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Institutional influence on assessments: the institutional analysis and development framework applied to military intelligence

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ABSTRACT

How can we understand intelligence assessments and intelligence work? The intelligence literature offers several plausible causes of failures and the consequences of such failures. However, there is a direct lack of theories or frameworks that connect these variables, that is, there is an incomplete understanding of both how those variables interact and their underlying mechanisms. Failures as such do only give one part of the picture. Why intelligence succeed is equally if not more important to understand. The military intelligence service from an institutional perspective may help to give this understanding.

This study connects these variables with Ostrom's Institutional Analysis and Development (IAD) framework, which yields a model to understand the mechanisms of institutional on the assessment and lays a foundation for a common terminology. The study uses the Swedish military intelligence institution active in Afghanistan between 2008 and 2012 as a case.

KEYWORDS

intelligence analysis; military intelligence; institutions; IAD framework; threat assessment

Introduction

How can we understand how and what influences intelligence analysis? The intelligence literature offers several plausible causes (i.e., variables) of analytical failures, such as cognitive bias (Heuer, 1999), organizational culture (Jervis, 2011), the process, and organization (Wilensky, 2015). Although it is easy to focus on failures, it is equally important, if not more, to understand what variables positively influence the assessments. Many variables might have an effect, but there is an incomplete understanding of both how those variables interact and the underlying mechanisms. This lack of understanding also affects the possibility to find solutions. Betts has written that: 'If they do not atrophy, most solutions proposed to obviate intelligence dysfunctions have two edges: in reducing one vulnerability, they increase another' (Betts, 1978, p. 79).

Although intelligence is an inherently unique phenomenon, it is also an integral part of public administration. To be able to improve and, if necessary, reform the policies guiding the intelligence system, we must understand

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the mechanisms influencing the intelligence process. One way to approach this issue is to use the institution as the central unit of analysis. Institutional influence can be thought of as freedom within constraints. The overarching research aim of this study is to develop a framework that both connects the various influential variables and reveals their mechanisms. This goal can be achieved by applying Ostrom's Institutional Analysis and Development (IAD) framework in the context of military intelligence. This study seeks to determine how Swedish military intelligence in the Afghanistan setting influences intelligence assessments at the tactical and operational levels. This is done first by a theoretical description of an institution's influence on an individual's mental model, and how the institution is connected to the cognitive influence on this mental model. The Swedish military intelligence institution in Afghanistan is then used as a case with the focus on understanding the mechanism of influence, by describing the institution in question with the help of the adapted framework.

The institution as a unit of analysis¹

There are advantages to studying the intelligence community from an institutional analysis perspective. Institutions influence most aspects of our daily interactions. Berger and Luckmann claim that institutions influence predefined patterns that channel actors towards one theoretically possible direction, rather than the many others—that is, the rules of the game (Berger & Luckmann, 1967, p. 72).

What then is an institution? Elinor Ostrom defined institutions as 'shared concepts used by humans in repetitive situations organized by rules, norms and strategies' (Ostrom, 2005, p. 23). Institutions are the social prescriptions that members use to organize repetitive and structured human interaction within groups, such as families, government, companies, and religions (Ostrom, 2005, p. 3). An institution is something more than the organization, the company or its members; it is fundamentally a shared concept. This concept exists in the minds of the participants, but does not always need to be in the form of explicit knowledge (Ostrom, 2005).

The rules are the central component in institutional analysis, but norms, belief system and culture are just as vital in the context of intelligence analysis. The IAD is not the only framework that could have been used in this study. For example, the Advocacy Coalition Framework (Sabatier & Weible, 2007) might have been an appropriate lens to apply; however, it would have changed the main focus to the belief systems. The primary reasons why the IAD framework is promising is its multidisciplinary language. Furthermore, one of the strengths of the IAD framework in this setting is that it focuses on rules as well as norms, and thus was easily adapted to the empirical findings of the research object (i.e., the intelligence institution). In other words, the IAD framework provides a certain

degree of flexibility which in this case is a great advantage. Johnston's unique ethnographical study of the analytical culture at the CIA showed that the use of a structured methodological approach and of formal rules guiding the analytical work was missing (Johnston, 2012). Nevertheless, there were several norms and informal rules affecting the analysis conducted. The IAD framework is therefore useful in the intelligence setting, as it does not exclude norms and beliefs although its focus is on rules.

IAD framework and central concepts

Intelligence study as an academic field is combined with a plethora of different disciplines, which has resulted in the lack of a common language (Warner, 2009, p. 11). The IAD framework has a multidisciplinary ambition and combines political theory, economics, sociology and psychology (Ostrom, 2005). The IAD belongs to the family of frameworks that are called institutional rational choice. This is one of the more developed areas in understanding a given policy process (Sabatier, 2007b, p. 9). It is part of policy theory and regarded as a subcategory of new institutional analysis.

Figure 1 presents a model of the basic components within the institution. This study's focus is on the influence of exogenous variables on intelligence assessments. Here, the concept 'action situation' is a central component within the IAD framework. Ostrom defines an action situation as a situation in which at least two persons jointly produce an outcome from a set of potential actions (Ostrom, 2005, p. 32). In this study, the most interesting part of the outcome is that of a specific individual and the influence of the institutional exogenous variables on that person's mental model. Here, the mental model is the individual's internal representation of an external reality.

The IAD framework presents several exogenous variables that form the conceptual components and consequently create the structure of the action situation. The exogenous variables can be divided into three main clusters:

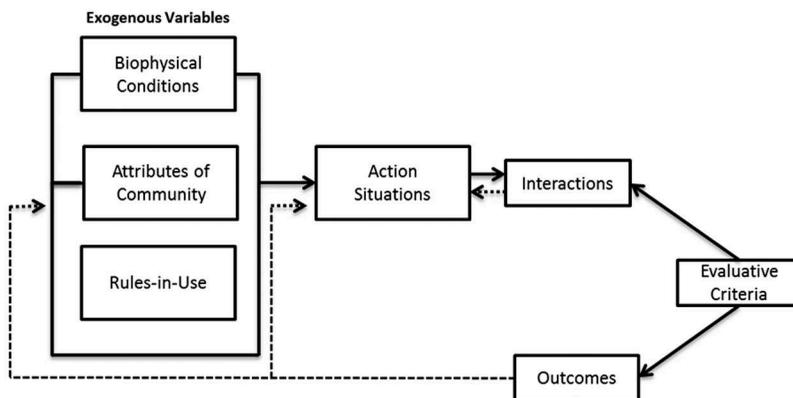


Figure 1. Basic components of the IAD framework, redrawn from Ostrom (2005, p. 15).

rules-in-use, attributions of the community and biophysical/material conditions. Rules-in-use are the set of variables that, when combined, build the structure of the action situation. The concept of 'rules' has been used in conjunction with diverse meanings in the social sciences. Here, the term 'rule' refers to rules expressed in a regulative sense. The concept of 'strategy' will be used instead of 'rule' when it takes the form of instructions and refers to individual plans of action. 'Norms' refer to rules that are connected to prudential or moral behavior (Ostrom, 2005, p. 17).

Thus, rules-in-use is a summary term 'used to designate all relevant aspects of the institutional context within which an action situation is located' (Ostrom, 2005). How to view formal rules or rules-on-paper that are not followed or known is not completely clear. In this study, rules-in-use incorporate all aspects of relevance that are used by an institution; whereas, rules-in-form are written regulations that may or may not be used. 'Attributes of the community' is the entity that capture the community's effect on the structure of the action situation (Ostrom, 2005, p. 26). The human mind has cognitive limitations, which go over and beyond heuristics and bias, touching upon belief systems. These belief systems can be shared among several individuals and, thereby, they can influence social groups (Smith & Passer, 2007, p. 14). Our view of the world is, therefore, in part socially constructed. How people perceive their surrounding environment depends on their culture and social belonging. The attributes of community among the exogenous variable in the IAD framework captures the community's social and cultural aspects. The third exogenous variable, 'biophysical conditions,' is the entity that captures what actions are physically possible, and thus what outcomes can be published (Ostrom, 2005, p. 22).

Action situations and intelligence assessment

Rational choice theory has played an important role in the field of institutional analysis. Within the action situation, in this case the conduction of an intelligence assessment, assumptions are needed regarding three essential components: information, preference and choice mechanisms (Ostrom, 2005, p. 99). Rational choice theory is based on the assumption that individuals know what is in their self-interest and act accordingly. This assumption has been questioned from different perspectives, especially regarding decision making under uncertainty. As intelligence analysis can be defined by the fact that it is conducted under uncertainty, this assumption cannot be seen as fulfilled.

Bounded rationality was developed as a reaction to traditional rational choice theory. Bounded rationality is the assumption that human decision making is limited by available information as well as cognitive limitations. Humans act rationally based on what information they have available, and it is from that perspective that this given problem is examined. Human rational

is largely based on perceived reality. Bounded rationality can therefore be seen as more suitable in this context.

Connected to bounded rationality is the view of an objective reality; this reality is difficult to comprehend. This can be understood from a social constructivist and psychological cognitive perspective—what we interpret as ‘reality’ is an individual mental creation (Smith & Passer, 2007). Consequently, an analyst constructs reality based on his/her mental models and mindsets. If something is outside of this mental model, the analyst has trouble in both comprehending the information and interpreting it as a vital signal; that is, it becomes background noise. Understanding the search for new information and processing it into knowledge, as well as the subsequent impact of this knowledge, is then vital to understanding the intelligence process and thereby this action situation. Therefore, it is imperative first to understand the character of mental models and how they operate.

The mental model

Here, the action situation is the assessment produced by the intelligence analyst. In this case, the outcome is an oral or written intelligence assessment: for example, a specific threat assessment reported in the daily intelligence summary. Heuer wrote that ‘...analysts typically form a picture first and then select the pieces to fit. Accurate estimates depend at least as much upon the mental model used in forming the picture as upon the number of pieces of the puzzle that have been collected’ (Heuer, 1999, p. 62).

Although this study focuses on institutional influences on cognitive processes instead of on cognitive processes themselves, we need to understand how these processes are connected. A model of this process can be created by adapting Ostrom’s (Ostrom, 2005, p. 105) version of Denzau and North’s model (Denzau & North, 2000). The adapted model shows how the influences from the exogenous variables affect the analyst’s mental models and thus the construction of shared mental models for this type of action situation.

The institution is influenced by three main variables: shared beliefs, rules-in-use, and incoming stimuli. They all affect the mental model but in different ways. The influence of shared beliefs within the institution either limits or restricts the mental models. The innermost box in [Figure 2](#) represents the institution’s boundaries and possible models. Several factors, but primarily shared beliefs, create the boundaries in which the mental models can be formed. Beliefs that the institution’s members can express and articulate can be seen as theories-in-use and can have a direct influence on the mental model. Yet, the rules-in-use are more complex in how they have an impact. Incoming stimuli have a direct impact on perception, but the rules-in-use have both direct and indirect influences on the mental model and perception. Perception is viewed as the processing and organizing of the current stimuli. In a larger sense, it is the direct interpretation of stimuli.

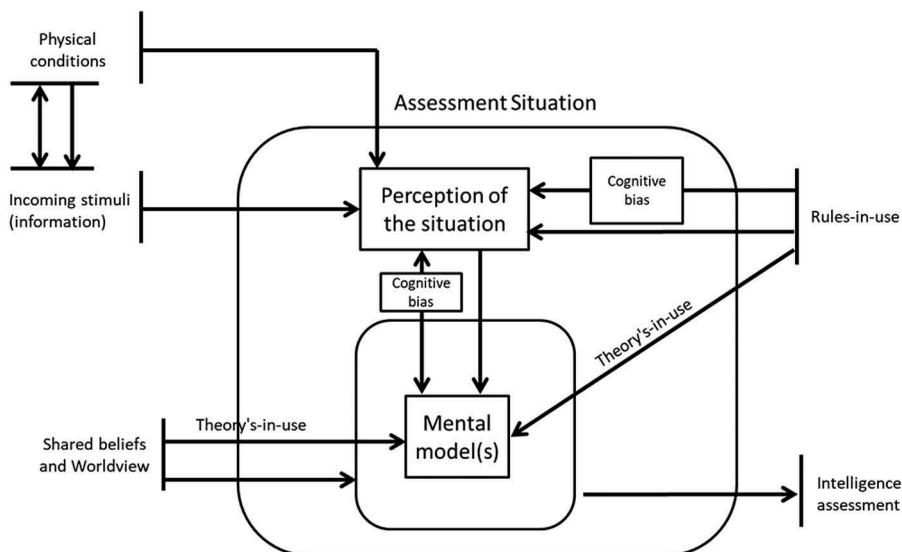


Figure 2. Action situation for an analytical process.

The direct influence of rules-in-use can be explained by looking at how scientific knowledge is created. In this context, theories can be understood as a form of a formal (explicit) mental model. Here, this is defined as a specific strategy called theories-in-use and it has the same kind of influence as the theories-in-use from shared beliefs. The indirect influence of rules-in-use occurs if the rules affect the perception of the situation by creating or enabling the occurrence of cognitive bias or heuristics in the interpretation of incoming stimuli. The rule can also act to avoid or mitigate cognitive bias. In the next section, these two forms—indirect and direct—are explained and further developed.

In this situation, the physical context may influence the perception of the action situation as a consequence of how incoming data (e.g., software such as IBM i2) is visualized ('IBM—i2 Analyze', 2016). The physical context may also influence which data/stimuli can be collected or obtained as a consequence of either technical collecting capabilities or the laws of nature. Although physical conditions are far from unimportant, because they are more heavily dependent upon the context in which the institution operates, they are excluded from consideration.

Method and data

This study has a theory-developing ambition and can be defined as an instrumental (Stake, 1995) or explorational (Yin, 2009) case study. The study works under the assumption that institutions influence the mental model used by the individuals within those specific institutions. However,

how this influence occurs is unknown; that is, the causal mechanism between the two variables is unknown. Here, the mechanism is seen as the presumed causal pathways between the independent and dependent variables: in this case, the institution and the assessment. The causal mechanisms can be seen in part as being within the institution or as a chain of actions influencing the next action in the process. Although theory building is largely an inductive process, here, it entails a clearly deductive approach in that it is built on the IAD framework, as well as theories from cognitive psychology. In other words, the foundation of the IAD framework creates a tentative model of institutional influence on the human decision-making process. The case of Swedish military intelligence in Afghanistan is described in the context of this model, and conclusions about the institutional influence on that specific case are drawn. Thus, this study does not test the exogenous variables in either the IAD framework or the model presented.

One of the weaknesses of the methodology used in this study pertains to how to effectively separate the analyst's own cognitive biases and any institutional impact, as the mental model is ultimately a cognitive creation within the analyst's own mind. Thus, a clear division cannot be achieved without separating the individual from the institution to which s/he belongs, ultimately eliminating the independent variable. The aim is, instead, to achieve a greater understanding of the relationship between the variables.

Because of the study's theory-developing ambition, the case selection strives to comprehensively represent the target population: the military intelligence institution's tactical and operational levels. This ambition is more difficult than it initially appears. In recent decades, the Swedish Armed Forces, unlike most other governmental organizations, seldom had to perform its main purpose: protecting Sweden's sovereignty from hostile actions by another state. However, it can be argued that international operations, which are secondary objectives of the armed forces, are by far the most frequently occurring activities and are therefore more relevant for this study.

From a Swedish perspective, the level of conflict in the Afghanistan operation had been previously unseen in modern time; thus, this case has similarities with the study's primary objective. From that perspective, the conflict in Afghanistan is the most appropriate case to select. This decision is strengthened by Afghanistan's complex environment, which is characterized by a hostile insurgency. Consequently, this has led to the increased importance of intelligence in relation to other international operations. Afghanistan is both typical in the sense that international operations are the Swedish Armed Forces' most frequent type of activity and extreme in the sense that the level and dependency of intelligence-related work are significant.

There are several different types and forms of intelligence analysis so the degree of institutional influence may vary greatly. This study focuses on threat assessments. Threat assessment and threat analysis are one of the

most common products created by intelligence services (Gill, 2010, p. 217). Therefore, if institutional influence exists, it is likely to find evidence of it there. The motivation to focus on threat assessment can therefore be seen as a most likely selection.

Data

Ostrom wrote that the problems incurred when identifying the rules-in-use are that many of the rules are not understood or even conceptualized by the members of the institution (Ostrom, 2007, p. 39). Thus, it is insufficient to only analyze regulative documents and ask the members of the institution which informal rules are actively observed. The study's primary sources for the formal rules were doctrines and educational material for intelligence analysis (Standard Operational Procedures). The primary sources for collecting information on the informal rules were obtained by open-ended interviews with eight intelligence officers. Furthermore, a survey was sent to all armed forces staff members who were active between 2008 and 2012 in either the intelligence section or the Intelligence, Surveillance and Reconnaissance Company (ISR Coy). The questionnaire was mailed to 125 individuals, and the response rate was 40% (49 respondents). The mean length of the respondents' military service was 13 years. No systematic errors were observed regarding the response rate or the staff members' positions when the answers and service lists were combined and cross-checked.

The clear majority of the positions of the intelligence staff were as analysts. Both staff sections had one information manager (intelligence assistance) each. Seven of the questionnaire respondents had a senior position, and the majority of these were as chief analysts. Of the respondents who have worked as information managers, all but two had done one or more rotations as analysts as well. In general, all positions (except the head for the intelligence section in some cases) worked with some form of intelligence analysis. In other words, one can assume that all of respondents had some basic understanding of intelligence analysis and therefore were able to adequately understand and properly answer the questionnaire.

Provincial reconstruction team Mazar-e Sharif and the Swedish military intelligence community

Sweden's contribution to NATO's International Security Assistance Force (ISAF) began in 2001/2002. In March 2006, Sweden assumed leadership of a Provincial Reconstruction Team (PRT) which was responsible for four northern provinces: Balkh, Sar-e Pul, Samangan, and Jowzjan. The main force, working with a smaller Finnish contingent, was located in Camp Northern Lights in the city of Mazar-e Sharif (MeS). In 2012, the Swedish contribution

received civilian leadership and, furthermore, the responsibility for security was gradually handed over to the Afghan government. This study investigates the PRT from 2008 to 2012, as this period was the most combat-intensive.

Although the Swedish intelligence community in Afghanistan was spread out over several different sections, this study focuses specifically on the ISR Coy and G2 of the PRT. G2 was the main intelligence body. Its name comes from the continental staff system, in which the G denotes the Army and the 2 denotes the intelligence and security section. The primary assignments of intelligence sections are to support operational planning and provide decision support. Analysts have 'all-source responsibility' which means they should combine information and intelligence from many different sources. The ISR Coy has primary responsibility for coordinating intelligence collection and conducting the first initial analysis of human, signal and image intelligence. Between 2008 and 2012, the G2 section consisted of 14–17 Swedish officers, noncommissioned officers, and one assistant along with three Finnish officers. The ISR Coy staff consisted of 7–8 Swedish officers and noncommissioned officers, and one assistant.

As noted earlier, the purpose of intelligence is to deliver decision support. A threat assessment is one such type of support and is a recurring activity at most levels of intelligence work. Here, threat assessment is viewed in a broad sense, and all assessments relate to forthcoming antagonistic actions. There are two different types of threat assessments: periodic, event specific. Periodic threat assessments, such as road assessments, are included in intelligence reports and are produced periodically at predetermined intervals. Event-specific threat assessments are included in a specific report or part of example the intelligence preparation for battlefield process. Another example of event-specific assessments, are those that support on-going operations or incidents and are delivered orally. Due to the limitations of this research effort, orally delivered threat assessments were excluded from this study.

Different types of threat assessments create different action situations, although there are similarities among them. All the earlier-mentioned types of threat assessments share here the underlying structure of the situation. To understand the influence of the Swedish military intelligence institution, we must understand which rules-in-use existed, which actors were involved, and what mechanisms controlled information collection and distribution.

In the next section, the two types of threat assessments addressed in this study will be described in relation to the influence of the exogenous variables and the mechanisms that connect to the mental model. This task not only draws upon the ideas expressed in the interviews and the survey but it also includes analyzing the publicly accessible documents in order to reveal some of the actual practices. As the focus of the article is the mechanisms between the institution and the assessment, the institution is described on the basis of the three central exogenous variables according to the model: shared beliefs, rules-in-use, and physical condition/incoming stimuli.

Rules-in-use: institutional cognitive bias—perception and rules

'Rules' is the central variable in institutional analysis and thereby key for understanding how military intelligence institutions influence the assessments. The rules-in-use can influence directly the mental mode, for example, by shaping what components should be included in an assessment. Furthermore, rules-in-use can also indirectly influence, for example, the perception of the stimuli. The stimuli in this context is primarily incoming data or information from the collecting entities. This is done by triggering cognitive bias or heuristics or by limiting the information available at any given time. Several cognitive biases have been connected to intelligence analysis work including anchoring, availability heuristics, confirmation bias, and framing (Heuer, 1999; McNeese, Buchanan, & Cooke, 2015). However, there is a variety of different forms of cognitive biases, but those cognitive biases resulting from the rules-in-use can be largely understood as institutional influence.

An example of this can be found in the legal system in the United States. Juries tasked with assessing punitive damage are explicitly not allowed to compare the current case with other similar historical cases. Consequently, a formal rule is created regarding how the mental framework should be constructed, restricting the jury members and influencing their assessments. When cases are assessed in isolation, emotional values are more likely to guide decisions (Kahneman, 2011, p. 362). So here is an institution with a rule-in-use that leads to behavior resulting in a systematic perception bias among its members.

Institutions' influences on analyses are not exclusively negative; they can be neutral as well as have a positive impact on assessments. Davis discusses the institutional initiatives at the Central Intelligence Agency that promote the use of alternative analyses. Devil's Advocacy and the Analysis of Competing Hypotheses are examples of such alternatives (Davis, 2008, p. 167). A strategy is created that is meant to broaden the analyst's perspective. Both of these examples can be connected to framing; that is, how a question is presented and in what context it will influence the conceivable answers and solutions.

From an analyst's point of view, intelligence creation is a highly reactive process. One respondent explained intelligence analysis as starting with an assumption or belief and then searching for information to verify your direction. It is rare to start with information or data and then see where it takes you (Respondent 1). In the case of the Swedish military intelligence institution in Afghanistan there was a lack of pre-determined methods for how threat assessments should be conducted (Respondent 1). The actions taken to conduct the assessment appeared to be primarily ad hoc. The general approach was to determine what existing intelligence was available on the subject. When asked how the analyst conducted a threat analysis, several of the interviewees and survey respondents stated that the point of departure for periodic threat assessments was often previously conducted assessments. Some stated that this

was primarily done by drawing upon historical data and pattern analysis, although there were some discrepancies among the respondents regarding this aspect.

One type of periodic assessment pertaining to roads was typically based on the occurrence and details of previous incidents. One analyst claimed that they were quick to raise the threat level after an attack and it often took time before the threat level was lowered to the previous level if ever (Respondent 1). No dominant 'research design' was observed regarding threat assessments as evident by the fact that 46% (22) of the respondents reported that threat assessments were primarily calculated using statistics and based on several observations, whereas 25% (12) claimed that only a few observations were studied in depth. However, 29% (14) felt that both statements applied. Nonetheless, there was only a small difference between the two approaches, and in general, both approaches were reported as important.

Although there were few rules guiding how analyses should be conducted (e.g., regarding specific structured analytical techniques or which information databases to use for searches), there existed several theories-in-use that guided the rules-in-use. For example, the handbooks guiding the analytical work provided some theories and provided one link to the rule-in-forms, that is, the written rules, which can be part of the rule-in-use but do not need to be. One of the fundamental parts of intelligence analysis on the operational level regarding intelligence for support for military operations is the analysis processes 'Intelligence Preparation of the Battlefield' (IPB). From a military perspective, IPB describes the organizational processes for managing intelligence in support of military operations. IPB defines not only which products to produce but also (in some cases) how to produce them. From an academic perspective, IPB can be understood more as a process that includes both methods (rules) and theoretical assumptions. It can for example be seen as a framework because it provides several variables that are perceived to affect the outcome of an operation. IPB contains several supporting frameworks available for the analyst to use; one such framework is the Area, Structures, Capabilities, Organizations, People, and Events (ASCOPE). The six factors comprising the ASCOPE framework are seen as the main variables influencing the operational environment and are comparable to the framework used in this article, demonstrating the need to understand the institution's three exogenous variables. Although IPB is central, the respondents did not identify it as a method or theory. Instead, the military personnel seemed to take IPB for granted.

In general, the results are inconsistent with regard to the analysts' uses of theory. According to the survey, theories played a significant role in their work, but the respondents had no clear answer regarding what theories were in play. The theory-in-use that connected directly to the threat assessments was the threat components. A majority of the survey respondents and interviewees (68% of the survey respondents that had answered the question and

six of the eight of the interviewees) said that they would include three central factors: the intentions, capacity and opportunity of the threat actor. For several of the survey respondents, the answer to the question ‘What are the main steps in a threat assessment according to you?’ only consisted of those three factors. An actor-centric (the analysis starts from a predefined actor instead of, for example, an objective or facility) approach was also mentioned by several of the respondents. The handbooks that guide intelligence analysis state that both an actor-centric view and the three central threat components should be used (Swedish Armed Forces, 2010b, pp. 29–30). The majority of those who mentioned the threat components (14 of 21) claimed that they had not read the handbook in question.

Concepts can be seen as part of a theory (Goertz, 2005) and thus can be regarded as part of an institution’s theories-in-use. The terms used by the survey and interview respondents showed signs of a common vocabulary. This was particularly evident regarding the terminology to define the adversary. From 2009 and onwards the preferred term was *insurgent*. Previously, both *terrorist* and *enemy combatant* were also used in the written reports. If the organization was unknown, it was labeled as ‘an opposing militant force.’ Consequently, one could claim that this principle was included in the rules-in-use by the institutions. By labeling them as insurgents, this indirectly implied that they were rebelling against a lawful regime. If the ‘correct’ terminology was not used, the higher echelons addressed the omission: in this case, the RC North Intelligence Section.

There were several written guides and regulations for how a threat assessment should be conducted. However, the doctrine and handbooks were not well disseminated among the respondents, with only approximately 50% of the respondents admitting they had actually read them. The handbook written specifically for antagonistic threats, such as those in Afghanistan, had been read by only 30% of the respondents. However, the guidelines for basic intelligence work were well known, and the majority of all respondents (80%) had completed the basic intelligence course or a similar course. Other courses, such as network analyses, were not commonly attended. Among the interviewees, there was some discrepancy about the relevancy of the available handbooks. Some indicated that the handbooks did not contribute to enhancing their understanding (Respondent 1, Respondent 4), whereas others saw them as both useful and relevant (Respondent 2).

Rules-in-use connected to positions

The G2 organization changed several times during the period; during that time, the rules guiding who had what responsibility were also constantly changing. Some positions were directly connected to certain threat assessments and related to who had the responsibility for conducting each

assessment. When an analyst was assigned an area of special responsibility, for example, Balkh Province, s/he was also responsible for performing threat assessments of the roads in that area. One respondent described problems with this approach. For instance, when an incident occurred in another area that had frequent fighting, the threat level was raised even though the area of responsibility was not comparable to the geographic areas where there was frequent fighting (Respondent 7). Thus, the main problem was that the threat levels were not comparable between the different geographic areas. Consequently, the assessed threat level directly influenced operations in that it dictated the minimum level of protection needed in that area in terms of types and numbers of vehicles and the medical personal. Therefore, it was possible that patrols or missions in an area which had objectively a lesser risk for attacks comparable to another area were ironically forced to have a higher level of protection than an area with higher risk or more attacks. As resources were limited, this had a significant impact on where and how many patrols could be conducted.

Rules within an institution are often connected to specific positions within an organization. In this case it could be example analyst at G2 or collection manager at the ISR coy. In the investigated case the formal positions did not always correlate with the tasks performed by the person in that position. Competence, experience and the need for those specific positions at the time were explanatory factors. One example is the CBRN officer, who primarily worked with non-CBRN-related analysis. However, formal rules guiding what could be viewed as a new position (example province analyst over Balkh) were strictly followed.

As a result of the 2009 introduction of the ISR Coy, the size and manner in which the intelligence section of the PRT staff was formed changed several times during the relevant time period. The relationship between the ISR Coy and G2 also shifted during this time period. One respondent explained that 'when the ISR Coy started to gain momentum, it was like the tail was wagging the dog' (Respondent 3).

Positions in the intelligence community are often heavily connected to accessing information. Higher levels of the analytical chain do not directly correlate with increased access to information. Both human intelligence (HUMINT) and signal intelligence (SIGINT) aggregate information for security reasons, resulting in a situation in which an all-source analyst neither knows who has said what nor has access to recorded conversations (should they exist). Consequently, the analyst only has access to distilled reports.

The vital aspect of intelligence analysis are what knowledge is produced; that is, what questions are answered and what data are collected to answer them. Both of these questions are connected to the position a person holds. The actor determining and controlling which assessments should be conducted is formally the Commanding Officer or someone from higher

echelons; in this case, the Commanding Officer PRT MeS and Regional Command North. They determine the Priorities Intelligence Requirements (PIR), which are part of the Commander's Critical Information Requirements (CCIR)(Swedish Armed Forces, 2010b, p. 29).

Both the PIR and Requests For Information (RFI) are governed by the intelligence-requirement management process. The PIR is first broken down into what is called the Specific Intelligence Requirement (SIR) and then into the Essential Elements of Information (EEI). The person responsible for the final step in the process, the EEI, holds the position of collection manager. The EEI can be linked to indicators that are observable phenomena. The presence or absence of these indicators can then support the confirmation or rejection of an assessed situation. According to the doctrines, the EEI typically answers questions of a closed nature (i.e., yes or no questions). The PIR and SIR have a more open character(Swedish Armed Forces, 2010b).

From a defined information or intelligence requirement to the finished intelligence product, there is a chain of interpretations of the initial question. Consider the following example. The PRT commander wants to know the security situation in his area of responsibility. The collection manager with the relevant intelligence function in G2 then breaks the question into smaller parts and decides how and what information is collected for each requirement. Two of the requirements are given to the ISR collecting manager, who then breaks them down further into EEI. The HUMINT team examines the question and then attempts to find answers and writes a report. However, data collection is strongly affected by the sources the collecting unit has access. In the next step, an ISR analyst aggregates that report with other HUMINT reports and writes a summary report. This report is sent to an analyst at G2, who uses it (together with information from other collection entities) to write a reply to the original request regarding the security situation in the area. In this example, five individuals have interpreted the questions using some form of mental model. In this case, the process was not always straightforward. For example, during several phases there were on-going discussions between the collection manager and the analyst.

There were cases in which the collection of information and how it was interpreted created problems. One such case occurred when changes were implemented to the operational pattern related to concentrating the PRTs' efforts in a few designated areas. This resulted in decreased information regarding attacks in those areas, despite the sharp increase of attacks in problematic areas. The question raised was how the data should be interpreted; although the number of attacks was declining, the intelligence officer assigned to the task thought that the attacks had never been so intense (Bang, 2016).

One respondent explained this situation in the following manner:

We received intelligence from an ISAF nation working in our area that an insurgent group was increasing its activity in the area. This was interesting, of course, and we started to collect information about the group from both the HUMINT teams and (through a liaison) the Afghan National Security Force (ANSF). One respondent indicated that ‘this resulted in a sharp increase in reporting about this group.’ The group was seemingly active in the entire area. The questions we needed to ask were how this occurred, had we overlooked the activities earlier or was it because we started to ask people? (Respondent 7).

The first conclusion is that there were few rules-in-use guiding the direct analytical work influencing the mental model, although some rules existed. However, several rules, primarily regarding information collection and sharing, existed and to a large extent these influenced the mental models.

Shared beliefs within the institution

The attributes of the community in the IAD framework capture the community’s social and cultural aspects. In the case of intelligence analysis and specifically the Swedish military intelligence in Afghanistan, the two most interesting questions are how this variable (attributes of the community) can be understood in this specific context and how it was formed.

This is an area that has received a lot of focus within the intelligence literature as it has often been connected to analytical intelligence failures. Treverton claims that the reason for the erroneous analysis of the Iraq assessment and weapons of mass destruction (WMD) was a shared mindset between the intelligence community and policy makers (Treverton, 2008, pp. 93–94). Jervis states that the cause of many intelligence failures can be traced back to an inability and failure to rethink beliefs and perceptions related to incoming information (2011, pp. 169–70). Eriksson has shown how the shared mindsets of Sweden’s Military Intelligence and Security Service created an environment in which strategic analysis resulted in an interpretive framework that was not questioned (2013). Another example is the Yom-Kippur War when the Agranat Commission wrote about something they called ‘the concept’, a fixed notion that was shared within the Israeli military (Ben-Israel 1989). This notion was the unchallenged assumption that Egypt would never attack as long as it lacked a long-range air-strike capability to attack the Israeli airfields. ‘The concept’ also included the assumption that Syria would not attack Israel on its own (Ben-Israel, 1989, p. 660). This shared concept prevented the Israeli intelligence service from predicting the attack. The connection to the concept of strategic culture can be seen as a specific form of a shared belief system.

Here, belief is a type of assumption, and the term ‘shared beliefs’ is meant to convey that a majority of an institution’s members share those principles, values, viewpoints or belief sets. Beliefs and assumptions influence our

understanding of the world; beliefs that are both interrelated and describe our reality can be said to be part of our worldview. The concept of worldview is central in several disciplines and appears under a variety of different names (Koltko-Rivera, 2004, p. 4). Koltko-Rivera defines worldview as a set of beliefs and assumptions about what is and is not real, defining both what is possible to know about the world and how knowledge can be created. Worldviews are heuristic assumptions that are subordinate in how they are the epistemic and ontological foundations of other beliefs (Koltko-Rivera, 2004).

Shared worldviews are of special interest for knowledge-producing and foreknowledge-producing institutions. Worldview refers to beliefs and assumptions regarding the underlying nature of reality and what can be known about reality, that is, epistemological and ontological views. In the Swedish military intelligence handbook, intelligence is defined as primarily

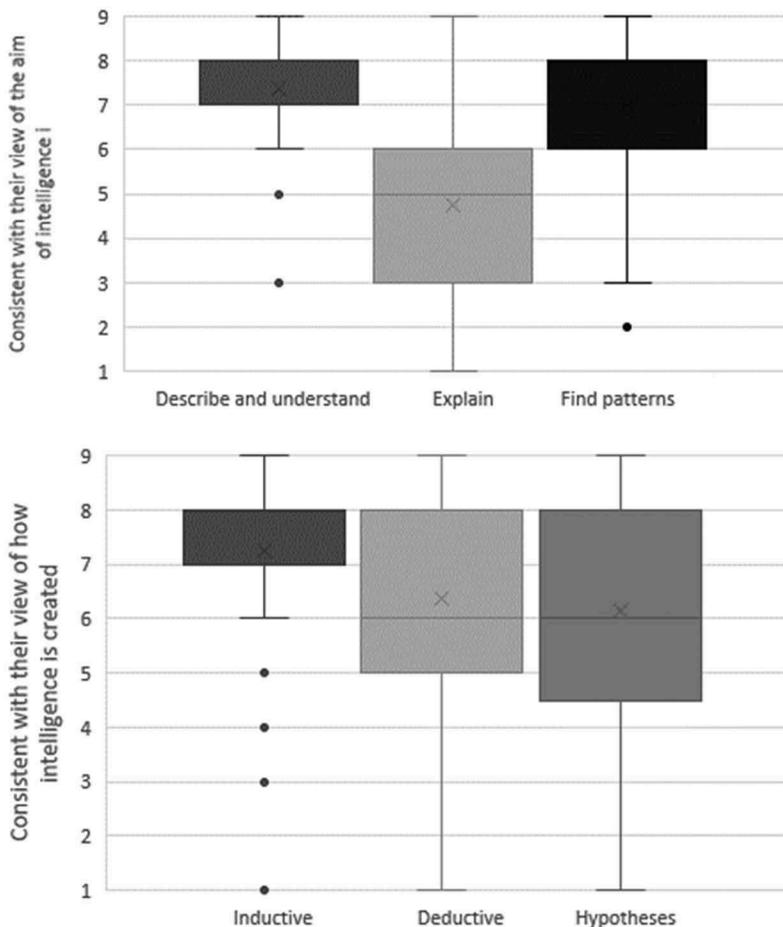


Figure 3. Boxplot overview regarding the respondents views of how intelligence is created and the aim of intelligence. On the scale, 1 equals strongly disagree with their view and 9 strongly agree with their view of the aim of intelligence and how intelligence is created.

an inductive activity that is fundamental to the process of generating new intelligence from the data information knowledge hierarchy. An inductive approach was also described by the respondents. Specifically, 80% of the respondents thought the inductive approach to creating intelligence was either the most consistent or equally consistent to the deductive and hypothetically deductive approaches, as illustrated in [Figure 3](#). The perception of how well the inductive approach describes the manner in which intelligence is created can be seen as less interesting than how the respondents viewed the relationship among those approaches. The respondents in general did not see any of the three approaches as much more important than any other.

There was a strong consensus among the respondents about a probabilistic worldview. In the Swedish Armed Forces intelligence handbook it is stated that one of the most important functions of intelligence is to forecast future events (Swedish Armed Forces, [2010b](#), p. 12). When asked how intelligence is created, the most common view was that it was conducted in a systematic manner. This can be compared with the statement ‘intelligence primarily is based on experience and intuition,’ with which 25% of the respondents agreed (12). In contrast, ‘gut feelings’ were seen as something that should be incorporated into the assessment (86%).

Shared beliefs in the form of theories-in-use

Rules or strategies can directly influence our mental models by simply stating what needs to be considered, what the influencing variables are, and the relationship between them. Rules in that form are best understood as theories-in-use. When scholars use a framework or theory, they can understand this as a formal mental model or perspective. Sabatier wrote that academic analysts ‘look at the world through a lens consisting of a set of simplifying presuppositions’ (Sabatier, [2007a](#), p. 5). A pertinent question to ask, then, is whether theories are used in intelligence analyses. Ben-Israel suggested that intelligence estimation uses a conceptual framework in the same way science uses a theory ([1989](#), p. 661).

As an example we can take the U.S. Army Intelligence Analysis Training Manual. It mentions on method they name ‘applying theory’ which is also called the ‘social science’ approach. The term ‘theory’ itself is mentioned as something that is not commonly used within the intelligence community (U. S. Army, [2009](#), pp. 2–19). Although the U.S. army doctrines cannot be seen as representative of all intelligence analysis, it is nevertheless a clear example. This lack of theory can be connected to the problematic use of scientific theories in intelligence analysis. The question here is rather epistemological and pertains to how knowledge is created. Intelligence analysis is often referred to as a primarily inductive activity (Ben-Israel, [1989](#), p. 662; Bruce, [2008](#), p. 175; Clauser, [2008](#), p. 53; Woodrow, [2004](#), p. 86).

Although this is likely to be true on one level, the analyst does not often begin an analysis with clearly defined theories, as is the case in the social sciences. Nor does this mean that they start with an entirely blank page. Heuer argues that what ‘academics refer to as a theory is a more explicit version of what analysts think of as their basic understanding of how individuals and institutes normally behave’ (Heuer, 1999, p. 35). Thus, the theories used within the institutions are central. In this article, theories-in-use are defined as rules or strategies that regulate or guide the analysis process; that is, which variables of an assessment should be included, and which relations, if any, exist between the given variables. Theories-in-use can take the form of concepts, frameworks, or theories. Beliefs can take the form of theories-in-use when the institution’s members can articulate the theory. Both rules-in-use and beliefs can take the form of theories-in-use. One difference is when a belief takes the form of a theory-in-use and affects the mental model directly rather than merely providing the model with boundaries.

The distinction between theory-in-use and other beliefs is that the members of the institution themselves articulate the belief. In the Afghanistan case discussed here, one example of such a belief is the ‘five-dollar Taliban’, referring to the notion that most insurgents are economically motivated, not politically or religiously motivated (Respondent 7–8). Connected to the assumption of economically motivated violence was the view that improvised explosive devices were often placed to protect narcotics or smuggling routes (Respondent 7). Regarding the fundamental understanding of the causes of insurgency, criminality was the factor that garnered the highest consensus and the factor that most respondents deemed significant. One section of the Swedish Armed Forces handbook on Afghanistan is titled the ‘Armed Resistance’ and briefly discusses the area’s five central insurgent groups. It also notes that in addition to these groups, organized crime, criminal networks and local power brokers have been known to attack ISAF and ANSF in order to protect their own activities. Although these activities are associated with an insurgency, they are more economically motivated than ideologically or religiously motivated, as was the case with the insurgent groups (Swedish Armed Forces, 2010a, p. 37) .

A guiding approach has been ‘counter-insurgency’ (COIN)(Swedish Armed Forces Land Warfare Centre, 2015). There is no academic consensus regarding exactly how a COIN strategy should be established and conducted, although the goal is clear. COIN as a concept can be seen as a combination of an operational approach and theories. COIN can therefore be seen to some extent at least as a theory-in-use. However, here it is important to point out that the significance of COIN and how it was used were not consistent across personnel rotations (Swedish Armed Forces Land Warfare Centre, 2015).

Another initial theory-in-use was when attacks against the Swedish units took place primarily when it was dark or at dusk. The statement about dusk

and dawn is difficult to verify without information about operational patterns; however, it represents more than untested assumptions. To create one's own or a context specific theory, some type of structured analytical process is needed with that specific aim, identifying something that was deemed as unusual in the intelligence institution. In general, it was uncommon to try to alter or even question the existing knowledge base. A common view was that all reports substituted the knowledge base for the intelligence section. One respondent described that view as follows: 'From an academic perspective, it can be compared to a plethora of case studies stacked on top of each other without any generalizations being drawn from them' (Respondent 2).

We can then conclude that within the institution there existed several beliefs and theories-in-use which could have influenced the mental model created by the analyst. A shared epistemological view regarding intelligence existed; primarily, it was an inductive activity and a reactive process. Some context dependent beliefs were also shared, mainly regarding the notion of the 'five-dollar Taliban' and economically driven insurgency.

Discussion

How an analyst constructs reality depends on his/her mental models and how they are structured and influenced by an institution. Both the shared belief sets and the theories-in-use guide the analyst in searching for and processing new information and knowledge. In this case, analysts actively searched for indications of a specific actor's intention, and consequently the mental model acted as a possible filter of which information was perceived as vital and which was considered irrelevant (background noise). In this case there also where a belief directing the analyst view of actors intention towards economic motivation. If the analyst believes that the insurgency activity is primarily economically motivated an intention analysis of this actor will search after economical motivation, in the case in Afghanistan it could be the protection of smuggling routes.

This gives a risk of confirmation bias when analysts search for an indication, for example, of an intention. This risk can partially be reduced by using techniques, such as alternative hypothesis testing (Heuer JR & Pherson, 2010). The rule-in-use stating that an analyst should use previous assessments as a starting point entails another possible risk; that is, the new assessments are heavily anchored with previous assessments and thus are biased already from the start. Other strategies and norms indicate the same theoretical link between how assessments are conducted and the subsequent enhanced risk for cognitive biases. For example, the rule-in-use guiding the responsibility of the analyst in one specific area (which was evident in the case of the Swedish Armed Forces in Afghanistan) results in a risk that the assessment will be framed to that area instead of being comparable to other

areas in the region. In other words, the rule affects how incoming stimuli (e.g., in the form of reports and data) are interpreted, thus influencing one's perceptions of the situation. It lead to that the threat levels were not comparable between areas. Since the criteria for the different threat levels were unclear, it was a real possibility that one area, which was assessed as high threat level, had in reality a lower likelihood of insurgent attacks than an area which was assessed as lower. In turn, this affected the operations since the threat level itself guides what level of protections is needed in terms of vehicles, armor, and medical personal.

Shared beliefs about the insurgents protecting their narcotic trade might influence the view of the threat in general. Thus, this belief was incorporated into the mental model. This belief is also connected to the theory-in-use because the threat component of 'intentions' is partially answered by this belief. Here, the worldview (as a type of specific shared belief) is connected to the notion of an inductive knowledge production.

The theories-in-use of the five-dollar Taliban and insurgents protecting their narcotic routes and production can both be connected to the same ontological beliefs. A belief system based both on the view of the economic man and on some form of rational behavior connected to materialistic motivations.

Figure 4 is a visualization of the the threat assessment situation and its central components. The threat assessment situation have at least two linked action situations: information collection and information sharing. Collection is central here because it directly affects the type and the quality of information (i.e., the incoming stimuli) available to the analyst. The fact that

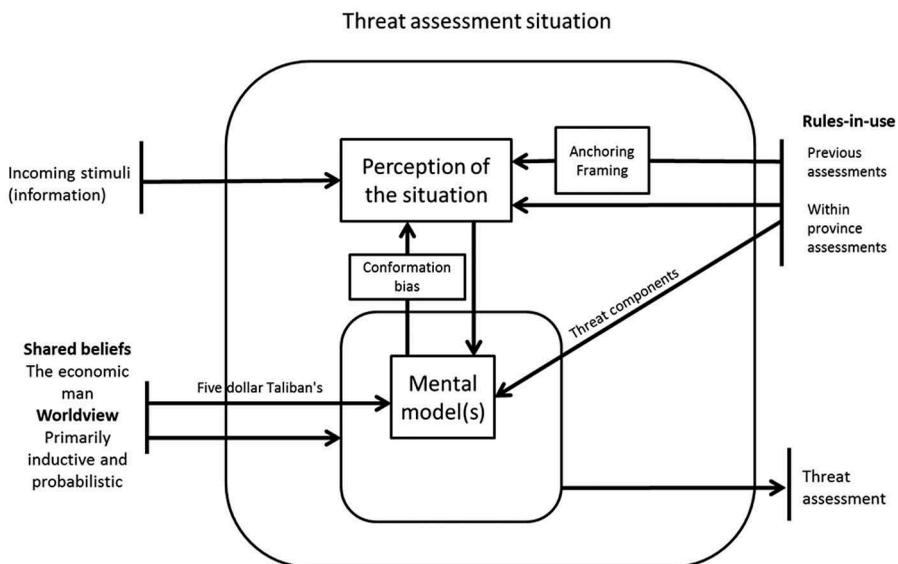


Figure 4. Threat assessment situation for the Swedish military intelligence institution.

information collection and assessment are deeply nested is nothing new. It is interesting that the link between the assessment and the collection is the point where the system is the weakest in this case. The sequential process in which information is collected and aggregated is inconsistent with the analysts' view that it is indeed an inductive process. Collection is not unconditional: it is an effect of both the collecting units' access and their interpretation of which information is of interest. The consequences of this approach are unknown. However, there is a risk that a system of self-fulfilling prophecies will be created, if the collected data is viewed with an inductive methodological approach the intelligence analyst risks the possibility that they only verify the initial theory guiding the collection.

By understanding how the Swedish military intelligence institution on a tactical and operational level influences intelligence assessments, we also obtain a greater general understanding of the mechanisms between institutional influence and mental models. The understanding of how the exogenous variables interact and affect the mental model is significantly enhanced. This understanding provides the necessary tools to design institutions that can improve their internal assessments. However, several questions arose. What does it take to change shared beliefs? How should rules-in-forms be constructed to become rules-in-use? Is there any way to clarify beliefs and thereby create the possibility of challenging and questioning them? One question which still, to large extent, is unanswered is to what degree the institution influences the assessment, a question which is strongly connected to the environment. A first attempt to answer this has been done in a separate article in which one of the rules-in-use from this case was tested in an experiment. The result showed a statistically significant influence especially regarding the reluctance to lower threat levels based on previously conducted threat assessments (Bang & Liwång, 2016).

This study does not answer to what degree the institution actually influences the assessment process. However, the study does show that within this specific institution, there is a path or a mechanism between the institution and the assessment process. The institution directly influences the mental model as a result of shared beliefs and theories-in-use. It also influences the mental model indirectly by affecting the incoming stimuli and thereby the perception of the situation.

Conclusions

Analyzing the military intelligence service from an institutional perspective may help us to better understand what influences its assessments. In addition, it may also be a very useful tool for reforming current policies. The framework proposed in this article provides several factors that theoretically influence intelligence assessments. Some of the rules-in-use, for example that

an analyst should use previous assessments as a starting point, within the institution aggravate the risk for cognitive bias, such as anchoring and conformation bias. Thus, the proposed framework can help scholars connect and understand the mechanisms of the various influential variables and lay a foundation for a common terminology, which is greatly needed in the field of intelligence studies. By understanding the mechanism and connecting the dependent variable with the independent exogenous variables, we can better understand the intelligence analysis process and thereby obtain and create better tools for changing and influencing the outcome.

Although the case discussed specifically addressed military intelligence assessments, the framework components could also be applicable to another institution's knowledge production which is conducted under high uncertainty and in a highly regulated organization. Intelligence analysis can be characterized as a sequential knowledge-producing activity, where institutional influence becomes central. Regardless of the practice involved, understanding the mechanism between the institution and the mental models is an important aspect of reshaping and actively improving the analyses and decisions made within an institution.

Note

1. Some of this work draws heavily from the introductory chapter in my compilation dissertation (Bang, 2017).

Interviews

Respondent 1, Analyst Mars 2015
Respondent 2, Analyst May 2015
Respondent 3, Analyst May 2015
Respondent 4, Analyst May 2015
Respondent 5, Collection manger October 2015
Respondent 6, Analyst October 2015
Respondent 7, Analyst October 2015
Respondent 8, Analyst October 2015

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