2001), while the extent of knowledge sharing is dependent on occupational culture in the police (Lahneman, 2004).

A team culture is characterized by a group orientation by its members, rather than individualism. Instead of competition between members, team members cooperate with each other (Puonti, 2004). In a team culture, there is less need for strong management. Instead, freedom, trust, personal initiative and creativity are dominating characteristics of a team culture. This research suggests a positive relationship between the extent of team culture in police investigation units and the extent of knowledge sharing, hence our first hypothesis:

H1. The extent of knowledge sharing is positively related to the extent of team culture found in police investigation units as value shops.

A planning culture is characterized by a long-term rather than short-term focus. This culture represents a planning orientation rather than an action orientation (Brehm and Gates, 1993). Time is floating rather than being fixed. Challenges and suspense are more important than security and safety. Planning requires knowledge sharing to integrate different facts and perspectives in the plan. This research suggests a positive relationship between the extent of planning culture in police investigation units and the extent of knowledge sharing, hence our second hypothesis:

H2. The extent of knowledge sharing is positively related to the extent of planning culture found in police investigation units as value shops.

A theoretical culture is characterized by a philosophical and thinking orientation rather than a practical and pragmatic orientation (Kiely and Peek, 2002). This culture emphasizes control rather than freedom, formality rather than informality, and efficiency and

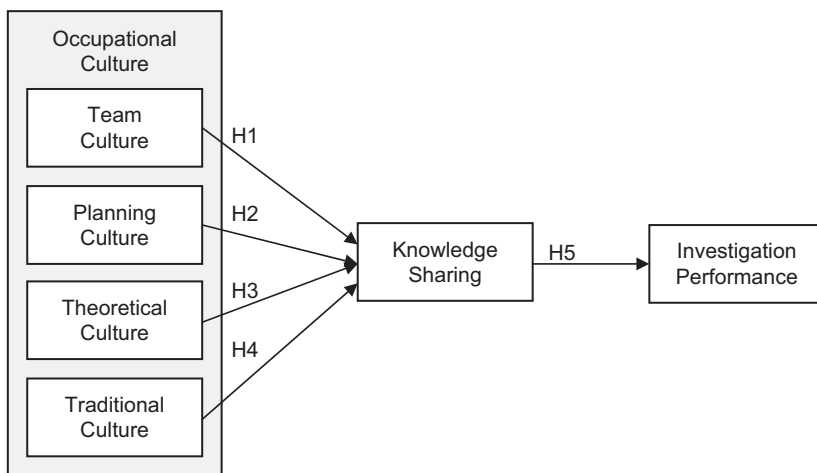


Fig. 2. Research model linking occupational culture to investigation performance through knowledge sharing.

productivity rather than legal protection and democracy. In this culture, intellectually reflecting attitudes are stimulated at the expense of intuitive, practical and action-oriented attitudes. In a theoretically oriented culture, members will tend to discuss and share their knowledge with each other. This research suggests a positive relationship between the extent of theoretical culture in police investigation units and the extent of knowledge sharing, hence our third hypothesis:

H3. The extent of knowledge sharing is positively related to the extent of theoretical culture found in police investigation units as value shops.

In a traditional culture, tradition and continuity is much more important than change. The communication style in this culture is indirect and implicit, rather than direct and explicit (Kiely and Peek, 2002). Here, we find strong professional loyalty to colleagues and to the way of working. Typically, hierarchy and authority are dominating features of a traditional culture. Most organizations, in particular police organizations, view tradition and history as important. Police officers tend to trust their previous experiences and arrangements, which have proven to work in the past. There should be less need for knowledge sharing in a traditional culture. This research suggests a negative relationship between the extent of traditional culture in police investigation units and the extent of knowledge sharing, hence our fourth hypothesis:

H4. The extent of knowledge sharing is negatively related to the extent of traditional culture found in police investigation units as value shops.

In police investigations, detectives gather information that they combine and analyze to understand the case. Knowledge sharing (Bock et al., 2005) is concerned with the exchange of knowledge within the investigation unit as well as with other agencies and organizations (Luen and Al-Hawamdeh, 2001). The information and detectives' understanding develop into evidence that might be presented in court. In order to get the criminal puzzle right, detectives have to share their knowledge sharing. This research suggest a positive relationship between the extent of knowledge sharing in police investigations and performance in police investigation units, hence our fifth and final research hypothesis:

H5. Police investigation performance in the value shop is positively related to the extent of knowledge sharing in police investigations.

In addition, we formulate four supplementary hypotheses for the direct causality between occupational culture and investigation performance.

H6. Police investigation performance in the value shop is positively related to the extent of team culture in police investigations.

H7. Police investigation performance in the value shop is positively related to the extent of planning culture in police investigations.

H8. Police investigation performance in the value shop is positively related to the extent of theoretical culture in police investigations.

H9. Police investigation performance in the value shop is positively related to the extent of traditional culture in police investigations.

6. Research methodology

To measure both dependent and independent constructs, a survey instrument was developed. The desired respondents were senior investigation officers who are police officers in charge of criminal investigations in Norway. A total of 101 questionnaires were returned. This represents an approximate response rate of 20%, as we estimate the population of SIOs in Norway to 900 officers. We have to write approximate, as police chiefs were contacted to have them distribute the link to the questionnaire to their managers of police investigations. As we doubt that all police chiefs did what we asked for, we expect the true response rate to be higher.

Respondents were characterized by the number of years of experience as SIOs, where the distribution was 0–5 years (29%), 6–10 years (32%), 11–15 years (16%) and more than 15 years (24%). There were 10% female and 90% male respondents.

Confirmatory factor analysis was approached using PLS-Graph version 3.0 (Barclay et al., 1995; Chin, 1998; Ho et al., 2003). The measurement model in this research was analyzed in three stages: (1) the individual item reliabilities, (2) the model's convergent validity, and (3) discriminant validity.

Individual item reliability was examined by looking at the loadings, or correlations, of each indicator on its respective construct (Barclay et al., 1995; Nygaard and Dahlstrom, 2002). Table 1 shows results from confirmatory factor analysis, where all constructs in the research model achieve acceptable reliability in terms of Cronbach's alphas.

All items were measured on a scale from 1 (low) to 7 (high). The extent of team culture is relatively high (4.36) compared to planning culture (3.28) and traditional culture (3.05) and especially theoretical culture (2.70). Since the average on a scale from 1 to 7 is 4, there is currently a practical and pragmatic culture rather than theoretical and philosophical culture in Norwegian police investigation units. Similarly, the culture is rather more action oriented than planning oriented, and more change oriented than tradition oriented.

7. Research results

With an adequate measurement model and acceptable level of multicollinearity, the proposed hypotheses were tested with PLS. The results of the analysis are depicted in Fig. 3. The influence of occupational culture on knowledge sharing is the focus of hypotheses 1–4. We hypothesized in H1 that team culture was positively related to knowledge sharing. Results indicate a significant, positive relationship between these two variables ($\beta = 0.615$,

Table 1
Results from confirmatory factor analysis for all constructs

Measures	Items	Means	Alphas
Team culture	6	4.36	0.85
Planning culture	4	3.28	0.70
Theoretical culture	4	2.70	0.75
Traditional culture	4	3.05	0.73
Knowledge sharing	9	4.00	0.94
Investigation performance	5	4.70	0.97

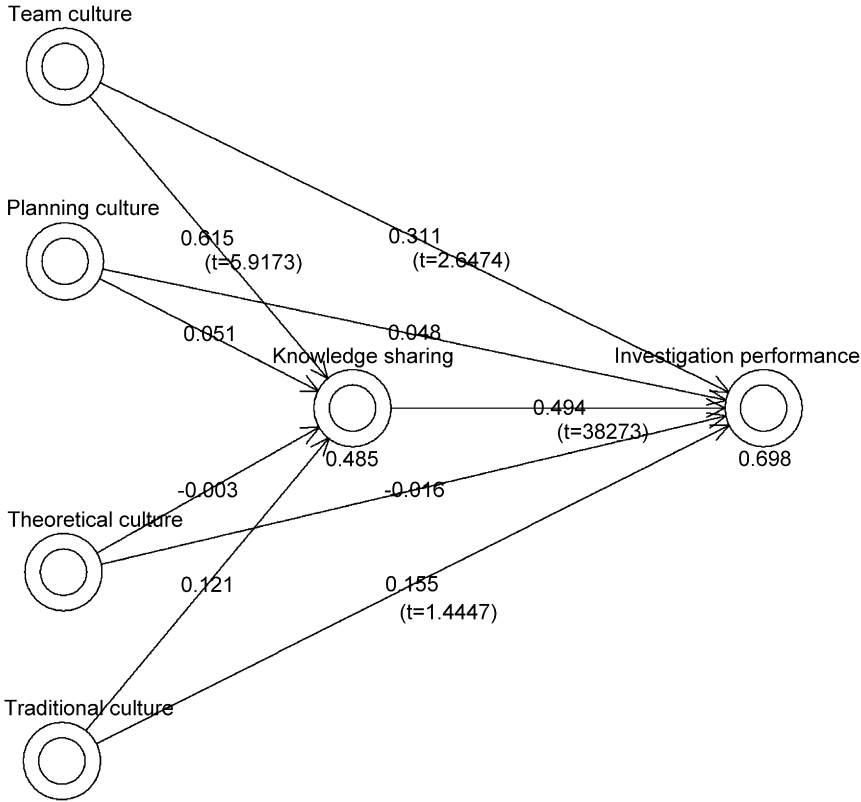


Fig. 3. Path coefficients of PLS analysis.

$t = 5.9173$, $p < 0.001$). Findings did not provide support for H2, H3, and H4, relating planning culture, theoretical culture, and traditional culture to knowledge sharing.

Hypothesis H5 examined knowledge sharing as antecedent of investigation performance. Results indicate a significant, positive relationship between knowledge sharing and investigation performance in H5 ($\beta = 0.494$, $t = 3.8273$, $p < 0.001$).

The direct effect of occupational culture on investigation performance is the focus of hypotheses 6–9. The team culture variable was found to have a positive relationship on investigation performance in H6 ($\beta = 0.311$, $t = 2.6474$, $p < 0.01$). Findings did not provide support for H7 and H8, relating planning culture and theoretical culture to investigation performance. The traditional culture variable was found to have a positive relationship with investigation performance in H9 ($\beta = 0.155$, $t = 1.4447$, $p < 0.1$).

Based on these findings, four out of nine hypotheses found support in this research, as indicated in Table 2.

8. Discussion

Team-oriented culture is a significant determinant of knowledge sharing and hence performance in police investigation units. Individual detectives that are concerned with the group involved in the investigation characterize a team culture. A typical feature of

Table 2
Results from confirmatory factor analysis for all constructs

Hypotheses	Result
H1: The extent of knowledge sharing is positively related to the extent of team culture found in police investigation units as value shops	Supported
H2: The extent of knowledge sharing is positively related to the extent of planning culture found in police investigation units as value shops	Not supported
H3: The extent of knowledge sharing is positively related to the extent of theoretical culture found in police investigation units as value shops	Not supported
H4: The extent of knowledge sharing is negatively related to the extent of traditional culture found in police investigation units as value shops	Not supported
H5: Police investigation performance in the value shop is positively related to the extent of knowledge sharing in police investigations	Supported
H6: Police investigation performance in the value shop is positively related to the extent of team culture in police investigations	Supported
H7: Police investigation performance in the value shop is positively related to the extent of planning culture in police investigations	Not supported
H8: Police investigation performance in the value shop is positively related to the extent of theoretical culture in police investigations	Not supported
H9: Police investigation performance in the value shop is positively related to the extent of traditional culture in police investigations	Supported

policing is team cooperation and cooperation to solve criminal cases, which is of benefit to solving the crime. Partnerships among police officers tend to last for years, when they have experienced both successes and failures together. At the same time, they feel a strong sense of identity towards the unit. Both group orientation and cooperation are important dimensions of team culture.

This finding is very much in contrast to the glamorous role of the investigator. The modern Sherlock Holmes is portrayed in movies, television, and novels as a meticulous and tireless gatherer of evidence that miraculously leads to the arrest and conviction of criminals. As shown on several television series, this super police officer is a bit unorthodox, normally at odds with his superiors, and normally willing to bend the rules, especially if this involves a deliberate violation of departmental directives. Embedded in a web of unsavory informers the heroic investigator maintains integrity in his unrelenting pursuit of crime and the master of criminal (Fraser, 2004).

In contrast, team culture stimulates detectives to work together to solve crimes. Organized crime such as terrorism, economic crime such as corruption, and global crime such as trafficking cannot be solved by the lone Sherlock Holmes. Traditional homicide could.

In the questionnaire, there was an open-ended question concerning stimulating challenges in police investigations. Many respondents mentioned aspects of team-oriented culture. Here are some examples:

- working with other officers to reach the goal represented by the case;

- working with colleagues as a team;
- adapting to new groups to solve a crime;
- putting together a successful team;
- learning from colleagues with other backgrounds on the team.

Team-oriented culture is found to be successful in many kinds of modern knowledge organizations such as police investigation units. An interesting example is the law firms. The glamorous single defense lawyer does not exist anymore. He or she works in a law firm, where there are partners and associates that share knowledge to work better for their clients.

The other important hypothesis supported in this research was the relationship between knowledge sharing and investigation performance. The more knowledge is shared among colleagues in the police force, the better result they achieve when it comes to police investigation. Knowledge sharing leads to more know-what, know-how and know-why in performing investigations. To know what is going on, how it is going on and why it is going on, is important to develop information into evidence in a criminal case.

As listed in [Table 1](#), average score for knowledge sharing was 4 on a scale from 1 to 7. This result might be interpreted to mean that in police investigations, the officers normally are not encouraged or have good enough routines for knowledge sharing with close colleagues, within the department or across departments, or other affecting the result of the investigation. There is on average no stimulation of knowledge sharing and learning processes in law enforcement. However, knowledge creation has to be facilitated by management. As a consequence, important knowledge in police investigations is not available when needed.

9. Conclusion

Performance in police investigations can be measured in the value shop model. The value shop consists of understanding the case, identifying investigation alternatives, developing an investigation plan derived from alternatives by use of criteria for success, working on the case, and finally determining how the investigation has progressed so far and possible changes in the future. The performance in these five primary activities in the value shop constitutes the performance in police investigation units.

Organizational culture in terms of occupational culture in the form of police culture has long been stressed as an important determinant of investigation performance. In this research, the link between culture and performance was not mainly direct. Rather, the culture and performance were linked through knowledge sharing. Organizational culture was classified into team, planning, theoretical, and traditional culture. It was found that team culture has a significant impact on knowledge sharing in police investigations. Furthermore, knowledge sharing was found to have a significant impact on investigation performance.

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