IT-System and Filtration of Knowledge

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Abstract

This paper explains in what manner the IT-system contribute to the filtration of knowledge in an organisation. This filtration has an impact for the quality of decision making and analysis, especially when information from IT-system play a central roll comparing to other knowledge sources. The paper describes some of the consequences in an organisation when knowledge filtrated by IT-system is used for decision-making and analysis.

Key Words : IT-system Filtration, Knowledge Management, Output Analysis, Decision-making, and Street-level

Introduction

- A company gets lower order stock because the salesmen are forced to visit a defined number of clients

- On the square in the suburb of a big city a boy gets killed in a brawl. The police didn't prevent the mishap though they've got the information of an approaching tussle.

The two real examples above seem to be totally different, but they have a joint denominator: IT-system and filtration of knowledge.

Individual in an organization can interpret and describe conditions differently. Descriptions vary often between different groups of actors. In a small organization it's not unusual that the same actors do most of the tasks. If the organization grows, it will be natural with a specialization (Bruzelius/Skärvad, 1989) – for example one or more personnel work with only IT related matters.

Accordingly, the risks are obvious when separate groups interpret the organization when it's goals and problems are different (ibid.) The probability for this diversifying view will likely to increase when the organization is in existence for long time. In a new

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organization, which is fully fledged, there is a possibility that actors in different positions have been involved with most of the tasks before there was a specialization. Therefore, the conditions will be better and different groups of actors will have a similar understanding.

IT has got a more central role in the distribution of information (Andersson, 1999). Eriksson (2000) points that it is important to see an information system[1] in a communicative perspective. He sees the information system as a social agent who can be both a sender and a receiver of information. Eriksson means that information system has a central role at the quality of the communication between the sender and the person who tries to interpret the information (Hultgren and Eriksson, 2005; Sjöström and Goldkuhl, 2003).

Brunsson (1993) notes that actors working in the production line may have more information comparing to the decision makers about alternative solutions and the consequences of different decision will have for the production. Other researchers have come to the same conclusions and emphasize the importance to use knowledge from the actors working near the clients or the production line (Holgersson, 2005).

There is however, a clear tendency to see the IT-system as an image of the reality (Lyytinen, 1983; Sundgren, 1992; Holgersson, 2001; 2005). Instead of going out and watching the existing reality , an opinion is enough to use IT-system (Goldkuhl, 1993; Holgersson, 2001; 2005).

Jenner and Hoppe Jakobsson (1995) mean there is a special sort of knowledge acquired through work in practice. When information is distributive, the lack of a common language makes the receiver of the information complicated to understand what the sender really means (ibid.). Communication problem is often about different previous knowledge (Rolf, 1995). Prior knowledge between actors in the production line/near the clients and decisions makers on a high level in an organization and analysts have a great impact on the capability to understand information in IT-system.

Output from an IT-system gives almost a precise and reliable impressions (Cronholm, 1994; Holgersson, 2001; 2005) and it's often easy to get information from an IT-system comparing to collect knowledge about an activity in other ways. There are two reasons why IT-system relatively one-sided is used to decide the outcome from a work (Holgersson, 2001).

Decision makers make decisions according to the knowledge they have about upcoming situations (Holgersson, 2005). What are the consequences for the quality of basis for decisions analysis and in the end the decisions, whether the decision maker mostly sees the information from the IT-system nearly as a model of the reality?

Research Methodology

To be able to answer the research question there is a need for deep understanding of a work practice. The police organization in Sweden is used to explain the phenomena. A study of the police in Sweden started in the beginning of 1998 and ended in April 2005 (Holgersson, 2005). It involved more than 6000 hours of participant observation as a police officer. The research included various categories of police officers: new recruits, experienced officers, officers with a special interest in some kind of activity, officers known by other police officers as lazy/high performing, and officers known as "normal" (Patton, 1990). The study was made in all (21) police districts in Sweden, from the biggest city in Sweden, Stockholm, with 1.5 million citizens, to snow scooter patrolling in the mountains in the North (Holgersson, 2005).

More than 2000 interviews were done. The interviews included police officers in all (21) police districts in Sweden and decisions makers as well as analyst on different levels in the organization (ibid.). Most interviews had an informal structure (Patton, 1990), where the interviewed person gets ample opportunity to talk freely about the work or an upcoming situation. Bryman (1997) has found that unstructured interviews are effective to use in combination with participative observations because then it is possible to obtain a deeper understanding of a phenomenon.

Specific decisions, for example the attempt to centralize the communication centrals, were also studied and tried to find the reasons for a specific strive by decisions makers. Critical questions and opinions from employees were presented to decisions makers, where they had to argue about the basis of a decision. A lot of output from IT-system and reports/statements were studied. This information was compared to information collected through participate observation and interviews (Holgersson, 2001; 2005).

Different Perspectives in an Organization

It's common with different perspectives in an organization and a number of researchers have pointed at that phenomena (Brunsson, 1989; Goldkuhl, 1993; Axelsson, 1998; Ekman, 1999; Sannerstedt, 2001; Holgersson, 2001; 2005).

[1]Eriksson uses information system synonymous with computerized information system.

In the police work practice[2] two perspectives are clearly crystallized. Manning (1980) who was studying the police in London points at two segments in the organization, caused by the position he or she has in the organization. High ranking officials come across a totally different reality compared to police officers at the street-level. Reuss-Ianni (1993), also studying the police in England, found a conflict between police officers on the street and their superiors. Ekman (1999) describes the police in Sweden and writes that police officers have the opinion their superiors live in a totally different world, mostly put interest in economic issues, and not have enough insight in police work.

In this paper, researcher calls the two perspectives in the police work practice as the street-level perspective and the theoretical perspective (Holgersson, 2001; 2005). People with the street-level perspective are working near the clients and delivery of the information is mostly through IT-system.

It seems that people with the theoretical perspective nearly always have an academic education and usual work at a high level in the organization, but they might also be information technology personnel or administrators. They put a lot of attention into theoretical perspectives and get mostly their information from IT systems and different types of reports (Holgersson, 2001; 2005).

The difference between the two perspectives is fundamental. People with the theoretical perspective often look at the reasons for upcoming situations and organization needs a total different way comparing to the street-level perspective (Ekman, 1999; Holgersson, 2001; 2005), which will shown to be an important factor in the filtration of knowledge. Due to the difference in perspectives they also have different opinion on how data from the IT-system should be interpreted

Filtration of Knowledge

In an organisation there are couple of reasons why knowledge from the street-Level perspective never reaches the theoretical perspective. IT-system plays an important role in this filtration of knowledge because it's common with a high focus on information from IT-system comparing to other knowledge sources. Factors, which the researcher has found to be important for the filtration of knowledge in an organisation will herby, be explained (Holgersson, 2001; 2005).

Direct Vs. Indirect Access to Knowledge

Direct access to knowledge about a special incident will of course increases the chances to create a deep insight in the person about that particular matter. If there are only descriptions of a situation it will perhaps lead to that the receiver of the information will interpret the information in another way than the sender intended.

Personal with the street-level perspective will come in direct contact with plenty of knowledge important in the police work practice. It's the personal with the street level perspective that mostly have contact with the clients and who are involved in performing police work at the streets, in receptions and in interrogation room and also usually are the one who put information into IT-system. These actors have therefore direct access to knowledge about different situations registered in the systems in contrast to personal with the Theoretical perspective (Holgersson, 2005).

Different Previous Knowledge

Previous knowledge (Rolf, 1995) is important to understand the facts. In an ideal situation a person who interpret information from an IT-system will get the same knowledge as if he or she has the opportunity to observe the described situation.

Sundgren (1992) pointed out that one person's knowledge is usually diverse from another person's knowledge and therefore two persons can interpret the contents of the same information differently. For this reason, Sundgren means, that it's not enough with the information itself, there is also a need of Meta data in the IT-system - a description of what the data stands for. Goldkuhl (1993) has criticized this way of looking at an IT-system as a model of the reality. Instead of going out and look at the reality, there is an existing opinion to use IT-system.

There is a big difference in previous knowledge between the street-Level perspective and the theoretical perspective (Holgersson, 2005). It will have a large impact on the opportunities for persons with the theoretical perspective to interpret information from IT-system using in the police work practice in a good manner.

Lack of Good Communication Climate in an Organisation

There is a lack of good communication climate in the police work practice between personal on a hierarchy low level, with a street-level perspective, and decisions maker on a hierarchy high level/analyst with a theoretical perspective (Holgersson, 2005). It was possible to distribute knowledge from the street-level perspective to person with the theoretical perspective if

[2]Work practice (see Goldkul & Röstlinger, 2003; Goldkuhl, 2005)

the communication was working. Ekman (1999) points at informal backstage discussions, for example in the coffee room, as an important factor for the understanding of different phenomena and can influence police officers' to act in a special way according to the different rules and goals that are interpreted. He means that superiors in the police organisation participate in informal discussion with police officers' far too little (ibid.).

Because of the lack of good communication climate in the police organisation between the street-level perspective and the theoretical it has a negative influence on the theoretical perspectives previous knowledge about different phenomena in the organisation, which was described above as an important factor for the possibility to utilize knowledge from the IT-system. The effect of the lack of good communication is also that the theoretical perspective finds it easier and more trustable to use information from the IT-system rather than try to pave a way for a fruitful dialogue with persons with the street-level perspective. Information in the IT-system will therefore get an entirely too central role for the knowledge development in the theoretical perspective (Holgersson, 2005).

Defectives in IT-system

IT-systems in the police work practice have many defectives. A heterorgenic user interface makes them complicated to use in a proper way. RRV (2000):

"Police officers' use in their daily works a large number of IT-systems, where many are relatively difficult to use even for experienced users. The IT-systems put high demand on the users' capability to remember codes and keyboard sequences which are different between different systems"

The police officers' also usually have to register the same information in different IT-system. For instructions regarding how the information should be registered, the police officers' have to get into different information channels. It can be for example, intranet, loose slip, from a superior or by `mouth to mouth' between colleagues (Holgersson, 2001; 2005). The police officers are exposed for a high mental pressure (mental load, Preece et.al. 1994)

According to the factors above, the police officers easily register wrong information, register information with a low worth or simply forget to register some important information. The way the information gets structured (Holgersson, 1999) in the IT-system has also a negative influence on the information quality in the IT-systems.

Lack of Motivation by the Personnel to Register Information in a Correct/Sufficient Way

The users experience that an IT-system,which is difficult to use can undermine the motivation to register information in a correct/sufficient way. Users may find easy way to register information rather than trying to get high quality as possible in the information. It is also not unusual , information is noticed at all because the routines are too circumstantial. Documentation of some type of intervening the police officers' fulfil was under ten percent in one police department (Holgersson, 2005).

It's also been found that as per the users, registered wrong information (Holgersson, 2001; 2005), usually means, when superiors try to control something, which is not possible to control:

"... If they say from above, we must have more foot patrol they will get it in the system and then they get satisfied, but in reality nothing is changed. We are working likely as before, but we register more foot patrol in the system... Then we get aware of criticism."

The police work practice is difficult to control. Lipsky (1980) writes that for example police officers' are street-level bureaucrats, which means that they have high autonomy because their distance to their superior and the direct contact with the clients, where their work are unpredictable and difficult to control by some one else than the actors themselves (ibid.) To get qualitative information in the IT-system is therefore important that the users are motivated to register correct and sufficient information, but there is a lack of motivation in that area (RRV 1996; 2000; Holgersson, 2001; 2005). It's also so that personal at a low hierarchy level in the organisation get direct order to record a particular result because superior has a pressure to be able to show up a specific outcome (Holgersson 2001; 2005). Of course this will have a negative impact on quality at the information in IT-system.

Some Knowledge is Difficult to Formulate in Such a Way that It is Fit to be Put Into an IT-System

There are two major conditions when knowledge is registered in an IT-system, which the researcher finds important to have in mind. The first circumstance it's that knowledge record in an IT-system is about exposed knowledge. The second is that there are facts that were put into IT-system (Walsham, 2004; Hassel, 2005). Adequacy of knowledge generated by the personnel with the street-level perspective has often an additional character (Holgersson, 2005).

Josefson (1991) describes that a language can been seen as pictures on how the reality can be illustrated. Computer languages are artificial languages, which are

built at symbolic logic, the part of the mathematics called Boolean algebra. The characteristic for these languages is: IF... THEN or how it will be mentioned in a medical situation: IF the patient has a special symptom THEN it can be that disease. The strength of the computer is a logical precession and therefore it's an extraordinary assistant in some situations. Josefson (ibid.) particularly point that there is a big difference between the language of the computers and the logic of social language.

When using IT-system too is one sided in an organisation , it is found that a lot of knowledge about a practice simply missing according to the arguments above.

Changes in the Working Process etc.

Persson (1972) presents that it's important to observe source of errors like changes in administrative routines, quantitative and qualitative changes in the police work, changes in the law if the statistic will be usable. He founds that the crime in a statistics way increases highly when the police realized structural changes in the organisation (ibid.). Researcher also comes to the same conclusion. For example, when it is routine to make a report for a specific crime in a police district were changed, the police officers avoided to report that type of crime because their apprehension was that the routines was too circumstantial. When the old routines were restored they began to report that specific crime again (Holgersson, 2005).

New laws, changes in laws and insurance terms may have great impact of the crime rate. It may be problematic to compare output from IT-system from different periods because of external changes for the work practices are important factors. Internal changes in an organisation can also, which the researcher describes above, influence the usability of the information in IT-system. The police organisation has more or less continually being under reconstruction for a long time and it's the same with a lot of the routines in the organisation. These circumstances in combination with new laws, directives and priorities make the risk high for misleading information when using data from IT-system.

IT-System is Anonymous to the Reality Behind the Information

The murder of the Prime Minister Palme in Sweden was solved using statistics, even if it was not solved in the court system. That's because judgement in district courts are the one, which was counted in the statistics. IT-system is anonymous to the reality behind the information and it's therefore easy that information from IT-system is seen as a model of the reality. Usually these are not the specific cases in focus when information from IT-system was used. But all information in the IT-system is about specific cases and if too many cases are misleading the whole information will then be deceptive. For example, in one police district there was a question whether civil personnel made it easier for the police officers' and whether they influence the effectiveness. An analyst took out information from IT-system about cases distributed to the persecutors. He found that civil employees have no effect on the number of distributed cases. This information indicated that there weren't no reason to continue to have civil personnel employee for that reason. More or less as a coincidence, a police officer at the police station where the information was collected from, questioned the output from the IT-system. He meant that if there were focuses on individual cases it would be shown that police officers' have to do more in each case comparing to the situation before when it was more civil personnel employee. Because of this the police officer pointed at that he and his colleagues couldn't be out in the street so much and that they spend less time at other important activities, as victim support. This was not shown in the output from the IT-system (Holgersson, 2001).

There were a couple of complicated cases and special circumstances which can influence the statistics, as if a reception has shorter opening times, that an active police officer had to quit or begin at a station (Holgersson, 2001; 2005), will not be known when using information from IT-system. A lot of knowledge will be filtrated when there is a generalization of the information and there is a big risk that quantity matters instead of quality matters will be in focus. For a police organisation, where there are a lot of factors which are difficult to measure, this view will have a very bad impact because the centre of attention and the following priority will easily be on elements, which are uncomplicated to evaluate.

Output From IT-System Gives the Impression of Being Precise and Reliable

Outputs from IT-system, often colourful and presentable graphical arrangement easily give the impression of being precisely and reliable (Holgersson, 2001; 2005; see also Cronholm, 1994). Output from an IT-system which looks exactly as 17.2 % and 15.4 % could anyhow be wrong and misleading, but it's easy to get the apprehension that this information are reliable because of the formal and accurate form (Holgersson, 2001; 2005). Hence there is a risk that the importance of this information is valuated higher than other more vague information.

Information Easily Gets Filtered When it has to Pass through Hierarchy Level in an Organisation

Information has a tendency to get filtered in the police organisation (Holgersson, 2001; 2005). The two main reasons for that there are persons who tend to avoid presenting negative messages. (O'Reilly, 1978) and the more the hierarchy level, the more the information has to pass in an organisation and more the information seems to be arranged to suit (Bradley, 1978; Browning, 1978; Manis, Cornell and Moore, 1974; Holgersson, 2001; 2005).

Information from IT-System has a Dominant Role when the Result of a Work will be Evaluated

There are some reasons why information from IT-system has a domineering role when the result of a work will be evaluated. First of all it's easy to get out information from an IT-system and the output, as the researcher described above, gives the impression of being precise and reliable. There is a risk that the need for other information sources to attain knowledge will be underestimated.

Second use of output from IT-system correspond to a basic attitude how police work should be management. Quantitative management was popular. Ivarsson-Westerberg (2004) points those norms for economist in the police more often formulates what is good policing nowadays. Hence new types of demand are on the agenda and therefore the work is to measure and defines in another way than before. Seldom the goal will be quantitative and adjusted. Ivarsson-Westerberg means that the administration forms the direction of the work instead of the opposite. He points at comments from one of the creators of this type of evaluation in the Swedish police, which nowadays are critical to this system, who means that it's wrongly exists as a basic assumption that it's possible to find objective measure which can say whether the police work is good or not. It's also a desire from the top level in the organisation to get rid of making valuations, instead be able to establish that if the output says 87 then the result is bad, but if it's 102 then it's very good (ibid.).

The third and the final reason why information from the IT-system has a dominate role is because information easily get filtered when it has to pass through the hierarchy level in a organisation and therefore it's not so much left of the original information when it reaches the decision makers at a high level in the organisation. In combination with the lack of a good communication climate in the police organisation, where persons with the theoretical perspective and persons with the street-level perspective too rarely get involved in fruitful dialogues, it leads to a situation where information from IT-system will get into a central position.

Defective Data Quality Because the Information in IT-System are wrong/Incomplete/Difficult to Interpret

Defectives in IT-system, lack of motivation by the personnel to register information in a correct/sufficient manner, information, which is difficult to formulate in such a way that it fits to put into an IT-system and changes in the working process etc. will lead to defective data quality in the IT-system because of omitted, wrong, and incomplete information that are difficult to interpret.

Knowledge of Personnel from a Low Hierarchy Level in the Organization are Rarely Used to Interpret the Information In the IT-System

Walsham (2004) writes that knowledge is not an object, which can be captured, stored and transferred. Information in IT-system will be interpreted and in this regard, he points at the importance to enable effective interaction between people with different tacit power and understanding (Hassel, 2005).

The police organisation uses rarely personnel from a low hierarchy level to support the interpretation of information in IT-systems (Holgersson, 2001; 2005). Persons with the street-level perspective record the information in the system and have direct access to specific situations and they do have mostly another previous knowledge comparing to the theoretical perspective. Previous knowledge, as the researcher described earlier, is useful for the ability to interpret information in IT-system.

Statements/Reports from Researchers/Analysts and Output from IT-System are Virtually Seen as Separate Information Sources Even If the Information Often Come from the Same Source (The IT-Systems)

It's common that statements/reports from analyst are built on the output from IT-system (Holgersson, 2001). The Swedish Nation council for crime prevention (2001) found that when the problem oriented work was evaluated, only output from IT-system were used.

It's problematic when statements/reports from researchers/analysts are seen as a separate information source in relation to the output from the IT-system when it's not. If both the statements/reports and the output from the IT-system pointed to the same direction, which is of course natural when it's built on the same data, the result will get a strong position comparing to other sources. For example, the personnel's eventual objections and point of views according to a specific introduced result risk to easily getting disregard.

The Effect of Filtration of Information

Molander (1996) writes about "the hermeneutic circle", which shortly can be described as a previous knowledge in many situations and is a prerequisite for a deeper understanding. To be able to solve a problem there must be knowledge on how to tackle the problem. An increasing previous knowledge will lead to a development of the original previous knowledge. The increasing previous knowledge makes the chances bigger for additional previous knowledge and so on. Gummesson (1985) means that it's merely right to call the hermeneutic circle a hermeneutic spiral (Ödman, 1979).

If personnel with the theoretical perspective have lack of previous knowledge about a phenomenon, their chances will be low in succeeding to interpret information from an IT-system on the subject of this phenomenon. Researcher argues that information in IT-system can be defective, misleading and often need to be interpreted. Hence there is a risk that persons with the theoretical perspective apprehend and make wrong assumptions from "facts" collected from IT-system. It will cause a condition that can be interpreted and valuate information and the next analyse/evaluation will be worse. A negative hermeneutic spiral occurs.

One example of a negative hermeneutic spiral within the police is the routines for reporting a crime. Personnel with the street-level perspective have a long time claim that the routines are too demanding and time ineffective. The management has however decided to put the priority to other areas rather than fixing this problem. One reason was that the decision makers didn't know how irrational the routines actually were. They have had a defective previous knowledge. One area, which was prioritized by the management, was to create IT-system to be able to evaluate the work. In this, IT-system was a focus for easy quantitative information. The attempt was to be able to evaluate and show how the organisation succeeds in reaching different production goal, which the management and the IT-personnel who created the system know it was possible to quantify. The focus on easy measurable production goal therefore is increasing. The ineffective routines for reporting a crime couldn't be shown in this direction. The management took therefore the claim about demanding and time ineffective internal routines less in consideration (Holgersson, 2001) and instead the energy was concentrated to be able to follow up the work in a more quantitative way. The "fill in information" routines were the result of the management new information that needs more extensive for the officers' because they, among other things now also had to fill in information needed by the IT-system focusing on quantitative evaluations. For example, they had to fill in information about how they had spent the time working towards different goals under a working day. The time for filling in this information was not possible to register in the system. So the officer could spend over fifteen minutes, every day to fill-in information, which proposed to make the organisation more effective, but instead it resulted in more internal administration and infectiveness. The registered information was furthermore of low quality.

Ackoff (1967) points at that decision makers often have too little knowledge to be able to identify which output they wish to get out from a system. There is a risk, according to Ackoff, that the decision makers say that they want to get so much information as possible when they get the question from system constructors. Ackoff describes that the main problem isn't that the decision maker gets little relevant information. The major problem is that they've got too much irrelevant information (ibid.). Even if there is a long time since Ackoff presented this thoughts. His conclusion has not been less relevant because of the opportunities the information technology open.

When personnel with the street-level perspective have different opinion than the personnel with the theoretical perspective it's common that the information from the street-level perspective are seen as whining and badly substantiated beliefs. Persons with the theoretical perspective have often get information especially from IT-system and there is these "facts" they fall back to. The IT-system filtrating knowledge is taking too little in consideration. Outputs from IT-system are more or less used as a truth. One person with the theoretical perspectives comments over the output from IT-system (Holgersson, 2001; 2005):

"It's the best facts we have at the moment..." (ibid.)

The consequences of filtration of knowledge, where IT-system plays an important role, are that some problems never will come up to the surface and therefore there are the conditions to get rid of them. There is a risk that basis for decisions will be misleading, defective and difficult to interpret, which makes it hard to make good decisions and to do effective priorities. The risk for deceptive information will be especially large when the management strives to formulate easy defined production goal and there are difficulties to get correct and sufficiently easy quantified information for evaluations. This is especially critical in organisation with contradictory goals, which often are the case in the public sector (Holgersson, 2001; 2005).

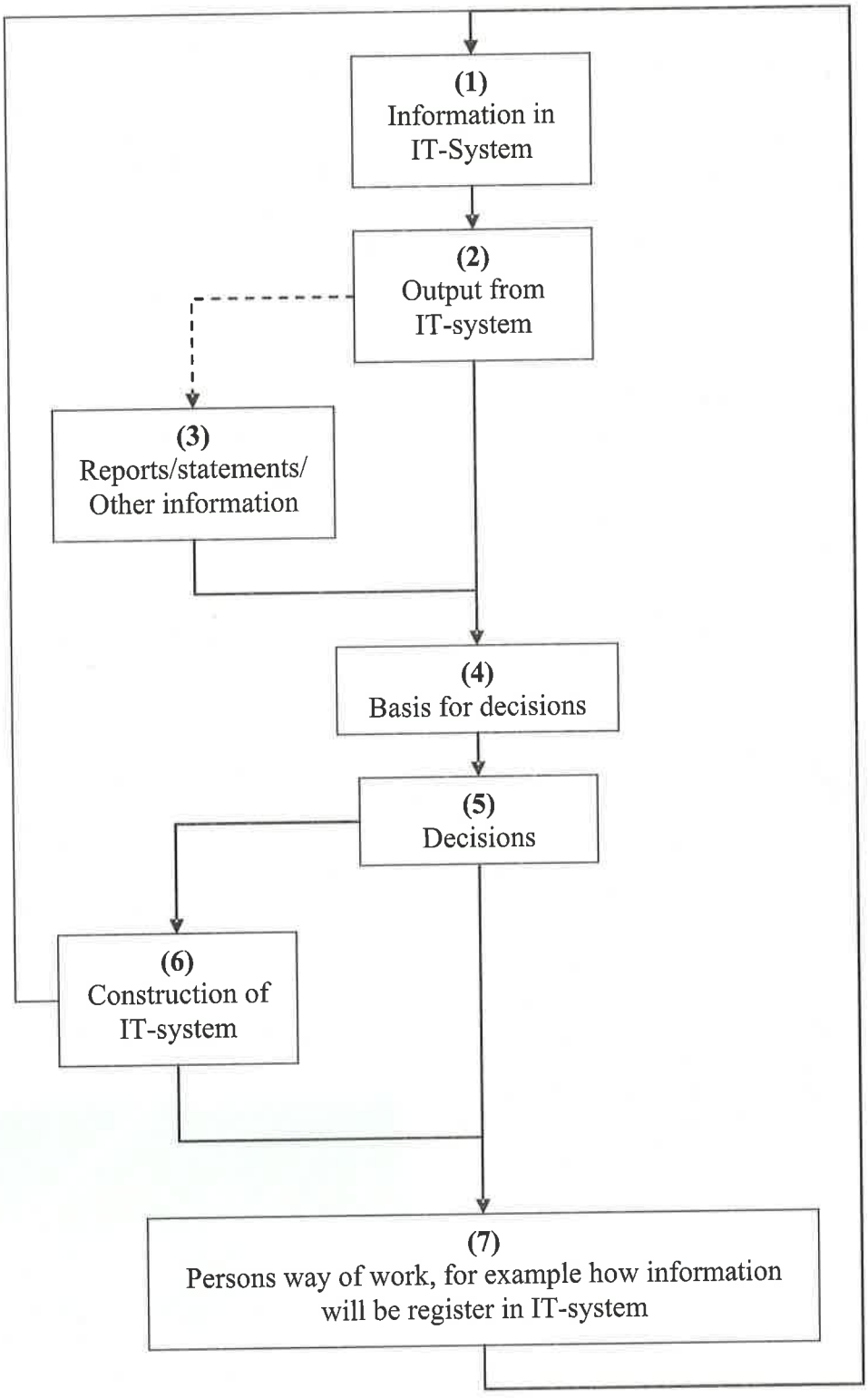


Figure I : IT-System Plays a Central Roll in the Filtration of Knowledge

Information (1) in the IT-system leads to different output (2) and sometimes this information is used to formulate reports (3). Output from IT-system and reports/statements and other information are used as basis for decisions (4). The basis of decisions influences the decisions (5). The decisions can result in construction of IT-system (6). The decisions have a big impact on how personnel will work. The constructions of the IT-system have a vital importance for which information will be assessable. The IT-systems also influence people in their working, especially regarding the register of information.

According to the figure above it's simple to understand how a negative hermeneutic spiral can occur. IT-system plays a central role in decision making and the importance and the effects of the filtration of knowledge, which have been described in this paper, are uncomplicated to imagine.

Because of the main focus on information from IT-system, knowledge from the street-level perspective will be in the background. The negative hermeneutic spiral causes an increasing polarisation of the knowledge and the opinions between persons with the theoretical perspective and the street-level perspective and makes the situation problematic. Gummesson (1985) writes that very limited number of persons in the organisation both understand what's needed to do and are willing to try to initiate changes. Only one or a couple of persons have actual power to decide and achieve this changes and it's important that they establish the work. Often work purposes to make changes failed because the persons who understand; do not have the power, while the persons who have power; don't understand (ibid.).

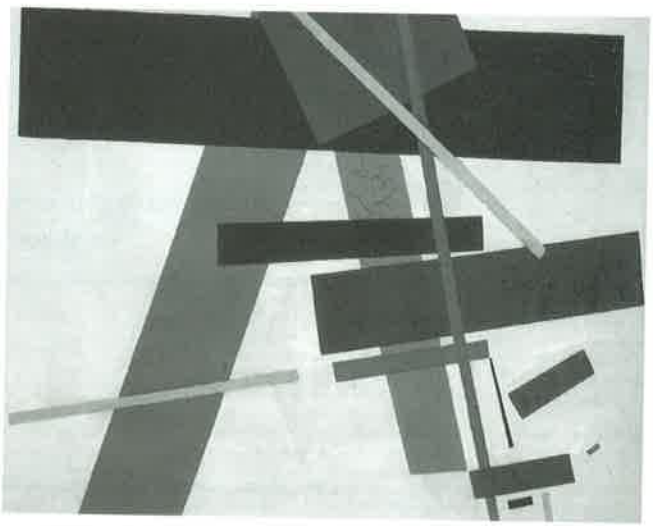
An important question is how to minimize the risk of filtration of knowledge in a work practice. At the moment the tendency in the Swedish police organisation is straightforward and it is in the direction of avoiding the problem. When the researcher had contacted the persons working in other organisations they have indicated that this problems are not unique for the Swedish police organisation. Therefore, there is really a need to lift up and discuss this matter and also to do more research in other organisations to make this phenomenon more understandable, concrete and well known.

Summary

When a person is involved in an event, he or she has direct knowledge about the situation. If a person had to describe the situation for another person there is of course a risk that the receiver of the information will interpret the information in another way than the sender intended (Jenner and Hoppe, 1995; Holgersson, 2001; 2005). If the sender and the receiver have different previous knowledge (Rolf, 1995) it will create misunderstanding. A good dialogue between the sender and receiver about the information can minimize this risk. The lack of a good communication climate in an organisation can therefore be problematic (Ekman, 1999; Holgersson, 2001; 2005).

If the user interfaces in an IT-system is heterogenic it can lead to a low quality of information in the system. Besides, the user's experience that an IT-system is difficult to use can undermine the motivation to register information in a correct/sufficient way. Anyhow some knowledge is difficult to formulate so it should be fit to put into an IT-system (Josefson, 1991; Holgersson, 2005)

IT-system is anonymous to the reality behind the information. For example, the person who uses information from the IT-system will not easily know a change in the working process. The anonymous outputs are mostly in focus, not the quality of the input and the unique situations behind the often precise and reliable looking information (Cronholm, 1994; Holgersson, 2001; 2005). It's often effortless to get information from an IT-system in comparison to collection of knowledge about an activity in other ways. Information from IT-system has a dominate role when the result of a work will be evaluated and statements/reports from analyst and output from IT-system almost are seen as separate information sources even if the information often comes from the same source (the IT-systems). IT-system plays a central role in the filtration of knowledge and influence the quality of the decisions. The filtration of knowledge can lead to a negative hermeneutic spiral occurs. The risk is obvious that this filtration will have a large negative impact on the possibilities to reach an acceptable level of the knowledge management in the organisation.



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