

**T.R.
POLICE ACADEMY
INSTITUTE OF SECURITY SCIENCES
DEPARTMENT OF STRATEGIES AND ADMINISTRATION OF
SECURITY**

**INTELLIGENCE ANALYSIS: REPRODUCTION OF
INFORMATION**

**MASTER'S THESIS
Alp Cenk ARSLAN**

**Supervisor
Assoc. Prof. Dr. Ufuk AYHAN**

ANKARA - 2020

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I hereby declare that this Master's Thesis has been written by myself per the academic rules and ethical conduct. I also declare that all materials benefited in this thesis consist of the mentioned resources in the reference list. I verify all these with my honor.

Date

14.09.2020

Alp Cenk ARSLAN

Signature



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ABSTRACT

T.R.
Police Academy
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Alp Cenk ARSLAN
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This study discusses the significance of intelligence analysis in terms of both being a phase within the whole intelligence cycle and its effectiveness for intelligence affairs. Intelligence analysis is not only a phase for the intelligence production process, but also an activity to transform information into intelligence. Thus, this study also presents new cyclic models of transformation of information and truth which are the primary objects of the intelligence analysis. Analysis is the central part of the process because of several arguments. Firstly, intelligence analysis allows a state to avoid strategic and tactical surprises. Secondly, it also allows a state to create an influence over target entities. Both capabilities are among the primary objectives of intelligence affairs. As a result of this research, two sides of methodological debate that are intuitive approach and exploitation of structured analytic techniques should be systematically synthesized in order to reach to an appropriate understanding, thus creating an influence.

Key Words: Intelligence Analysis, Intelligence Cycle, Structured Analytic Techniques, Strategic Surprise, Tactical Surprise, Influence.

ÖZET

T.C.
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Bu tez istihbarat analizinin hem tüm istihbarat çarkı içinde bir aşama olması hem de istihbarat işleri için etkinliği açısından önemini tartışmaktadır. İstihbarat analizi sadece istihbarat üretim süreci içindeki bir aşama değil, aynı zamanda bilgiyi istihbarata dönüştüren bir faaliyettir. Bu nedenle, bu tez aynı zamanda istihbarat analizinin ana nesneleri olan bilgi ve hakikatin dönüşümüne dair yeni döngüsel modeller de sunmaktadır. Analiz, çeşitli sebepler dolayısıyla istihbarat üretim sürecinin merkezi parçasıdır. İlk olarak, istihbarat analizi bir devletin stratejik ve taktiksel sürprizlerden kaçınmasını sağlamakta, ayrıca, bir devletin hedef yapılar üzerinde nüfuz yaratmasına da izin vermektedir. Bu iki kabiliyet istihbarat işlerinin öncelikli hedefleri arasında yer almaktadır. Bu çalışmanın nihai bulgusu kapsamlı bir anlayışa ulaşma ve nüfuz yaratabilme için istihbarat analizine yönelik yöntemsel tartışmanın iki tarafı olan sezgisel yöntemler ve yapılandırılmış analiz tekniklerinin sistematik olarak sentezlenerek kullanılması gerektiği yönündedir.

Anahtar Kelimeler: İstihbarat Analizi, İstihbarat Çarkı, Yapılandırılmış Analiz Teknikleri, Stratejik Sürpriz, Taktik Sürpriz, Nüfuz.

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ACRONYMS

ACH – Analysis of Competing Hypotheses

CIA – Central Intelligence Agency (United States)

NATO – North Atlantic Treaty Organization

NIO – National Intelligence Organization (Turkey)

SAT – Structured Analytic Techniques

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INTRODUCTION

Intelligence studies have been discussing the theory of intelligence production for a long time. The question centers on the definition and understanding of the structure of the intelligence production job: “Is that a process, a model, or a mechanism?” Then, another question that is related to the first one rises: “Does intelligence analysis refer to the whole intelligence production process or only one phase in it?” To respond to both of the questions appropriately, the accumulation of academic and practical works of intelligence studies must have been evaluated. Then an explanation would have been presented.

Intelligence analysis defines both the whole intelligence production process, which is described as the Intelligence Cycle and the analysis phase within the Cycle in intelligence studies literature. This research, however, accepts intelligence analysis as the specific evaluative stage of the process. The analysis phase of the collected intelligence input is specified as the utilization of individual and collective cognitive methods to assess data and test hypotheses related to it within a secret process (Johnston, 2005: 4-5).

The analytic phase of the Intelligence Cycle is the central column of the whole intelligence production process. A well-implemented analysis process should be accomplished not only by sorting and comparing data but also by giving significant decisions, according to Lowenthal (2012).

This study will primarily answer the following research question: “Why is intelligence analysis central for a process of intelligence production?” If we approach to the intelligence as a product which is produced at the end of a collection, processing and analysis process, analysis would come to the forefront as a significant stage, as part of the intelligence cycle.

While developing an answer to the primary research question, this study will seek to answer secondary questions such as:

- How does intelligence analysis contribute to influencing a specific entity?

- What are the benefits of properly conducted analysis under the threat of surprise attacks?
- How do previous scholars/practitioners in the field approach to the intelligence analysis methodology?
- What are the latest types of analysis that are used to project possibilities?

These secondary questions will help to raise an answer to the primary question of the thesis.

The study intends to elucidate the significance and limits of intelligence analysis in a proper intelligence production process; evaluate the role of intelligence analysis to create an influence on the target state and/or actor; investigate different methodologies that are used in the stage of intelligence analysis on the intelligence cycle and achievements and failures of those intelligence analysis methods in practice; explain most contemporary analysis types such as risk analysis and future projections, and how they contribute to the spotting security threats; finally present suggestions to struggle shortcomings of analytical problems and possibilities to overcome them being born with the latest technological developments.

Despite the numerous studies and publications on intelligence analysis in western academic literatures, there are few researches in Turkish academic sphere. Although the language of the thesis is English, it would be a contribution to the intelligence studies in Turkey with a scope of intelligence analysis. I also aim at developing further research that is more detailed than a Master's Thesis at the next steps. Therefore, this research would be a starting point for the explanation of current status of intelligence analysis that is taught within Turkish academy. This study would not only contribute to the literature, but would also be an explanatory study that help researchers to understand the basic discussions regarding intelligence analysis in a clear course.

A qualitative research approach will be implemented for this research. Document scanning and evaluation technique will be chosen because of the nature of research field

and limitations. The data that will be used during the research will be secondary sources such as books, book chapters, journal articles, academic publications, governmental reports and complementary web sources.

In the course of the study, first, conceptual framework will be explained regarding intelligence affairs and analysis with reference to major sources in the literature. In this stage, I aim at explaining the questions “what place does intelligence analysis take within the context of the intelligence cycle?” and “why is intelligence analysis crucial in the processes of avoiding surprises and influencing specific entities?”

Then, the debates on the methodology of intelligence analysis will be explained as a basement for the thesis. Two approaches to intelligence analysis will be discussed: 1) intuitive techniques, 2) structured techniques. While evaluating main debates, the thesis will explain the significance of structured methods and define what they are. Therefore, the causes of transition to the trend of structured techniques will be discussed in that part.

At the last chapter of the thesis, the contemporary types of analysis will be explained. Defining and explaining current types of analysis would be complementary for the fundamental argument of this study. Finally, several recommendations will be done in order to help the researchers wishing to study on “analytic tradecraft”.

CHAPTER ONE

THE FUNCTION AND THE ROLE OF INTELLIGENCE ANALYSIS IN GENERAL CONTEXT

1.1. THE INTELLIGENCE CYCLE AND THE ANALYSIS PHASE

Intelligence activity is an ongoing process. Significant developments and complexity that accumulate during the time in the intelligence world require to approach to the intelligence activity as a process. Apart from the discussions upon the concept of intelligence, whether it is a product or a process, this study accepts intelligence as a process. The reason behind this choice is the understanding that intelligence activity should be treated as a systematic mechanism rather than a group of ad hoc challenging activities. Another reason for the necessity to approach to intelligence theory and practice as a system comes from the idea that intelligence activity could not be strategic – in terms of its modern attribution – without a systematic approach. Thus, intelligence activity is a working system that has a constant characteristic.

The academic literature on intelligence theory and studies related to intelligence activity have had significant contributions to the question on the modern structure of the intelligence process. The intelligence process from beginning to end is systematized as a cycle that is well-known as the “Intelligence Cycle”. Modern intelligence organizations have had a consensus on this working model.

On the other hand, the analysis phase within the whole model of the Intelligence Cycle corresponds to the operation of transforming raw data and information that are collected from the different sources to a meaningful understanding. This complete and explanatory understanding has multiple purposes, such as warning decision-makers about possible security threats, creating an influence on a target entity, and avoiding being under the influence.

In this section, the structure of the Intelligence Cycle, and the analysis phase within the model will be explained. Then, new considerations upon different cyclic models that are related to intelligence activity will be discussed.

1.1.1. The Structure of the Intelligence Cycle

The Intelligence Cycle is the model of the intelligence production process. As modern intelligence affairs have required a properly developed model, the Intelligence Cycle fulfills this requirement.

There are four major phases of a traditional Intelligence Cycle that are “planning and direction of requirements”, “collection”, “analysis”, and finally “dissemination”. Despite the full acceptance of the model and the system of the Intelligence Cycle, there have been disputes over the number of phases within the model. Different models mostly add several other phases such as “processing” between collection and analysis phases, and “feedback” right after the dissemination phase. The main reason for the differences in the phases of the Intelligence Cycle is undoubtedly to improve the efficiency of the intelligence production process.

Briefly, in the first phase, the intelligence requirements of the states are determined in line with the national security priorities, and they are conveyed to the operating units. Then, the operating units on the field collect the data and information from both covert and open sources and convey them to the analysis phase. In the analysis phase, these data and information are processed and transformed into meaningful analysis and understanding where they gain the form of intelligence. The last phase, that is dissemination comprises the activity of reporting to the decision-makers. In this last phase, decision-makers also determine new requirements for further intelligence investigations that are related to security priorities (İlter, 2001).

Because of its acceptance throughout time, the structure of the Intelligence Cycle is depicted in prominent security and intelligence organizations’ documents from North Atlantic Treaty Organization (NATO) to Milli İstihbarat Teşkilatı (National Intelligence Organization – abb. NIO) of Turkey and Central Intelligence Agency (CIA) of United States. NIO summarizes the Intelligence Cycle in four phases that are determination and direction of intelligence requirements, collection of information, processing of information (evaluation), and dissemination and use of intelligence (<https://www.mit.gov.tr/t-cark.html>, 2020). CIA’s depiction is a five-phase structure that

has planning and direction, collection, processing and exploitation, analysis and production, and finally dissemination (CIA, 1993).

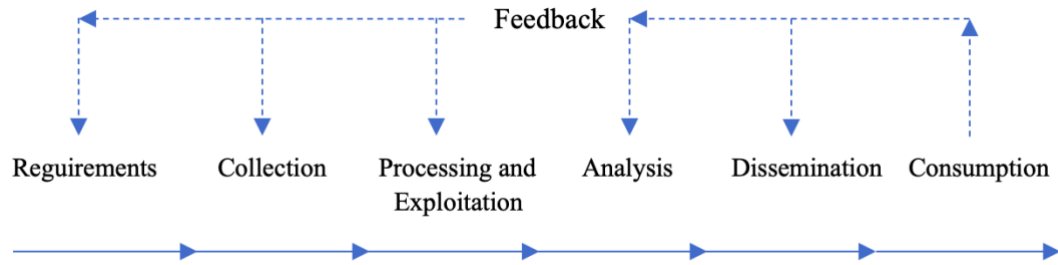
The intelligence production mechanism is a structured process that is based on a systematic approach. Intelligence practitioners – both collectors and analysts – should implement their operations in an orderly and disciplined method according to this structure to catch the basic requirements of the strategic intelligence. Accordingly, the system requires a noticeable mandate by the management of the intelligence agencies (McDowell, 2008: 17-19).

However, the traditional Intelligence Cycle has had harsh criticism by scholars and practitioners in time. The basis of the criticisms has come from the practical reflection of the intelligence production process in the field. Besides the advantage of a well-structured theoretical model that simplifies the intelligence production process by reducing the phases into a scale, capturing the practice in the field has difficulties when applying the process to the Intelligence Cycle (Pythian, 2009: 56). Another problematic indication is the lack of capacity of the model to explain the purpose of intelligence activity (Sims, 2009: 154). Other challenges of intelligence activity and accordingly intelligence production process in practice could be arranged as decision-makers' confusion about what they want from intelligence units, personal biases, especially in analysis departments, group conflict, and bureaucratic pressure (Johnson, 1986: 3-5). The problems, as mentioned above, require a revisiting of the intelligence production mechanism, according to many scholars.

As an example, Lowenthal criticizes the Intelligence Cycle diagram that is presented by the CIA. Lowenthal states that the CIA diagram misrepresents several aspects due to its simplicity. The unidimensional style of the Cycle does not capture the process, and there is not a feedback mechanism. Lowenthal also suggests more realistic figures to go flexibly to the earlier steps that make the process more productive. According to him, decision-makers may not satisfy the quality of collection and could determine new requirements. The same could happen during the processing and analysis phases that

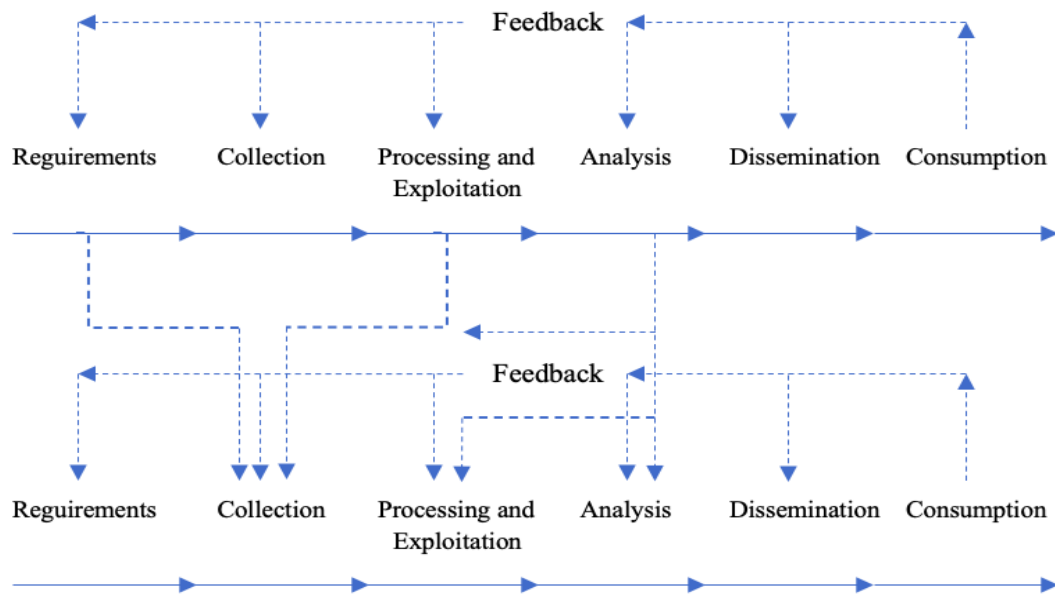
analysts may request new information from the collection (Lowenthal, 2012: 68-69). Figures that are presented by Lowenthal are more realistic, despite their complexity.

Figure 1.1: Schematic Model of Intelligence Process



Reference: Lowenthal, (2012:69).

Figure 1.2: Multilayered Model of Intelligence Process



Reference: Lowenthal, (2012:69).

Arthur S. Hulnick is one of the most prominent critics of the traditional Intelligence Cycle. According to him, there are practical problems that arise from the distinct arrangement of the phases within the Intelligence Cycle, and the working style of the phases is not like in the conventional mechanism. The working of the phases is accepted in tandem according to the Intelligence Cycle; however, the practical aspect shows that they work in parallel (Hulnick, 2006: 961). As an example, because of the efficiency that happens in a parallel working style of intelligence collection and analysis in practice, there must be a deal of information sharing between these units (Hulnick, 2006: 962). As intelligence activity has a continuing feature, and each phase regularly works without stopping, the cyclic understanding could error (Johnson from Hulnick, 1986: 16).

Hulnick's criticism has another strong reason to change the model of Intelligence Cycle: it does not comprise two fundamental intelligence functions that are

counterintelligence and covert action. As counterintelligence is a vital part of intelligence activity, it is impossible to approach the process without taking it into account. It is the same with covert actions, too (Hulnick, 2006: 968). Counterintelligence processes generally have the following stages: identification, penetration, exploitation, interdiction, and claim success (Hulnick, 2006: 973). This working mechanism is not represented in the traditional Intelligence Cycle.

Hulnick also mentions several results to call attention to the problems of the Intelligence Cycle. As the raw data that is collected from several environments exists in the first stages of the process, it is expected that decision-makers would have end-products that are enhanced with a detailed analysis. However, it does not happen, and reports that have raw data are disseminated to the decision-makers. Thus, something is missing with the Intelligence Cycle, according to Hulnick (Hulnick, 2006: 962).

Hulnick argues that there must be four fundamental functions in intelligence activity that are collection, analysis, counterintelligence, and covert action. According to him, each function has different spheres, while each should have a strong relationship with additional actions such as collection, evaluation, and dissemination in their spheres (Hulnick, 2013: 152-153). Hulnick's proposed model on the intelligence mechanism is called "The Intelligence Matrix Model", which is different from a cycle (Valk, 2005: 16).

Table 1.1: The Intelligence Matrix

	Collection of Data	Production of Report	Support and Services
Project _____ report 1	Management	Management	Administration
Project _____ report 2	Requirements	Requirements	Security
Project _____ report 3	Tasking	Tasking	Counter-intelligence
Project _____ report n	Collection	Analysis	Covert action
	Collation and analysis	Production	Inspection and audit
	Dissemination	Dissemination	Liaison
	Evaluation	Evaluation	

Reference: Valk, (2005:16)

On the problems of the Intelligence Cycle, Evan's study is limited to military intelligence and the Cycle's function in military operational environments. However, it is still inspiring. According to him, the character of warfare has been changed in the twenty-first century, and the Intelligence Cycle has problems in front of rising complexity and uncertainty. Revisiting the Cycle is vital to meet growing demands and expectations. Evans also suggests that the Intelligence Cycle should not be treated as a critical enabler. Otherwise, intelligence failures are inevitable (Evans, 2009: 22-23, 44).

Despite the criticisms mentioned above on the Intelligence Cycle, a theoretical depiction of the intelligence production process is still valid and used during intelligence studies and training across the world. Intelligence agencies and sub-units may have their diagrams that have different characteristics. However, if there is a requirement to summarize the whole intelligence process, the Intelligence Cycle still works to fulfill this need. As Johnson states, the point to be emphasized in this discussion should be the quality and engagement of the people who are charged with operating mechanisms (1986: 20).

1.1.2. The Analysis Phase within the Intelligence Cycle

Intelligence analysis is a concept that is used both for the whole intelligence production process that is depicted in the Intelligence Cycle and for the analysis phase within the Intelligence Cycle in most of the intelligence studies literature. However, in this research, the statement of intelligence analysis refers to the specific analytic, evaluative stage of the intelligence production process. The analysis phase of the collected and processed intelligence input is defined as the application of individual and collective cognitive methods to evaluate data and test hypotheses related to it within a secret process (Johnston, 2005: 4-5). Finally, intelligence analysis could be accepted as the separation of the whole into its pieces to understand the nature and function of them (Mangio and Wilkinson, 2008: 3).

The analytic phase of the Intelligence Cycle is the central pillar of the whole intelligence production process. An appropriate analysis process should be done by not

only sorting data but also giving major decisions (Lowenthal, 2012: 120). Responsibility of professionals who are busy with analysis holds a significant part in the way of reaching to strategic warning to the decision-makers.

According to McDowell (2008: 216), analysis regarding intelligence affairs deals with splitting existing data groups into pieces of information relevant to the strategic intelligence issue, selecting and restructuring the proper elements of the information, developing appropriate analytical techniques for a thoroughly organized evaluation, and determining sustainable views that provide insight for the intelligence problem. Along with these sub-activities, to succeed a proper understanding, the analysis should distinguish facts from opinions, develop assumptions, test the strengths and shortcomings of hypotheses and probabilities, and finally conclude to raise recommendations to the decision-makers (Prunckun, 2010: 35). Thus, the evaluation includes transforming conflicting information into an overall understanding (Borek, 2019: 816).

Sherman Kent regards Intelligence Analysis as a speculative activity due to its nature that is based on the evaluation. Intelligence Analysis may include speculation for the reason that the process is based on the power of evaluation of the analyst (Kent, 1949: 39-40). It is sorted from essential descriptive and reportorial sides to “speculative-evaluative” within the context of strategic intelligence, according to Kent’s well-known book on modern intelligence activity. Intelligence activity is based on observation and research, and the system is inseparable, according to Kent (1949).

There is a requirement to divide and clarify the phases to understand the proper working style of the whole model and the analysis phase within it. Processing that is depicted as a step right before the analysis phase by several intelligence agencies and scholars is responsible for converting the raw information that is collected from several environments and turn it into a form that is usable for analysis. In the analysis phase, the information is analyzed and turned into intelligence. This final product should meet the criteria if it is suitable for the intelligence requirement that comes from the decision-maker (Evans, 2009: 42).

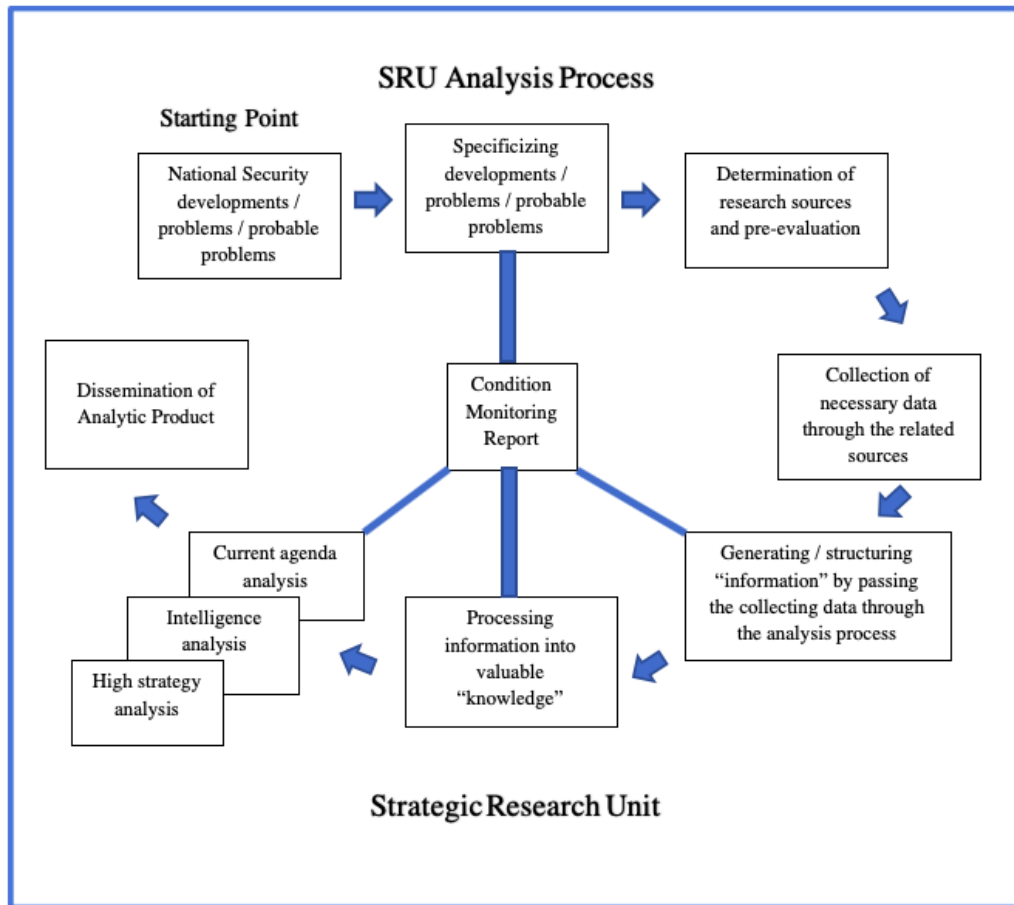
Intelligence Analysis should be a part of all intelligence production process that is not the case in reality (Hulnick, 2006: 977). Similar to Hulnick's argumentation that is cited in the previous part, Lowenthal thinks that analysis should have a coordinated relationship with collection to determine the intelligence priorities. Lowenthal names this state as "the analytically driven collection". Intelligence officers who are responsible for collection activity should not be independent or opportunistic, as they should behave responsibly while paying regard to analytic needs (Lowenthal, 2012: 65). These ideas show the significance and organizing role of Intelligence Analysis.

There is a necessity to emphasize in this point regarding collection professionals in intelligence affairs. Significance of Intelligence Analysis does not underestimate the collection phase. After all developments, the collection phase is still valid.

Intelligence Analysis, as a phase of the intelligence production process, is also a system that has its model. As an example, the Turkish intelligence organization NIO's Strategic Research Unit has its analysis process. Even though NIO does not reveal much information about inner processes, the organization has a cyclic diagram of strategic analysis on its website.

According to the Strategic Research Unit Analysis Process of NIO, the process begins with the determination of the developments, problems, and projected problems about national security and national interests. Then, specificizing the developments, problems, and projected problems comes as a second step. Before the production of the assessment, a new stage appears as the selection and preliminary consideration of the research sources. After that, the collection of required data with the help of the selected sources is organized. After this collection phase, the data undergoes an analysis process. Thus, the "information" is produced and structured. At the next stage, the information is processed and transforms into a "valuable knowledge". Finally, the critical phase comes to the scene: the valuable knowledge is processed according to a relevant analysis such as agenda analysis, intelligence analysis, and high strategy analysis. Indeed, at the end of the process, there is the dissemination of the analysis products.

Figure 1.3: NIO - Strategic Research Unit Analysis Process



Reference: Retrieved from NIO Website, <http://www.mit.gov.tr/sabsema.html>

Analysis outputs could be both short papers and long reports as written products, or they could be orally conveyed to the decision-makers. The formal structure of the analysis is highly recommended to be suitable for the requirements and the urgency of the threats. On the other hand, as each phase within the model would need urgent dissemination to the decision-makers or other security units, the production of analysis of the collected information would be as flexible as possible. Decision-makers' preferences change from one to another. That also consists of the preference for the structure of intelligence products, whether it is analyzed or not. Johnson writes about the different preferences of different decision-makers in history. While the United States Secretary of State Henry Kissinger preferred raw information, many others chose to have finished outputs that had been enhanced by Intelligence Analysis. According to him, decision-makers may want to observe the raw supporting evidence to check the quality of analysis (Johnson, 1986: 10-11).

Regarding Intelligence Analysis as a specific process within the Intelligence Cycle, one of the most prominent dichotomies is between current intelligence and long-term intelligence. While current intelligence approaches the problems that are urgent and require pressing attention, long-term intelligence products do not need to be urgent, although they are essential. They may come to the forefront at the desks of decision-makers. According to Lowenthal, the proper balance of both intelligence products should be fifty percent for each (Lowenthal, 2012: 64). While Lowenthal describes the distinction with these phrases, Gill and Pythian state that two types of analysis are tactical and strategic analysis. While tactical analysis is short-term or limited in a specific field,

strategic analysis needs to be long-term and more comprehensive (Gill and Pythian, 2012: 106). In terms of sustaining strategic intelligence principle, long-term intelligence products that are enhanced with in-depth analytical explanations would not be missed. Due to the urgency of current intelligence requirements in a world that has plenty of threats and complexity, long-term intelligence work would be skipped in practice. This problem would result in missing the broader context and strategic planning.

The practical side of Intelligence Analysis that is related to organization and personnel should be taken into account to analyze the current state of the question. Intelligence agencies and their analysis units have several structures and working styles across the world. However, there is a common and proper understanding of the analysis units and their personnel. According to McDowell (2008: 218), awareness about the self of the analyst is critical for intelligence analysis. The analyst should know his/her strengths and weaknesses in what he/she knows or is bad at. It enables the analyst to choose the right resource for the assessment. Analysts should work on determining the appropriate types of analysis to the specific situations and the categories of information, especially when the cases requiring analysis are complex. Not only numerical or measurable data is the case during analysis, but the analysis of qualitative information is also significant in many situations (McDowell, 2008: 23).

The analysis process is a challenge itself. The primary responsibility of analysts is to combine different parts that are collected from different environments, in other words, to connect the dots as widely stated in the literature. However, the extraordinary accumulation of irrelevant information that is called “noise” is one of the problems of analysis (Johnson, 2009: 44; Gill and Pythian, 2012: 105). As an example, the United States and United Kingdom analysis units could not “join the dots” in the cases of the 9/11 attacks and Weapons of Mass Destructions in Iraq (Gill and Pythian, 2012: 108). The outcome has come to the scene because of the problems of analysis, among other reasons. The problems of analysis could be aligned as groupthink that is one of the most prominent bias during analytical thought and footnote wars that explain different analyses of a state’s different intelligence organizations upon the same issue (Lowenthal, 2012: 64).

In a time of rising digitalization, Intelligence Analysis is in a transformation period. Gill and Pythian give several data on the platforms on the internet in their text on Intelligence Analysis. After Google has opened new opportunities for research, blogs, and wiki articles function as essential contributors. Intellipedia that uses the same software as Wikipedia possessed 900.000 pages, 100.000 user accounts, and 5.000 page edits a day by 2009 (Gill and Pythian, 2012: 110-111). However, the positive outcomes of technological innovation bring new challenges. According to Gill and Pythian, one of the challenges of Intelligence Analysis is the difficulty of adaptation to the rising complexity of the world. Due to the prominence of the necessity to embrace the use of new technologies, there is a tendency to think that technological advancement creates productivity. However, technological systems could not understand the social complexity like human analytical capacity (2012: 109). Despite the advancement in intelligence collection technologies, the intelligence production process is still an intellectual activity that is based on reasoning (Gill and Pythian, 2012: 104). There is a requirement to apply thought and judgment to the collected information.

Like the understanding of Weberian bureaucracy that promotes specialization, the analysis process requires its specialists too. However, the quality of information flows, and the significance of imagination has few prominences. The secrecy that comes from the nature of intelligence activity and compartmentalization of information are ontic and bureaucratic problems in front of Intelligence Analysis. The problem of intelligence sharing that concerns analysis could be named as “the wall” in the literature (Gill and Pythian, 2012: 107) and could be accepted as an organizational problem.

Another challenge could be the profiles of analysts. Agencies recruit analysts from similar backgrounds and train them in the style of the agency. As agencies recruit analysts with a specific level of education and skills, several problems occur during analytic thinking processes (Gill and Pythian, 2012: 106). Struggle to think always goes on during the analytic process. In a state that the case requiring analysis is accurate, it becomes easier to explain that result in failures in several times (Gill and Pythian, 2012: 107).

1.1.3. Considering Cycles and Informational Transformation: A Proposal

As the world goes through a volatile and uncertain way in terms of information scarcity and security management, intelligence affairs should also implement new models for better analyses, which should be relied on truth. There is a significant requirement for a model to understand the transformation of raw data and information during the intelligence process. This study proposes a new cycle in order to depict the route from raw data to understanding and influence with a specific reference to the phases of the intelligence production process.

Under this subtitle, there is another intellectual proposal that is based on the problems around the concept of truth in recent decades. Because intelligence analysis's core element is the truth as a central material that is to be processed, evaluated, and analyzed, the problems and challenges around the concept of truth are highly relevant to the concept of analysis. When describing the intelligence process and the analysis phase within the model, this study should express the problems and a systematic understanding of truth.

1.1.3.1. The Cycle of Evaluation in Intelligence Analysis

The intelligence production process could not be evaluated solely as a bureaucratic process. The way of material that intelligence units work on should be taken into account, and the process and the cycle should be regarded according to this specific journey. While the intelligence material is collected from the relevant environments and conveyed to the processing and analysis stages, a transformational journey happens to that material within the intelligence production system.

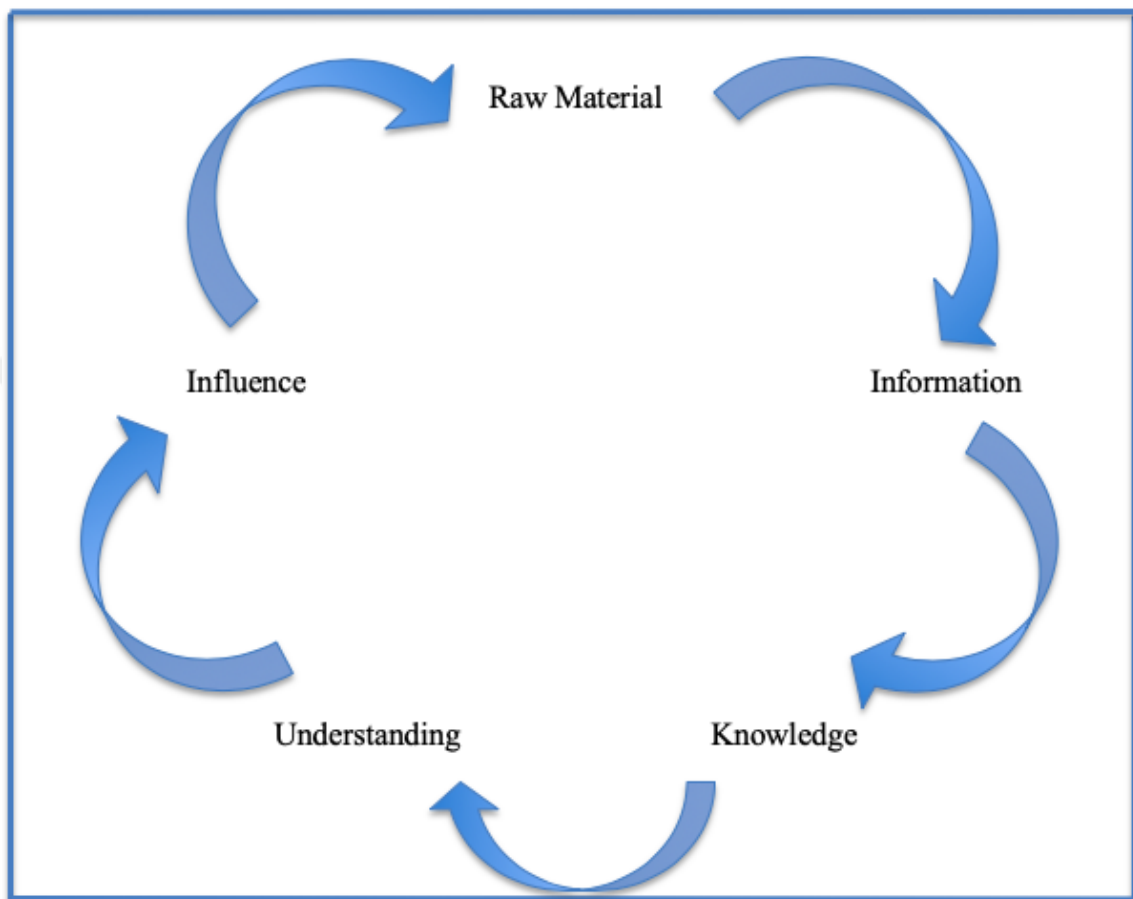
Similar to the Intelligence Cycle, the Cycle of Evaluation is the cyclic model of informational transformation from raw data to information, knowledge, and understanding. A final phase is an influence that generates a new opportunity for a produced intelligence output. The roughly drawn picture of the transformational journey

of intelligence products should be explained in terms of the significance of the role of intelligence analysis.

The Cycle of Evaluation opens a way for intelligence analysts and researchers to understand the road to an understanding and influence in the intelligence production process.

The negative argumentations on the Intelligence Cycle could be valid for the Cycle of Evaluation too. The proposed cyclic model depicts the transformation of raw data or raw material in a scheme, and the exceptions on the process are ignored. It is because the model aims to show the basics of the transformation of intelligence material through the whole process.

Figure 1.4: The Cycle of Evaluation



As is seen in Figure 1.4, the whole intelligence production process starts with raw data that is collected from operational environments. The collection phase of the Intelligence Cycle is responsible for gathering data and conveying it to the next stages. Raw data refers to relevant pieces for the intelligence requirements that are determined by decision-makers.

Raw data is subjected to a processing phase in the next stage. Although several Intelligence Cycle models do not consist of processing as a separate phase, sorting data before analysis is a necessity. Otherwise, the problem of “noise” would be a big issue for intelligence analysis. The processing of raw data stands for the transforming of the data into meaningful information and knowledge.

Information and knowledge are the fundamental elements for the analysis phase. Intelligence analysts study and work on information and knowledge in order to reach to a structured assessment, in other words, a proper analytic product. Intelligence analysis takes the responsibility of providing consistent analyses that are closest to reality. Predictions should also be close to the realistic scene, as intelligence products are critical elements for containing threats and avoiding surprises. Therefore, after the information becomes a meaningful knowledge, analysis products create an understanding of the knowledge. Without understanding, the whole intelligence production process would be vacant or meaningless. In this step, the significance of intelligence analysis comes to the forefront again. Understanding is the ultimate form of informational transformation.

However, the Cycle of Evaluation does not conclude with understanding, though informational transformation ends on this point. With a holistic approach, it is clear that informational transformation creates a significant impact on policy, decisions, and entities. Thus, influence as an externality takes place. Intelligence analysis creates an influence by transforming data and information, and by producing an understanding of a specific issue. It should be emphasized that while influence is the outcome of informational transformation, understanding is the final form of it.

1.1.3.2. The Cycle and System of Truth: Truth, Post-Truth, and Virtuality

This study considers the truth as the core element of intelligence analysis. Thus, providing an understanding of the truth is crucial to comprehend the functions of analysis products and their role to fulfill the requirements. Significance of considering the truth and the discussions on its concept does not only come from the responsibility of intelligence analysts, but also the systematic transition and transformation that the truth has had in recent years. As the planet that we live in revolves to be a volatile world in that limitless information is produced day by day, the truth and its transition to the post-truth deserve to be evaluated.

Discussions on the truth have existed since the beginning of the time. It has been among the critical subjects in philosophy. However, while Oxford Dictionaries determined that 2016's Word of the Year is "post-truth", especially after Donald Trump's victory in the United States' presidential elections and Brexit vote's win in the United Kingdom, the discussion on the distortion of truth has gained prominence (bbc.com, 2016). Albeit several historians argue that distortion of truth is not a new phenomenon and happened multiple times in history (Dunning, 1913: 220), it is clear that the systematic transition of truth is in its dominant phase with the advancement of communication technologies today.

In order to understand the concept of truth before drawing the lines of related concepts, one should look at the theories upon the truth. The theories of truth could be arranged primarily and roughly as the correspondence theory, the coherence theory, the pragmatic theory, and the pluralistic theory. Details of these theories and other theories that are related to truth are beyond the main subject of this study. So, it is sufficient to briefly explain these theories and focus on the basic definitions of truth, post-truth, and the virtuality that changes the face of truth.

Truth is a concept that is different from reality and fact; in essence, it refers to the things that are per reality and facts (Alpay, 2018: 27). One could understand that truth is a more abstract and inclusive concept, while reality and fact refer to the practical reflection of truth. The truth could be briefly defined as the relevance of a proposition to how things are. According to Alpay, truth is the congruity among the things and the judgments upon them (Alpay, 2018: 28). From this definition, one would argue that post-truth is the trifling of this congruity. As reality and facts have robust presences that are independent of judgments, truth exists inside the judgments. Alpay gives an example of "white snow" in his work on truth and post-truth. According to his example, while "the snow" and "the white" are real and the subjects of reality, calling it "white snow" could be accepted as truth (2018: 28).

The correspondence theory of truth comes in the first place as a theory of truth. It is known with its famous supporters Bertrand Russell and Ludwig Wittgenstein. The

correspondence theory suggests that a proposition is true when it has conformity with reality. In other words, there is a relation between a proposition and reality and facts. Reality is independent, according to the theory. Thus, the correspondence theory also bears the idea that reality and facts are objectives (Kirkham, 2001: 121; Brahms, 2019).

The coherence theory of truth, as another significant theory upon the question, asserts that a proposition could be true if it agrees with other true propositions. That is to say; there is an inter-related system among true propositions and beliefs. It opposes the correspondence theory that assumes an independent reality. In other words, the coherence theory pays attention to a coherent system of propositions (Brahms, 2019). According to Kirkham, the main vulnerability of the coherence theory is its lack of initial plausibility (Kirkham, 2001: 110).

It should be noted that while the correspondence theory is related to metaphysical realism, the coherence theory is related to metaphysical idealism in terms of their approaches to reality.

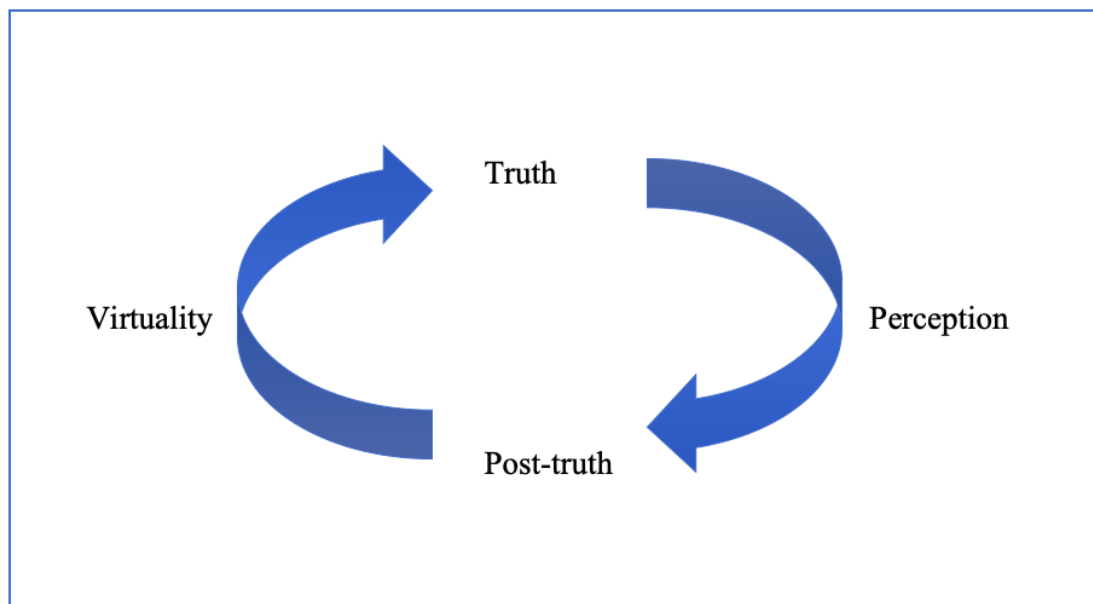
The pragmatic theory that is mostly known by its supporter William James, on the other hand, suggests that utility is an essential factor that determines the truth of a proposition. Thus, the practical outcomes hold an essential place in this system of understanding. According to the theory, there will be a convergence of the opinions that is true in the long run.

As a far different theory, the pluralistic approach asserts that there may be multiple properties that make a proposition true. Truth is accepted as a function that is disclosed in several ways. According to the theory, there is more than one concept of truth (Brahms, 2019). The driving point of this theory also comes from the idea that humankind would be wrong in their assumptions and elaboration of truth (Lynch, 2004: 11).

All four theories accept the existence of truth, unlike postmodernist approaches that suggest that truth is a partial concept depending on history and socio-cultural baggage; however, differentiate in explaining truth upon its characteristics and how to reach it.

Post-truth, on the other hand, is not a different concept rather than truth. As it is mentioned above, as a proposition that is given by Alpay, while the truth is defined as the congruity among the things and the judgments upon them, post-truth is the trifling of this congruity (Alpay, 2018: 27-28). In a different explanative clause, post-truth could be accepted as a changed version of the truth. The argumentation of this study is that virtuality and perception are the prominent elements that transit truth. Thus, a new diagram is presented: The Cycle of Truth. The Cycle of Truth, as it is seen in Figure 1.5, is a four-part model that explains the transformation of truth.

Figure 1.5: The Cycle of Truth



According to the model that could be accepted as a system as well, the transformative element in the way from truth to post-truth is virtuality. However, in order to explain the relationship between truth and post-truth and its relevance to intelligence analysis, it is required to define and explain the concept of virtuality.

Virtuality means “the essence”, while the term “virtual” refers to “that which is so in essence but not actually so” (Shields, 2003: 2). Virtuality, in this understanding, refers to the situation in which things that exist, however, are not concrete materials. As another explanation, the term virtual tells the forms of reality that are not concrete but are fundamental to our lives (Shields, 2003: 19). Albeit its existence in architecture and other aesthetic fields in history (Shields, 2003: 4), virtual and virtuality are discussed in terms of digitalization today. Rob Shields asserts that the concept of virtual has started to be used equally to “simulated” in today’s telecommunications and working environments (2003: 246).

Therefore, it should be stated that virtuality refers to the reflections produced by current technological innovations that are not concrete but existent, however the key to our everyday lives. The situation has adverse outcomes too. The vital essence of the virtual products in everyday use becomes a critical factor that distorts and transforms truth; in other words, creating a transition from truth to post-truth.

As post-truth could also be defined as the decrease of the influence of the facts and the increase of personal opinions and beliefs in shaping public opinion (McIntyre, 2018: 5), it is clear that the virtual products of contemporary communication technologies have increasing impact in producing a distortion of truth, and creation of post-truth. Thus, the decline of traditional media that has limited capacity to create virtuality when compared to new or social media is a substantial factor in this case (McIntyre, 2018: 64). As social media platforms have evolved from locally socialization tools to newsgathering platforms (McIntyre, 2018: 93), the abovementioned effect increased and resulted in the acceleration of the transition to post-truth.

One of the prominent effects of the situation is the emergence of a volatile and uncertain world. The term “volatile world” refers to the temporariness of almost every sector of the world, from economy to politics. The acceleration and volatility effect of new communication technologies result in the distortion of the perceptions, and finally, the insecurity in the world.

In a world where the rising effects of post-truth and volatility become the new normal, intelligence analysis' challenges would not be ignored to express. As intelligence analysis should be based on facts in order to meet the security and intelligence requirements, "how could intelligence analysts find factual information and knowledge?" or "how could analysts avoid fake information and knowledge?" are raising questions to answer, especially when open-source intelligence has a vital role in the production of analyses. Petersen, as a practitioner, states that intelligence analysis sources are not equal to information or knowledge, contrariwise they could be seen as opinions. They should be treated as small pieces of a bigger picture, not as scientific facts (Petersen, 2011: 19). Moreover, he adds that old reports would be more helpful in the times of crises, though they were not so before, rather than applying to current sources.

Truth has always been a significant factor for intelligence analysts, such that "talking truth to power" has become a prominent discussion point in intelligence affairs literature. It is related to the relationship between intelligence professionals and decision-makers. McGruddy, in his article, writes that Petersen's experience in intelligence affairs shows that intelligence analyst's responsibility and tradecraft is to leverage the country's power that he/she works for. Its means are providing checks on the system and lighting the way that refers to talking truth to decision-makers (McGruddy, 2013: 223). Thus, it is necessary to include the responsibility to talk truth to decision-makers (McGruddy, 2013: 225).

When thinking about the question of truth with a perspective of intelligence affairs, the vital point for warning intelligence and security providing becomes clear. Whatever the concept of truth is, intelligence analysts should build their work on solid facts while abstaining from personal opinions. It is also one of the biggest challenges of intelligence analysis to avoid structural biases about the truth when the intelligence community creates a wrong system of understanding over the facts.



1.2. THEORY OF SURPRISE: ANALYSIS AS A PRE-EMPTIVE PROCESS TO AVOID SURPRISES

Another significant “raison d’être” of intelligence analysis is laid on the vital function of a whole intelligence activity: to avoid strategic, operational, and tactical surprises. Since it is a concept which has been developed under the intelligence studies, the theory of

surprise that asks the questions of “why states attempt to surprise their opponents with diplomatic or military initiatives?” and “why they achieve?” should be described and elucidated within the context of intelligence affairs. There is a bold relationship between the concepts of intelligence analysis and surprise. While the reason behind military failures is mostly the misperception of threats and miscalculation of the variables, in this context, understanding and judgment hold a significant part of security strategy.

1.2.1. What is the Theory of Surprise

According to Wirtz, who tried to create a coordinated theory of surprise based on Clausewitzian vision of war, surprises happen because of the limitations of human cognition that hinder the anticipation for the unexpected occurrences (2017: 9). This situation complicates the intelligence analysis efforts and new assessments. Several biases that are faced during intelligence analysis, such as groupthink and bureaucratic problems, for instance, compartmentalization, hierarchy, and organizational culture interrupt the struggle to avoid surprises (2017: 9). Another reason is that surprises are born from a lack of strategic and tactical analysis.

Because of the very nature of surprises, it is hardly possible to give a practical recommendation for avoiding surprises. In other words, surprises are inevitable, even if policymakers and intelligence executives give efforts to lessen their effects by using risk management techniques. However, the general idea about the discussions on the advantage of surprises over security measures is because of the literature itself. There are a few examples of failed surprise attacks in the literature because the successful ones are easier to find and study (Dahl, 2013: 18-19; Wirtz, 2017: 16).

After a brief discussion on surprise, it is necessary to describe the prominent characteristics of surprise. The surprise could be understood as a result of the functions of deception. While deception creates false expectations and uncertainty, the surprise is the result of its successful function. It is implemented to produce an improvement in the position against the defender (Stein, 1982: 94). Handel states that explaining surprise is

better rather than avoiding. Presenting a theory and understanding surprise may not help to prevent surprise; however, it may tell for whom surprise is attractive and who is likely to be its victim (Wirtz, 2017: 20). Handel's writings on the concept of surprise are useful to analyze. Handel sees strategic surprises as force multipliers during a war. According to him, the surprise helps the military to facilitate the defeat of a significant part of the enemy forces at a lower cost and break its resistance (Handel, 1984: 229-230). However, according to Wirtz, even if the surprise is a force multiplier, it is not a sufficient skill to destroy an adversary. It is also problematic because it may have a cost of political and moral capabilities (Wirtz, 2017: 16).

Nevertheless, the surprise is still a vital tool during conflicts. It has been used to improve the likelihood of victory by different cultures in history (Wirtz, 2017: 10). While it is not an essential principle for the totality of the war, however, it is vital during operations (Olsen and van Creveld, 2011: 108). It allows the attacker to succeed in the temporary superiority for further attacks. The surprise could also allow organizing unusual military activity after extinguishing opponents from the warzone (Wirtz, 2017: 11-12). It could, finally, enhance operational skills. Exploiting surprise and deception intensifies the ability to create combat power (Votel, 1991: 68).

Surprises have psychological drivers and effects. Attacks that are enhanced from surprises create panic and shock over the leadership and could spread to the nation of the state. It is an advantage for the attacker (Arad, 2008: 43). The psychological effect also may come from the self-consciousness of the parties. For instance, The vulnerability of the defender during a surprise attack is the overconfidence (Stein, 1982: 106). Notably, the cognitive situation of the parties plays an essential role at the beginning of a surprise. If the weaker party puts emphasis on the dialectic of war, and the stronger party observes the war in the eyes of the weaker party, the possibility of a surprise would be low (Wirtz, 2017: 19-20). Thus, employment of and effort to avoid surprise require multi-dimensional knowledge on the target party.

Surprise has another effect that is changing the symmetry of the war. It is related to numerical planning and logistics and eliminates the dialectic of war. It allows weaker

parties to design operations that are beyond their capacity. Moreover, it could also deter war (Wirtz, 2017: 11). Surprises are generally more attractive to the weaker parties, due to their nature to create superiority over the stronger parties. A new paradox emerges from this point. As Wirtz notes, Handel reaches to “risk paradox” that is created by the asymmetry of surprise: in Wirtz’s sentences, “the greater the risk, the less likely it seems, and the less risky it becomes. In fact, the greater the risk, the smaller it becomes” (Wirtz, 2017: 13). Thus, the intensity of the use of surprise describes the situations of the parties. According to Handel’s understanding, weakness is a necessary condition for one party to build the entire operation on surprise (Wirtz, 2017: 14).

Modern understanding of the concept of surprise is rooted in Clausewitz’s vision of war. Handel and many other scholars start to discuss the issue from his views. However, because of the Prussian philosopher’s focus on the strategic level rather than operational and tactical ones, he emphasized that surprise may win a battle but is not enough to win an ultimate victory in war. Thus, Clausewitz regarded surprise as an overrated strategic instrument in war (Wirtz, 2017: 10). As surprise is a phenomenon within uncertainty, the complexity of its organization makes it unclear. Therefore, Clausewitz accepted that the costs of organizing a surprise are higher than the benefits (Wirtz, 2017: 12).

Another problem is the high probability of failure of surprise. Most of the attempts of surprise would fail because of several reasons. The surprise is not sufficient unless being fed by an overall strategy to win a war. The stronger party that is subjected to surprise would devastate the attacker’s capabilities with its advantages, and miscalculating the capabilities would end in a disaster for the attacker if it is the weaker party (Wirtz, 2017: 16-17). Another reason for the failure of surprise is that the situation after the attack would be beyond the capability of the attacker.

The surprise could create significant problems for the attacker. The outcome of a war is not positively correlated with a surprise attack, because of its effect - the shock in the other word - on the attacker where the attacker becomes unprepared in front of the opportunities of the surprise attack. It means that the attacker should be prepared according to detailed planning (Handel, 1984: 230). Thus, it is risky to rely on surprise

because of its unpredictable effects. There are many cases such as Germany, Japan, Egypt and Syria, and Argentina, in history that powers that caught their opponents by surprise, however, finally defeated in the end (Levite, 1989, 349).

Surprise also depends on the power of the parties. Stronger parties generally prefer more predictable strategies and force their opponents to surrender by showing deterrence capabilities (Wirtz, 2017: 13). Human cognition and psychology come to the forefront as perceptions of risk and opportunity play an essential role during surprises. The weaker party sees surprise as a great opportunity while the stronger party has difficulty while considering the situation because it focuses on the visible capabilities of the enemy (Wirtz, 2017: 14). Briefly, the surprise is accepted as a second option for the stronger side.

1.2.2. The Classification of Surprise

Surprises are divided into three in the literature: strategic surprise, operational surprise, and tactical surprise. Even though the significant studies of intelligence pay close attention to strategic and tactical surprise, the operational level of surprise is mostly ignored. However, it is required to mention all levels of surprise in order to evaluate the concept entirely. As uncertainty reduces the gap between strategy and tactics (Ferris, 2005: 241), it is significant to decrease uncertainty and examine different levels for intelligence analysis.

1.2.2.1.Strategic Surprise

The strategic level could be understood as the highest level during a war that the forces seek to protect the national policy objectives (Meredith, 1989: 3). Without a strategic understanding, both overall intelligence activity and intelligence analysis could not function efficiently. Regarding this point, it could be stated that avoiding strategic surprise requires strategic analysis and strategic warning. To define, the strategic analysis term that Schelling raises is borrowed from the theory of games in that the decisions are interdependent, and the best action is depending on the other players' actions (1965: 370).

Strategic warning, on the other hand, is about the changes in the character of the threat (Turner, 2005: 3).

Lowenthal uses an allegory to describe the difference between strategic and tactical surprise. According to his example, suppose that there are two business partners, and one of them often steals money from petty cash. If unaware one comes to the office earlier than expected and catches the other during the incident, the unaware one becomes strategically surprised while the guilty one becomes tactically surprised. Tactically surprised because that the guilty one knows about the action, however, does not guess that its partner would have come earlier to the office. The unaware one becomes strategically surprised because of knowing nothing about the incident before (Lowenthal, 2012: 3).

In another perspective, the strategic surprise is affiliated with the concept of threat. While operational and tactical levels of surprises happen in smaller units and times, strategic surprise needs both a higher perspective and a longer time to plan. Thus, strategic surprise understanding includes warnings of threats and the responses that are related to it (Byman from Betts, 2009: 164).

As a case within the topic, the Pearl Harbor attack could be counted as a strategic surprise. The case was a strategic surprise because American decision-makers did not expect a move by Japan against the United States (Lowenthal, 2012: 2). Thus, the lack of analytical foresight played a role in this historic failure. Pearl Harbor attack was a significant intelligence failure because the US intelligence units could not share significant pieces of information and mirror imaging as a bias took place. Finally, a new paradigm of intelligence affairs was born in the US after the painful lesson (Lowenthal, 2012: 19-20).

1.2.2.2. Operational Surprise

The operational level is between strategic and tactical levels and seeks to achieve strategic objectives within the theater of war during operations (Meredith, 1989: 14). The operational surprise is located in between strategic and tactical levels of surprise. Besides

its place in the classification, it is mostly related to military perspective and becomes successful in the theatre level of military operations. Operational surprise also has a technical superiority in terms of the nature of surprise attacks. The surprise is more potent at the operational level rather than the strategic level (Wirtz, 2017: 16).

Similar to strategic surprise, operational surprise also has its characteristics and requirements. In order to achieve surprise at the operational level, there are sets of ways and means to comprehend. At the operational level of the surprise there are three essential ways to achievement: To attack at an unexpected time, to attack at an unexpected place by targeting at a weak point or from an unexpected direction, to attack unexpectedly by exploiting unexpected techniques or weapons (Meredith, 1989: 18-20).

As for the means for employment of operational surprise, there are two that are the use of deception and the use of speed (Meredith, 1989: 21-22). While the deception targets the enemy's consideration, the use of speed allows facilitation for the planned attack.

Finally, there are two essential effects of the operational surprise: physical dislocation that is the unbalancing enemy's physical dispositions, and psychological paralysis that is damaging the enemy's psychology (Meredith, 1989: 15).

At the practical dimension, the operational level is a more significant concern for the analysts. It is because that the theatre strategy comprises both political objectives and constraints and limited resources. While the tactical level is carried out with specific techniques, the operational level includes schemes of warfare. In the theatre, the method is to combine the tactics to achieve operational surprise (Luttwak, 1980: 61).

1.2.2.3. Tactical Surprise

As a final level in the classification, the tactical surprise is employed at the lowest level, briefly dealing with smaller objectives within a bigger strategy. As for the development of military strategy, the tactical level is the lowest level during the war. The smaller units play their roles to win smaller battles and support operational goals (Meredith, 1989: 3). The tactical level of actions uses lethal or nonlethal tools and seeks to attack a part of

terrain or destroy a unit (US Department of the Army, 2011: 7). Albeit its size, among others, the tactical level of surprise could be dangerous for both national and global security in many aspects.

Another significance of tactical surprise is related to intelligence affairs. Intelligence activity is more effective in tactics rather than strategy, at least in practice, according to Ferris (2005: 103). As strategy development is mostly succeeded with the role of high ranking decision-makers, tactical details could be achieved by intelligence professionals, mainly from analytic units. However, the same is possible for failure to detect surprise. Thus, in case of tactical surprises, intelligence analysis and the professionals who deal with it are among the first ones under the spotlight.

The dynamic between tactics and surprise is essential. Tactical assets are meaningful and complemented with the employment of surprise. Tactical capabilities would not be successful without organizing surprise (Olsen and van Creveld, 2011: 80). Comprehensive management of successful attacks requires both tactical decisions and a surprise strategy. As seen in operational surprise, the speed plays an essential role in the achievement of tactical surprise. The tempo is a crucial requirement for tactical decisions. It requires quick decision making and preventing the enemy from having a pause (US Department of the Army: 1993: 7.3).

Tactical surprise has many effects, and peculiarly its psychological impact is one of the most prominent. The tactical surprise could be devastating in a psychological manner, even if it is not big enough to threaten national existence (Lowenthal, 2012: 3). Because of this impact of tactical surprise, it is also exploited by terrorist groups that naturally do not possess the power to afflict entire national security of a state, however, target panic at the national level. Terrorists use secrecy and surprise as tools to succeed their operations against their more vigorous opponents such as states (Byman from Betts, 2009: 164). Thus, the terrorist attacks are mostly cases of tactical surprise.

Turning back to Lowenthal's allegory for describing tactical surprise, the 9/11 attacks in the US was a proper example of tactical surprise. An Al Qaeda attack was expected; however, its target and means were not (Lowenthal, 2012: 2).

1.2.3. The Role of Analysis to Avoid Surprises

The surprise could be accepted as a form of deception that has a very long history. Deception is the intentional dissemination of misleading information during the fog of war. In other words, it has an effect that increases the fog of war. When thinking about the perspective of intelligence analysis, the possibility of surprise makes the analyst's responsibility more complicated (Handel, 1984: 236). The role of analysis to avoid surprises is vital both for the intelligence activity and for the security of powers. In other words, intelligence analysis is central for the protection against surprise. In order to avoid surprises, the analytical skills of the intelligence agencies would be enhanced for unexpected situations. Major incidents in history showed that surprises happened mostly because of analytical problems rather than political ones.

Intelligence agencies' responsibility for surprise is not only preventing the attack but also neutralizing during the planning process of it (Arad, 2008: 44). In other words, a proactive and holistic understanding is required to prevent surprises. Even though the covert action and collection techniques play an essential role during this process, it is one of the most prominent, perhaps the most significant functions of intelligence analysis. Failure in avoiding surprise is not because of the scarcity of information and warning signals, but due to the levels of analysis and acceptance. Handel states that there are three principal categories to discuss these problematic levels, as two of them are related to the analytical process. The first one is the methodological dilemmas existing in intelligence affairs and perception problems, while the second is the explanations over the level of acceptance. The final category is the organizational and bureaucratic problems (Handel, 1984: 235-236).

Similarly, according to Betts, intelligence failure is born because of political and psychological reasons more often than organizational ones (Betts, 2009). It is required to defeat the deception and forecast the weaker opponent's objectives that would be facilitated by surprise, for avoidance. Cognitive biases and bureaucratic problems should be overcome for eliminating surprise (Wirtz, 2017: 15).

Some explanations focus on structural and organizational perspectives in the literature. Stein states that the modern international system creates a difficulty to distinguish the offense from defense. It is a reason behind the occurrence of surprises. According to Stein, the deployments during peacetime would be understood as a threat. The ambiguity in this kind of situation creates misinterpretations. The failure to estimate a surprise is related to the international atmosphere, the organizational setting, and the nature of the intelligence affairs that is responsible for a timely warning (Stein, 1982: 95).

Stein also evaluates the surprise in terms of analysis. The prominent problem in front of estimating surprise comes from the intelligence process, the overall system, in other words (Stein, 1982: 115). With consistency in the ideas, Stein notes that the problem to estimate surprises is not because of intelligence collection, contrarily it is because of the abundance of intelligence information for the analysts (Stein, 1982: 96).

While evaluating the case of Yom Kippur War, Stein detects that the analysts gave attention to the institutional framework of intelligence collection and analysis as the cause of surprise. She states that The Agranat Commission recommended the creation of a pluralist intelligence bureaucracy after the Yom Kippur War. Other reasons that were raised by the Commission were the cognitive limits such as groupthink (Stein, 1982: 111).

Regarding the analysis process, risk assessment in the process of planning military operations needs evaluation. According to Handel, the contradictory nature of risks in military operations increase the uncertainty, and it reflects intelligence estimates. Rationality in the analyst's mind does not work in such an atmosphere. Risk is a relative concept in the state of different cultures. The concepts such as risk and danger would be variable from one culture to another (Handel, 1984: 241-242).

Intelligence analysis should pay attention to each detail in order to estimate surprises. For instance, Handel writes about two types of information that are capabilities and intentions. Gathering information about capabilities is more accessible than intentions. However, capabilities also divide into two types: material capabilities and non-material capabilities. While material capabilities are easily-seen assets such as weapons and quantities, non-material capabilities could be the quality of the organization of an

army and military doctrine. According to Handel, it is a colossal failure to mostly focus on quantifiable information and ignore the non-material capabilities (Handel, 1984: 239).

An additional problem that is regarding the analysis process in front of the surprises is the difficulty in applying to the quantitative analysis because of the nature of the information (Handel, 1984: 236). Without that type of analysis, estimates could be half-blind; however, the practical realities of surprise do not allow to create it.

There are other problems for the analysis of early warnings of a surprise. These are the problem of misperception of the materials, the problems that are born from the mindsets of analysts that limit them to a correct interpretation, and the problems that come from groupthink and political group biases (Arad, 2008: 60). Biases and difficulties in front of objective thought appear again.

Arad proposes the use of risk management and risk analysis while struggling against surprise (Arad, 2008: 44). Risk analysis, as it will be seen in the following chapters of this study, is useful to create successful estimates. According to Arad, intelligence is a risk management mechanism to deal with all kinds of attacks (Arad, 2008: 45). Thus, it is necessary to use risk management techniques in order to avoid surprises. Arad presents that two different families of risk are environmental risks and operational risks. According to him, deception is an example of environmental risk. However, if it is not identified, it becomes an operational risk (Arad, 2008: 46-47).

A suggestion is to exploit the indicator-analysis method for detecting surprises. The indicator-analysis method is related to collection disciplines and aims at monitoring all indicators. The method assumes that there is no attack without producing signals that are out of routine (Arad, 2008: 56). After the role of collection units, the more significant part of the responsibility falls into the hands of intelligence analysis. Theoretically, according to the indicator-analysis method, intelligence analysis has not an excuse for not being able to forecast surprises.

Intelligence agencies use two approaches during the analysis phase: the use of advanced research methods that includes analysis and the use of tools and instruments that

are for catching signals. Especially the first approach requires international relations and regional expertise (Arad, 2008: 59). Intelligence analysis should be fed by international cooperation and be developed with geographical and regional specialization.

1.3. CREATING AN INFLUENCE: ANALYSIS AS AN INFLUENTIAL PROCESS TO PENETRATE AN ENTITY

Starting with the definition that is given by Warner, intelligence is a secret activity to understand or influence foreign entities (Warner, 2009: 9). It is better to state that intelligence is applied to understand and influence, and to influence is only done by understanding. In this study, it is proposed that understanding is a mature form of analysis data. Thus, to succeed in an influencing process, it is necessary to have an understanding of the objectives.

The basis of intelligence analysis is the production of an understanding to influence a specific entity. Mangio and Wilkinson state that the evaluation and assessment determine the meaning of information to establish an understanding (2008). The understanding of the characteristic features and situations regarding a target facilitates creating an influence, which is one of the main objectives of intelligence affairs. Kent emphasized the relationship between intelligence analysis and influencing with the following words: every intelligence analyst wishes to know everything, to be believed, and to influence policy for a good manner (1968). In his well-known article “Estimates

and Influence”, Kent states that when struggle to know and to be believed combine with to influence, serendipity may take over (1968).

In this part of this study, intelligence analysis functions and effects on creating an influence – the principal objective of both intelligence activities and analysis are discussed. Influence refers to two meanings according to its addressee in intelligence scholarship and practice: having an impact on the decision-making mechanism of national policy and create penetration in a targeted entity, whether it is a state or non-state. Former seeks to influence policy formulation for the good of the nation, the latter targets to influence a different entity’s decisions for providing the employer’s national security.

Two dimensions of the discussion find their theoretical foundations in organizational relationships and covert actions. While influence on decision-makers requires evaluation of professional relationships within public organizations – especially in the office of the head of government, influence on entities abroad needs an understanding at the international level. Another difference between the two is the secrecy. In other words, influence on decision-makers is not a secret, as creating influence through covert actions comprises clandestine activity.

1.3.1. Influence of Intelligence Analysis on Decision Making

The relationship between intelligence professionals and decision-makers should be in harmony with better security policies. It is a complicated process, as both parties have different characteristics and different professional standards. It is also hard to catch the appropriate distance between both. While too close relationships would end in the politicization of intelligence as decision-makers would prefer estimates that prove their policies (Gardiner, 1991: 150-151; Lowenthal, 2012: 15), too distant ones would result in a lack of strategic responsiveness during the crises on the other hand. However, it is important to express that intelligence affairs should be policy-related to sustain legitimacy. Being policy-related does not mean to have politicization.

Though the relationship with decision-makers is a distinct topic, this study approaches it in terms of the function of intelligence analysis with a particular focus on the analytic skills of intelligence professionals. Before explaining the theoretical background, it is necessary to present several descriptions. Strategic decisions and the actions that follow them comprise the development of the plans. Early warning topics are the competitor initiatives, surprises that are enhanced by advanced technology, and other governmental actions. The key players are the competitors – the rivals in international security – suppliers, regulators, and potential allies (Herring, 1999: 6). Accordingly, the relationship could be accepted that a significant process while making foreign and security policy decisions in a platform that includes topics and actors that are given above.

Gill and Pythian present a useful perspective on the analysis, according to agency-structure dichotomy. It is not only useful for understanding the global and regional events at all units of analysis, but it is also useful to understand the relationship between intelligence and decision making. Thus, agency and structure methodology opens a valuable perspective for an evaluation.

While the agency refers to the actors, the structure could be accepted as the environment surrounding them. Beginning with the agency, it has autonomy for its actions; however, it is dependent on the structural constraints. On the other hand, structure, in this context, is the regular pattern that includes political practices and conventions. The significant point is the actions of the actors. The actions or inactions of actors are dependent on the structure. However, they are also part of the structure and contribute to the shaping of it. The agents are rational actors. The actor who follows the strategical way behaves within the structural constraints. Outcomes of the decisions or behaviors create an effect on the structure, and they produce an opportunity for the actor to learn. Finally, as a characteristic of the relationship, two types of actors who are intelligence personnel and decision-maker have different capabilities. The concept of “political power” is known with its actors who have behaviors relying on intentions. However, intelligence actors depend on decision-makers in many political systems (Gill and Pythian, 2012: 40). Nevertheless, it is still a reciprocal relationship for several reasons, and intelligence

analysts have a responsibility to understand the dynamics better and create influence. In this context, for the advancement of intelligence analysis, agency and structure should be regarded in a dialectical relationship. The analyst should find a method to generalize actors' understanding and how their structure influences them, and finally, how their strategic actions/inactions create an influence on the structural context (Gill and Pythian, 2012: 41). As a final argument, the relationship should be followed according to this perspective.

The literature on the relationship dates back to the beginning of the discussions on strategic intelligence. One of the topics that were discussed is still valid today: the intentions and constraints. Sherman Kent, at 1968 Summer volume of *Studies of Intelligence*, emphasized that the decision-makers are politically bounded. Their conditions would determine their attitudes toward intelligence products according to him (Kent, 1968: 11). The analysts desire to influence decision-makers, especially about foreign problems. However, they also should know that in many occasions, decision-makers would behave under the pressures of domestic lobbies (Kent, 1968: 11).

Kent also mentions about the credibility of intelligence analysts. If the case is the relationship between intelligence professionals and decision-makers and the intelligence products' influence over the policy decisions, the credibility of intelligence plays a vital role. It is sustained with the intelligence's relevance to the Intelligence Analyst's professionalism and credibility (Kent, 1968: 12). Analysts should also pay regard to the necessity, relevance, and credibility of the products that are about to present to the decision-makers. Decision-makers would like to know if the intelligence is necessary, relevant to his problem and if he should believe it. Thus, the intelligence product should be useful (Kent, 1968: 12).

Sherman Kent divides the classical families of intelligence reports into three according to decision-makers' attitudes toward their credibilities: basic intelligence, current intelligence, and formal estimates. Basic intelligence that has the highest credibility is easily embraced by the decision-maker when it comes along with a depth of understanding and high speed. Current intelligence faces less enthusiasm, and the

decision-maker would tend to compare it to open sources. Finally, formal estimates would have the lowest credibility, and in many situations, the decision-maker would prefer to rely on his / her judgment. Kent also describes the point of view of decision-makers. According to him, the decision-makers tend to see the products as two different types: factual and speculative estimates. While they are thankful for the factual products, they are negative against speculative ones (Kent, 1968: 13).

The power of analysis is a vital driver for the influence of intelligence analysis. Without a competent, credible, and useful understanding, influence would not take place. With this understanding, Kent is in the pursuit of a robust analysis product. According to Kent, “estimating is what you do when you do not know”. Most of the intelligence documents have estimates; in other words, they have a touch of intelligence analysts. However, current intelligence products have a lack of it. They would require an effort for an approximation (Kent, 1968: 14).

Kent uses a pyramid allegory for explaining estimates. According to him, at the base of the pyramid, there is an inarguable fact. The facts fill the base of the pyramid and accumulate in the vertical dimension to shape (Kent, 1968: 15). Raising the pyramid and reaching to the top point is a significant role for the analysts (Kent, 1968: 15).

The finished estimative product would be bad news for the decision mechanism. In such situations, decision-makers would prefer not to believe the estimate. Kent emphasizes that estimates are vulnerable to the criticism. The decision-maker who faces bad news may regard the factual base of the pyramid critically; however, he/she will carefully approach to the upper zones of it (Kent, 1968: 18). It is also required to warn against possible biases of decision-makers. If a decision-maker finds the estimate having a counterargument against his / her policy, he/she may label it as misleading (Kent, 1968: 19).

Kent also defines the probable criticisms against an estimate as unnecessary, misleading, or irrelevant. If the accusation is that the product is misleading, and it is true, then the credibility problem that occurs will be a good thing for the sake of the system. If the misleading products continue, especially from the same group of estimators, the

credibility would be dead (Kent, 1968: 19). This situation is the loss of influence on the decision-making process.

The charge of being unnecessary towards the product may come because the decision-maker has the same views, or he/she finds it misleading. However, according to Kent, there is a third personality who does not have knowledge and understanding about the topic and will need the product. The presidents (heads of governments) and their essential staff are the third personalities, in many situations (Kent, 1968: 20).

In case of the charge of being irrelevant, the situation happens when a foreign policy decision is applied according to domestic understanding. However, according to Kent, the well-developed and structured estimate could take attention to the national interest rather than domestic pressure groups in such situations (Kent, 1968: 21). Kent advises intelligence analysis to be consistent while wishing an influence on the decision making process. Hence, intelligence comes to the point that it deserves. However, over insistence may result in politicization, and it should be avoided (Kent, 1968: 21). If the intelligence professional chooses to please the decision-maker, he/she endangers the value of the product at the cost of influence (Handel, 1988: 6).

Differences in the characteristics of both parties have an effect both on the process and influence of intelligence analysis. The differences are the most prominent reason for the problems at the same time. Several scholars defend a close relationship – despite the risk of politicization – in order for parties to know the capabilities of each other. In a case that there is a lack of it, the decision-maker would think that the analyst is unaware of the policy perspective or has a lack of knowledge. On the other side, analysts would ignore the experience of decision-makers. While the decision-maker should trust in the expertise of the analyst, analysts should keep in mind that the decision-maker will face the results of a political decision at the end of the day (George, 2008: 119).

There are discrepancies between the nature of intelligence analysis and the nature of decision making. Professional criteria and short-term political expectations are another conflicting realms. Among intelligence analysts' criteria, one of the most prominent ones is to present intelligence products that come from a complex and ambiguous environment.

However, decision-makers are generally uncomfortable with complexity and ambiguity because of the very nature of policy decisions (Betts, 1988: 184).

Time is very significant during the analysis period. Qualified estimative products require time; however, decision-makers demand rapid and short briefings in an environment of current policy events. Current intelligence vs. long-term strategic intelligence dichotomy stands out again. Strategic estimates are put aside by decision-makers, on many occasions (Betts, 1988: 185). Especially during crises, data, and policy come to the forefront and estimate falls into second place (Betts, 1978: 68). Accordingly, products are not read by decision-makers in many times. Consumers prefer to save time, especially during problematic situations. It is a contradiction against the nature of ideal intelligence, according to Betts (Betts, 1978: 78). However, in critical situations, including crises, cooperation among parties is crucial. There are threats on such occasions. When political caution of the decision-maker and analytic uncertainty come together, there will be a failing circle for decisions (Betts, 1978: 88).

The analysis is a study that has judgments. It comes from its estimative nature. If decision-makers regard at estimative products as problematic products because of judgments, the intelligence dissemination will become “reporting” rather than “analysis”. Both sides should be wishful to go into analytical details in order to abstain from their biases (Betts, 1988: 187).

An additional problem might be the self-perception of decision-makers as they trust in their estimation skills. As Handel argues, decision-makers tend to pay more attention to scientific and economic intelligence products because they do not have a specialized perspective on them (Handel, 1988: 8).

It is worth mentioning the problem of operational authorities and their behaviors. The problem is the overinfluence of operational authorities over intelligence analysts in that relationship. Other than decision-makers, operators also get involved in discussions. Operators bring their biases to the table because they are eager to succeed in their operations. However, analysts are more objective, although they often have a lack of influence (Betts, 1978: 67).

It should be kept in mind that the relationship is not between two equal sides, as it is aforementioned within the agency structure perspective. According to Lowenthal, decision-makers could exist independently from intelligence professionals; however, the opposite could not (Lowenthal, 2012: 290). This reality affects the behaviors of intelligence analysts while they wish and prepare for influence over their decision-maker colleagues. Accordingly, the analyst's specialization and the decision maker's authority create an asymmetry in the relationship. The influence of the analyst will not be fruitful if he/she has problems with the consumer (Handel, 1988: 15). As other structural problems, bureaucratic constraints and biases are the driving reasons for an unsuccessful influence, accordingly (Marrin, 2014: 3-4).

Decision-makers are not comfortable with ambiguity and complexity, while analysts know that the real world has many of them (Gardiner, 1991: 142). Analysts try to present products to fight them their estimations without giving up limiting biases. Decision-makers mostly personalize the problems and tend to use power in order to sustain their policy preferences, while intelligence analysts are more objective (Gardiner, 1991: 142).

Decision-makers would remove the structural differences between both sides. The parties should be disposed to be in co-operation. Analysts should found strong personal ties and make their estimates necessary for policymaking (Gardiner, 1991: 148). Finally, there should be institutional measures for decision-makers to rely on intelligence base. The shape of written products and regulations for oral briefings should be adequately in order to provide a successful relationship (Gardiner, 1991: 151).

Stephen Marrin evaluates the problem in front of influence with detailed arguments. He thinks that the reason is mostly on the shoulders of intelligence analysts. The scholars who study the relationship between intelligence and decision making mechanisms are in the wrong way, according to Marrin. The understanding of intelligence studies has the acceptance that intelligence products are correct as a normative perspective. The reality is different in many situations. Marrin prefers the questions, "how

do decision-makers use strategic intelligence analysis?” rather than “why do decision-makers ignore intelligence analysis?” (Marrin, 2014: 5).

Other reasons are that decision-makers are capable of making functional analysis themselves, and they use other sources besides intelligence professionals. Decision-makers also have analytical skills, and the Intelligence Cycle’s differentiation between intelligence and decision making mechanisms could be problematic. Thus, there must be another asset for decision-makers in order to listen to intelligence analysts (Marrin, 2014: 5). The role of intelligence analysis is to reduce uncertainty and complexity. The estimates that seek to solve these problems might create a more substantial influence. It is clear that decision-makers naturally are not capable of produce analysis as intelligence analysts are professionalized in methodology and other requirements. Marrin cites from Kent that if decision-makers turn their backs to intelligence analysis, they will lose the instruments of reason and scientific method that is vital in Western thought (Marrin, 2014: 5).

Another reason for decision-makers’ abstention is about the nature of the contribution that comes from intelligence analysis. Decision-makers prefer their own experiences in policy decisions because intelligence analysis is an aid rather than an alternative (Marrin, 2014: 6).

When it comes to ideal preferences of Intelligence Analysis, there are several presupposes: the analysts are more expert than decision-makers, and intelligence organizations’ skills could sustain the truth. However, according to Marrin, these are problematic (Marrin, 2014: 6). Marrin supports the political perspective’s advantages. Because of the nature of global events, a political perspective is also helpful to have an understanding of them, according to him. Thus, decision-makers also could create successful estimations (Marrin, 2014: 8). A final reason could be uncertainty. Intelligence analysis increases to expand the decision maker’s uncertainty many times, and that creates difficulty in decision making. If the estimative output contributes to policy in situations such that decision-makers are confused in a case, and they have limited time, or the policy becomes mostly biased, it is better for decision making. It is better to start to think from the perspective of decision-makers, according to Marrin (Marrin, 2014: 12). Even though

Marrin's ideas are valuable for the advancement of intelligence analysis, it is worth insisting on the professionalism of intelligence analysts, and their influence should be defended in terms of a better decision-making mechanism.

The consideration of the relationship between analysts and decision-makers also explains intelligence failure to some extent. Accordingly, Intelligence failure is not a mono-causal but a multi-causal phenomenon. The complexity of the takes of intelligence and politics plays a dual role, as the 9/11, Iraqi WMD, and 7/7 cases suggest (Gill and Pythian, 2012: 169). It is also not possible to separate intelligence failures from policy failures. Even though personnel could be separated, functions could not. Intelligence analysis and decision-making processes are interactive, not sequential processes. In a word, bureaucratic reasons, and decision-makers' ignorance of analyses have been behind the failures (Betts, 1978: 66-67).

It is significant to describe the suggestions after presenting problems. Even though suggestions are in pursuit of a valuable contribution, it is still necessary to remember the practical side of the discussion. Strategic analysis requires a coherent relationship between intelligence professionals and decision-makers. Accordingly, besides estimates, suggestions also could be provided during the relationship (McDowell, 2009: 27). Strategic analysis is also a comprehensive product that includes assessments and predictions. So, it is required that the relationship between intelligence professionals and decision-makers should be complementary rather than competitive (McDowell, 2009: 96). As an expert on the issue, intelligence analysts should accept the experience of decision-makers. They should not prescribe the decision-maker; instead they should inform the policy (McLaughlin, 2008: 75). It does not mean that intelligence analysts should avoid making recommendations. Though several laws restrict the analysts to make recommendations, the analysts should make comments in order to minimize the threat and risk without extending into the operational and executive realm (McDowell, 2009: 237). While the analysts should try to be relevant to the topics without forgoing their professional stances, the decision-makers should be ready to give useful feedback and should trust their colleagues (Gardiner, 1991: 143; McDowell, 2009: 97).

Furthermore, intelligence professionals should track and be aware of developments in the regions and states that are tried to be influenced by the policy decisions in order to provide the relevance of the estimates (Betts, 1988: 189). As a final point, the image is another crucial element. Intelligence Analysts should make a professional impression. Contrary to what is believed, the image is not against the valuable content of the estimate (McDowell, 2009: 256).

Cases from history are vast, and many biographical sources reveal the decision-makers' behaviors during a relationship with intelligence professionals. There have been decision-makers with a well-equipped background in history, such as Henry Kissinger of the United States (Betts, 1988: 185), while there have been unaware leaders such as Golda Meir of Israel. Winston Churchill of the United Kingdom was also eager to pay attention to intelligence products (Handel, 1988: 7-8). However, decision-makers who are familiar with intelligence products would be problematic for the analysts in several situations. Accordingly, intelligence influence on the decision-makers is ensured with those who do not any experience in intelligence (Handel, 1988: 9).

1.3.2. Influence of Analysis on Penetrating Foreign Entities

The perception of intelligence is that it is related to a specific quest for influence (Prunckun, 2010: 2). Michael Warner raises a definition for intelligence: "a secret, state activity to understand or influence foreign entities". He comes to this conclusion by stating that the means that are under use while influencing foreign entities are unascrivable to the fields of diplomacy and military (Warner, 2009: 9). Thus, there is a necessity for intelligence to influence. As secrecy and influence are the relevant concepts, there is a clear result that secret activity is one of the core elements of intelligence activity. Intelligence analysis, once more, plays a crucial role in those activities too.

Influencing is a multi-directional concept in intelligence. It is also valid for the strategy against terrorism. Counterterrorism seeks influence in terrorist cells. According to Schindler, the new counterterrorism paradigm aims at penetrating terrorist groups and setting them against each other (Schindler, 2005: 712). To create a fear that the other cells

have been penetrated in terrorist cells is useful for perception management and preventing them from cooperating with others. It is similar to George Kennan's strategy in 1948 to counter the Soviet Union (Schindler, 2005: 710).

As it is aforementioned, to create influence over foreign entities for the sake of national security, could be evaluated under the concept of covert action. An additional concept that has a link to possible penetration efforts is counterintelligence. While covert action is a more proactive activity, counterintelligence deals with preventing foreign intelligence actors from creating a penetration.

Covert action is the clandestine activity that is applied to influence foreign entities in unascrivable ways (Warner, 2009: 7). It also could be understood as a third option, along with unresponsiveness and using military options (Lowenthal, 2012: 181). Covert actions are not only war-time activities, but peace-time also require them (Stout and Warner, 2018: 523). Lowenthal ranges covert actions as propaganda, political activity such as aiding political parties and groups, economic activity, sabotage, organizing or helping coups, and paramilitary operations (Lowenthal, 2012: 186-187). Its techniques or ways are dependent on the situations. Espionage, penetration of institutions, compromising people are among the ways (Nielsen, 1995: 63). For instance, in the case of the United States, covert action is defined as a government activity to influence political, economic, or military conditions abroad, where it is intended that the role of the country will not be public. Covert operations could be denied by their sponsors (DeVine, 2018: 1). Covert action is a proactive activity. It aims to create an influence in the military, economic, and political environment abroad. However, covert action should not be used in the domestic environment (DeVine, 2018: 4). American presidents underestimated the value of intelligence during the Cold War; however, they overestimated the value of intelligence coming from covert operations. Truman rejected it first but approved secret operations later. Dulles and Eisenhower used the covert action as a significant part of foreign policy, especially against Iran. It presented an alternative to the risks of a military option (Andrew, 1995: 106; Barrett, 2007: 15). For instance, the Eisenhower

administration's covertly intervention to Iran was to keep the state away from a pro-Soviet coup, in other words, from Soviet influence (Barrett, 2007: 36).

Counterintelligence, on the other hand, is the "intelligence on foreign intelligence". It is used in accordance with the penetration of the enemy's persuasive skills. Counterintelligence' gainings are high, despite its complexity and problems. Non-state targets are also the subject of this activity. Especially economic actors are the most prominent instances (Herman, 1996: 52). It is accurate that offensive intelligence is related to defensive information protection (Herman, 1996: 165). Thus, national security requires assets such as counterintelligence. Intelligence is to uncover the secrets of the enemy, while counterintelligence is to prevent the enemy from uncovering our secrets (Garner and McGlynn, 2019: 300). As intelligence rivals try to penetrate each other and abstain from being penetrated (Herman, 1996: 175), it is required to use such assets.

Both covert action and counterintelligence target or deal with external rivals. Prunckun ranges those actors as competitors, criminal groups, international terrorists, guerillas, domestic insurgents, cybercriminals, political protesters, spies for hire, foreign intelligence agencies (Prunckun, 2010: 167). However, not only enemies but also allied states could penetrate each other to gain information about their enemies (Herman, 1996: 181). As a result of this, this type of action is complex on many occasions.

The role of analysis is vital for a successful operation to create an influence on foreign entities. For instance, CIA assessments played an essential role during the making of the United States foreign policy towards Egypt in the Nasser era, despite the tragic end of the relationship (Barrett, 2007: 43). Analysts measure the perception for influence in several ways: understanding demographic and cultural factors, describing patterns and indicators from the society's history, comparing the reactions, and monitoring open-source media coverage. Social and cultural characteristics, the location of military ammunitions, and other elements are the inputs of a detailed analysis product in this context (Prunckun, 2010: 150).

Analysis should play a proactive role in the achievement of actions of influence. Schindler criticizes the United States intelligence analysis community in history for being

bound to the desk in the office; therefore, it could not influence several problematic areas (Schindler, 2005: 696-697). It is worth noting that intelligence products should be robust in terms of detailed estimates. In situations of penetration to the enemy's sphere, factual reporting is often preferred by decision-makers rather than the analytical product that presents in-depth asset, especially in crises (Grabo, 2010: 248). That creates harm to the influencing process.

In such operations, the decision-making mechanism of the enemy is a significant target. Penetrate that mechanism would create a precious asset for the security policies of a state, primarily because of the information that will be captured (Grabo, 2010: 247). Analysts should be aware of the decision-making system of the targeted entity. For instance, to think that different groups make political and military decisions is an error (Grabo, 2010: 253). States are not unitary actors, such as individuals. The decision-making mechanism behind foreign policy is complex (Walsh, 2011: 243). Thus, carefulness and tremendous effort to avoid biases are significant for the analysts. For better analyses, decision patterns should be followed (Grabo, 2010: 249). Also, intelligence analysts should avoid oversimplification of the decision-making process (Grabo, 2010: 251). The intention is another subject to follow. If we have insight into the concerns of them, following the intentions of the enemy is fruitful (Grabo, 2010: 251).

CHAPTER TWO

THE METHODS OF INTELLIGENCE ANALYSIS AND DISCUSSIONS UPON THEM

2.1. TWO SIDES OF THE METHODOLOGY OF INTELLIGENCE ANALYSIS: INTUITION AND STRUCTURED TECHNIQUES

2.1.1. Conducting Intelligence Analysis by Intuitive Techniques

According to the dichotomy in the intelligence analysis methodology, one major path is the intuitive approach to produce intelligence forecasts. Intuition is acquainted by experience and knowledge gained by reasoning out (Moore, 2007: 87). By this approach, the analysts produce understanding based upon their reasoning, previous experiences, and expert support. Intuitive technique could be understood with an understanding on behaviors.

Arkes and Kajdasz present a perspective on the intuitive approach to the behaviors (2011: 144-166);

1st intuitive theory: Considering that there are patterns or models in people's decisions. However, it is not a general law. While Richard Nixon was an anti-communist, he reapproached to China in 1972. Arkes and Kajdasz also gave the example of Anwar Sadat, even if he conducted the Yom Kippur War in 1973, he reapproached to Israel in 1977.

2nd intuitive theory: Assuming that predictions with high confidence are expected to be correct. However, experts such as physicians could need a strong relationship between confidence and correctness. According to research examines 198 physicians, there is a zero percent relationship between both variables. Noting that physicians work with heart

operations, the agility of the work would be the same as the intelligence activity. Estimates in which physicians show high confidence are not likely to be correct than those in which physicians show low confidence (Arkes and Kajdasz, 2011: 147).

3rd intuitive theory: Supposing that expertise has only advantages, but not costs. As the survey with physicians show confidence does not provide correctness on its own. Expertise is a similar concept. In history, there are expert leaders who are confident and make errors. Relying solely on expertise would be erroneous.

4th intuitive theory: Considering that more information is always good for analysis. It is a faulty assumption. According to the example stated by Arkes and Kajdasz, students of finance could predict future stock prices less correctly (2011: 152). Thus, disbanding higher in many information makes judgments less consistent.

5th intuitive theory: Assuming that reaching accuracy in a rapid way is better. According to Arkes and Kajdasz, it is not only erroneous but also dangerous. Intelligence failures could happen due to the uncontrolled speed of work.

According to Khalsa, advocates of intuitive approach in intelligence analysis present the job's nature, strength of the expertise, and personal experience as supporting elements of intuitive approach.

Arguments raised by advocates of the intuitive approach are as follows (Khalsa, 2009: 80):

1. Countless variables of complex problems that are the issues of Intelligence Analysis could not be addressed with structured techniques; however, the intuitive methodology is more effective in working on them. If scientific methods are applied in Intelligence Analysis, a kind of pseudoscience occurs because the qualitative subjects of analysis are not entirely quantified.

2. Though research has shown that structured methodology functions in some qualitative problems, the issues of Intelligence Analysis are different from the qualitative problems as well. Science could hardly aid when dealing with the irrational and unpredictable human mind in Intelligence Analysis.
3. Structured techniques eliminate or decrease the use of intuition, thus limit the contributions that arise from the power of intuition.
4. It is sufficient to eliminate biases and mental pitfalls by being aware of their existence.
5. Employing the structured methodology takes a long time, whereas intelligence analysts are racing against time. Today's environment requires fast and accurate intelligence products due to the existence of fast weapons and systems.

However, intuitive thinking could and should be structured, rather than solely being based on uncontrolled assumption creation. Otherwise, this kind of intuition may result in failures (Moore, 2007: 88).

2.1.2. Conducting Intelligence Analysis by Structured Techniques

Structured Analytic Techniques (SATs) are mechanisms for visualizing problems and decisions. As the mind is restricted to some extent, these techniques help to reduce the restriction and produce appropriate insight. The main idea behind SATs is that thinking produces more reliable and accurate solutions when applied with a structured perspective. Even their strength is described in relevant research, there were few exploitations of structured methods even in the 2000s (Treverton and Gabbard, 2008: 35). Intelligence Community began to invent in SATs at the result of failures on weapons of mass destruction in Iraq (Artner et al., 2016: 4). 2019's National Intelligence Strategy of the US also commits that the intelligence community will improve the employment of quantitative analytic methods as strengthening qualitative methods. The document also emphasizes the need to challenge "long-standing assumptions" (DNI, 2019: 9).

SATs are able to coordinate and stimulate the thinking process. They intend to add consciousness to the analytic job. However, it is not effective in the intuitive analysis.

Artner et al. state that interviews with intelligence personnel show positive feedback for the use of SATs. However, some personnel criticize SATs for their ignorance of expert judgment and their consumption of much time. It is interesting that some others state that SATs help to save time. There are also conflicting opinions about SATs' appropriateness to the changing environment. It shows that fully positive outcomes of SATs could be valid with new habits (Artner et al., 2016: 3). According to the RAND report that examines 29 Intelligence Assessments of CIA, 23 of them do not employ SATs (Artner et al., 2016: 6). Papers employing SATs commonly divide assumptions from judgments and apply a logical argumentation. Some papers that do not employ SATs are also successful to separate assumptions from judgments, however, the distinction is not explicit in most of them. According to the report's evaluation of the documents, papers that use SATs have more transparent logical results than those that use only intuitive analysis (Artner et al., 2016: 11-12).

The most prominent outcome of the analysis of Iraqi weapons of mass destruction was the necessity of structured techniques. Intelligence Reform Act aimed to do it in 2004 (Coulthart, 2016: 1). CIA issued an internal memorandum to examine how to use quantitative, data-based techniques of the 1960s' academia in intelligence analysis. Richards Heuer edited the issue as "Quantitative Approaches to Intelligence Analysis". According to Heuer's Introduction, the quantitative methodology puts determined and stubborn boundaries on its applicability to the requirements of government offices worried about foreign affairs, as most of the variables of concern cannot be quantified. Similarly, O'leary et al. did another survey to investigate the possible contribution of quantitative techniques. Their survey included 545 secret documents and they determined that less than 20 percent of them had quantitative data. They reached to the same conclusion with Heuer that intelligence analysis had limited quantitative methods (Coulthart, 2016: 2-3). Richards Heuer formed Analysis of Competing Hypotheses that is a structured analytic technique during the 1980s. He was teaching to counter-intelligence analysts at the time. He asked his students if they recognize enemy deception in their cases, however, they responded as they did not. That was because of the deception's nature that does not have any signals before it happens. Accordingly, it was clear that the analysts were focusing

only on apparent signals. Analysis of Competing Hypotheses was a response to that problem as it was primarily significant to detect deception. Heuer carried the method from counter-intelligence cases to other types of subjects in intelligence analysis. Analysis of Competing Hypotheses and its varieties are some of the most useful SATs now (Coulthart, 2016: 3).

There are four hypotheses of the question of why do analysts use SATs (Coulthart, 2016: 6-7):

- (1) There is a statistically important negative relationship between the volume of time pressure and the use of techniques.
- (2) There is a statistically important positive relationship between the efficiency of techniques and the frequency of their employment in the analysis.
- (3) There is a statistically important negative relationship between the duration of an analyst's occupation and their employment of SATs.
- (4) There is a statistically unimportant relationship between whether an analyst is trained for the techniques and if they practice them on the project

According to Coulthart's another systematic research, there is low to enough reliable evidence that six of the SATs progress analysis most of the time. Devil's advocacy, Analysis of Competing Hypotheses, and brainstorming have reliable evidence roots (Coulthart, 2017: 384).

Heuer and Pherson present a comprehensive coverage of SATs in their work. Testing the conclusions is a significant action to reach accuracy, according to Heuer and Pherson. For the accuracy, techniques that could minimize erroneous results could be supported with expert judgment and intuition (Heuer and Pherson, 2011: 14).

The actions of structured analysis require a step-by-step process that includes transparency and objectivity. Combination of intuitive judgment and expertise is embedded in this step-by-step process. This methodology that creates objectivity that

sustain a critical supervision by peers. It facilitates to prevent errors (Heuer and Pherson, 2011: 15).

Dividing between two approaches is not useful for the improvement of intelligence analysis. Debates that split up two sides such as intuitive-scientific and art-science could not catch the essence. Instead, intelligence analysis becomes powerful with the use of both provinces. Intelligence analysis process comprises all aspects of cognitive abilities (Heuer and Pherson, 2011: 31-32).

Intuitive judgments are problematic because of the nature of intelligence subjects. They are mostly newly-emerging and complex, also intelligence judgments generally have critical and risky outcomes. That is why intelligence analysts should start their work with setting possible alternative outcomes (Heuer and Pherson, 2011: 118).

SATs also assist to ensure the quality of analytic framework, organize the data, broaden the thinking of analysts. Their strength comes from the ability of working on problems rather than answers. They are also suitable to the qualitative research (Heuer and Pherson, 2011: 20).

Analysts should exploit structured techniques to defeat biases and to improve their analytic skills. The power of structured techniques is also helpful in non-security organizations and business sphere. Even though there is a well-known reason of limited time to ignore structured techniques, it is not valid according to field studies. There are many techniques that need little time. Even if analysts are slow while learning the techniques, after some time, they will become easier for them to exploit, thus they will take less time. Thus, structured techniques enhance the efficiency of analysts. They also help to improve the communicative skills of analysts, as the techniques are valid in group work (Heuer and Pherson, 2011: 21-22).

Pherson ranges the necessity for the development of SATs as follows:

- Intelligence failures required the reevaluation of the methodology of Intelligence Analysis
- Problem of cognitive biases that lead to failures
- Need for a collaborative work

- Decision-makers' demands for transparency in analysis process

SATs are a defense in front of analytic problems. They aid to limit cognitive restrictions and respond the problems that are rooted in unquestioned mindsets. Even though they do not perfectly solve each problems, they could cease the frequency of errenous results (Pherson, 2013: 54).

Pherson groups the analytic techniques in a four-partite categorization. The categorization is based on the nature of analytic methods and the type of data, as seen in Figure 2.1.

Figure 2.1: Four Types of Analytic Approaches

	Known Data	Known and Unknown Data
Qualitative	Unaided Expert Judgment (Critical Thinking Processes)	Structured Analysis (Imagination, Diagnostic, and Challenge Techniques)
Quantitative	Empirical Analysis (Data-based Computer Tools, and Visualization Techniques)	Quasi-Quantitative Analysis (Computer-based Tools Requiring Input from Experts)

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Reference: Pherson, (2013:55-56).

- Unaided expert judgment is the traditional approach that includes intuitive way. Employed techniques in this section are critical thinking, historical understanding, focusing on case studies, and analogical reasoning that are considered as evidentiary reasoning.

- Structured analysis includes structured techniques that externalize the analyst's thinking process and transparency of the methods.
- Quasi-quantitative analysis is the methodology in that both empirical data and expert-generated data are exploited. It is because of the lack of empirical data, thus there is a necessity to insert expert's part. Bayesian application, dynamic modeling and simulation are the techniques in this category.
- Empirical analysis comprises data-based computer tools and visualization techniques. It is used where sufficient data is available.

SATs helps to save the analyst's time as it assists group work. They also help to mitigate the possibility of misunderstanding (Pherson, 2013: 57). However, it is possible to train analysts in practicing SATs when there is not a time pressure on them (Pherson, 2013: 57).

There should be primarily five habits of a master thinker, according to Pherson's work (2013: 58):

- Recognize when to test key assumptions – that should be generally done for Pherson
- Grant alternative interpretations or hypotheses for all events even in the null hypothesis and the deception hypothesis
- Check for inconsistent data providing sufficient response to quickly dismiss a competitor hypothesis
- Concentrate on the key drivers defining the events and possible events
- Predict the consumer needs and get the overall context of the analysis

For the first one, it is necessary to work with colleagues to test the raised assumptions. If there is time, it is better to write the assumptions and look at them back later. For the second, the analyst should think about alternative explanations. Even if these alternative considerations are less likely, they could be more valid in time. It is a good method to overcome confirmation bias. For the third habit, there is a requirement for the

employment of the Analysis of Competing Hypotheses. Thus, inconsistent data would appear and the method saves time as the wrong hypothesis could be rapidly dismissed. For the fourth, the analyst should focus on the key drivers of the events by concentrating on the indicators. According to Pherson, the five main characteristics of an indicator are being observable and collectible, valid, unique, stable, and reliable. For the fifth, the analysts should be aware of the risks and opportunities for the decision-maker - the consumer of the estimate - in other words, know the consumer. The analysts should ask themselves for what consumers appeal to them and how they carry the question to a broader context (Pherson, 2013: 59).

Structured argumentation is a systematic method that is based on a structure for making the reasoning, assumption, justification, and evidence transparent. According to Clark, this methodologic process starts with separating and organizing a question into its parts. Thus, each part could be tested systematically. It enables analysts to recognize the requirements for each data, define their assumptions better, understand each concept. In this process, latent hypotheses could be generated and assessed with empirical evidence (Clark, 2019: 567-568).

Competitive and alternative target models are two significant models that Clark presents. At first, competitive analysis refers to the process that has different independent teams producing competing analyses with the same sets of data. It is useful to challenge against uncertainty. Team A/Team B method that will be discussed in this research, is an example of competitive analysis (Clark, 2019: 578).

Alternative analysis, on the other hand, is generally employed by a single analyst or team. ACH, Argument Mapping, Challenge Analysis, and Signpost Analysis are examples of tools in alternative analysis. Alternative analysis seeks to challenge assumptions and to extend the variety of probable results. It copes with the inclination to perceive information selectively to prove present hypotheses. It also tries to limit the problematic conclusions given by groupthink (Clark, 2019: 580).

Besides the strength of the employment of SATs, Garner and McGlynn present several tips for them (Garner and McGlynn, 2019: 140);

- There is not a secret recipe for perpetually making the accurate analytic judgment

- SATs are properly organized methods to reduce the recurrence of analytical failures
- SATs facilitate collaboration by structuring and visualizing analysis that provides a thought transfer process

In order to choose the most suitable SAT for the question, analysts should understand the features of the intelligence problem. It is significant to decide on the characteristics of the time of the problem and the origins of relevant actions (Garner and McGlynn, 2019: 173). Thus, a proper SAT would be meaningful in the solution of the intelligence problem.

2.2. RECENT DEBATES ON THE METHODOLOGY OF INTELLIGENCE ANALYSIS

The debate in intelligence analysis methodology does not produce an asset for a long time because of a firm understanding of both sides. While advocates of intuitive analysis are strongly convinced with the status-quo, numerous defenders of structured technics ignore the contribution of intuition. In this subchapter, there will be exploration of the methodology debate in intelligence analysis.

Using "tradecraft" to describe intelligence analysis during Rob Johnston's interviews with analysts. It is a catch-all term (Johnston, 2005: 17). Tradecraft is a mysterious process gained by the rituals of professional indoctrination. "Good" methods are the survived methods that inherit from professional analysts to novice ones. There is not a formal system for the measurement of the validity or credibility of the methods. It is because the methods are noticed and exploited with an idiosyncratic style (Johnston, 2005: 18). Scientific methods face resistance in the field. Interviews show that personnel does think that intelligence analysis is not a science and requires talent (Johnston, 2005: 19). On the other hand, intuition is the performance of quick cognition noticing some-thing directly through the use of culturally dependent heuristics and cognitive patterns accumulated through a lifetime without requiring the use of rational or formal processes (Johnston, 2005: 76).

Sundri Khalsa evaluates the debate between intuitive and structured approaches to intelligence analysis in her article. According to Khalsa, choosing one approach over the other is a significant misunderstanding. Both of them could be employed together in a process that Khalsa calls "systematic process". Qualitative content could also be adapted to numerical values, and it could be used to understand the data better (Khalsa, 2009: 77). Intuition refers to the sense that it does not employ illustrative reasoning and is not explicable with the evidence. It is the faculty of recognizing without rational means. Khalsa mentions Dr. Gary Klein's definition as a "recognitional, pattern-mating process that is born from experience." According to Khalsa, through the employment of intuitive analysis, analysts are not able to show their reasoning processes. Abstract techniques, such as insight, judgment, and intuition, are more challenging to teach and learn (Khalsa, 2009: 77).

Systematic process combines structured methodology and intuition. The strength of this combination is the limitation of intuitive judgments to small parts of information. Also, systematic process puts lines about the most suitable techniques to the specific issues with the help of both intuition and structured methodology (Khalsa, 2009: 78).

Discussion over structured methodology began with Richards Heuer's projects based on the methodology in political analyses in the CIA at the end of the 1970s. Heuer published his findings later. During the 1990s, structured methodology found attention from the top institutions due to the debate over ballistic missile threats in the US. CIA's Deputy Director for Intelligence Douglas MacEachin began a process to increase analytical standards due to the intelligence failures regarding Iraq's invasion of Kuwait, again during the mid-1990s. Finally, Heuer's CIA papers publicly revealed in the book "Psychology of Intelligence Analysis" (Khalsa, 2009: 79).

Studies show that intuitive judgments rarely regard all information available. Thus, employing systematic research is better than analysis based on only intuitive skills. Moreover, intuitive methodology enthusiasts do not present empirical evidence to show the superiority of intuition in producing more accurate estimates. Psychological experiments explain that there are several reasons why intuitive judgments do not consider all information available. Humans recall or consider information selectively. It is based

on the sharpness and currentness of them. According to studies, information that is observed with the primary senses have more influence in mind. That information overwhelmed statistical data that is more abstract. Also, the human mind inclines to ignore evidence that is not suitable for its biases. Finally, according to Khalsa's evaluation, the mind tends to reduce the number of information - simplify them, in other words - when faces an overwhelming amount of information. Moreover, intuitive judgments become fatigued quickly because of uncountable factors (Khalsa, 2009: 81).

The memory is also the source of multiple problems. Because of the limitation of memory, it is difficult to deal with complex problems. Thus, decision-making is laborious. The mind takes favorable arguments first, unfavorable ones later. People could not account for all the variables at the same time (Khalsa, 2009: 81).

The argument of expertise raised by intuitive approach advocates is not convincing enough. Contrarily, as expertise brings a high confidence level, it is easier to fall into traps, such as analytical errors (Khalsa, 2009: 81).

According to Khalsa cited from Heuer, mental tools aid analysts have an open mind, question their assumptions, perceive alternative perspectives, produce new ideas, and, most importantly, understand when it is time to adjust their minds to the new conditions. Employing mental tools is capable of extending one's analytical potential as analysts would be surprised when they see substantial results (Khalsa, 2009: 83).

Khalsa presents a table that depicts the systematic approach to intelligence analysis and comprises seven comprehensive phases. In this table, structured analytic techniques that are suitable to aid each phase are depicted. Also, seven fundamental elements of the model aid the seven phases.

These are the seven elements of the model (Khalsa, 2009: 85);

- A list of significant indicators assists analysts to distinguish the critical elements of information needed to anticipate the selected topic

- A list of significant collection necessities, obtained from the indicators assists analysts to issue an intelligence collection plan
- A master database assists analysts in incorporating the collected information
- Hypothesis matrices aid analysts to order information
- A systematic process that consolidates intuitive and structured techniques, including hypothesis testing, indicator filtering, employment of matrix supports analysts to reach conclusions
- Reordered collection requirements aid analysts concentrate collectors on gaps to clarify and renew conclusions
- Warning assessment templates support analysts to reach conclusions and present warning in various standardized formats

Table 2.1: Systematic Approach to Intelligence Analysis

The Seven Phases of The Intelligence Warning Process	Seven Essential Elements with Analogy to Constructing a Building	Structured Techniques
1. Identifying the key elements of information required to forecast a topic	1. Indicators and Indicator Question Sets The building blocks of a warning assessments	• Lists • Indicators • Question Sets-Trees • Organized Brainstorming • Thinking Backwards • Causal Flow Diagramming • Case Studies • Trend Analysis • Sorting • Chronologies • Prioritization
2. Publishing an intelligence collection plan	2. Collection Requirements The purchase order for the building blocks	• Indicators • Question Sets-Trees • Lists • Prioritization • Numerical Associations • Utility Matrix Logic
3. Consolidating information	3. Master Database The foundation to lay all the building blocks	• Consolidating
4. Sorting information	4. Hypothesis Matrices The blueprint of a warning assessment	• Indicator Filtering • Sorting (key word) • Data mining • Matrices
5. Drawing conclusions	5. Systematic Process that Combines Intuitive and Structured Techniques The tools to build the Blocks	• Hypothesis Testing • Red Teams • Devil's Advocacy • Indicator Filtering • Question Sets-Trees • Numerical Associations • Levels of Confidence • Standardized Language (Combining Words and Numbers) • Color Coding • Matrices • Utility Matrix Logic • Simple Averaging • Weighted Ranking in Averaging • Bayesian Theorem • Other Mathematical Formula (to Combine Multiple Factors) • Trend Analysis • Comparative Analysis
6. Focusing collectors on intelligence gaps to refine / update conclusions	6. Re-prioritized Collection Requirements Repair and Maintenance Requirements	• Prioritization • Numerical Associations • Standardized Language (Combining Words and Numbers) • Utility Matrix Logic • Indicators • Question Sets-Trees • Lists
7. Communicating conclusions / giving warning	7. The Warning Assessment Templates that Combine Narratives and Color-Coded Warning Level Graphics The building	• Standardized Language (Combining Words and Numbers) • Numerical Associations • Levels of Confidence • Color Coding • Matrices • Prioritization • Lists

Reference: Khalsa, (2009:88).

Khalsa finally asserts that the debate over the methodology of intelligence analysis that divides into two opposing camps has been a barrier to employ a complete systematic process (Khalsa, 2009: 86).

Robert D. Folker's research on the exploitation of structured methodology in qualitative analysis is a turning point in the debate. According to him, traditional methodology enthusiasts claim that structured methods are not able to define the problems and do not have the capability of analyzing constituents that are not measurable. On the other side, structured method defendants argue that the techniques can provide more precise and accurate results.

Folker does a controlled experiment with several analysts at four Unified Command joint intelligence centers and tries to test the impression of implementing a structured methodology to the qualitative analysis of an intelligence issue. The results are remarkable as analysts who use structured techniques to the given issue exceed others who employ the intuitive approach (Folker, 2000: 1-2).

Quantitative methods in intelligence study implement a numerical measurement, while qualitative methods sort the themes and concepts to understand the issue better. Structured methodology, on the other hand, exploits complementary techniques to adjust the components of an intelligence problem. It does not oppose intuitive assets but assists them. On the contrary side of the structured methodology, there is the use of a sole intuitive approach. According to Folker, intuition refers to the sensation or instinct that is not implemented by the support of expressive reasoning means. It is also inexplicable with the evidence. Thus, Folker says that qualitative intelligence analysis is not under the monopoly of intuitive approach and personal experiences, but it is also applicable to the structured analytic techniques. Intuition could be among the most prominent habits of analysts; however, it cannot help during complex problems (Folker, 2000: 5).

The analysts who are promotive of intuitive approach in Folker's survey, argue that an intuitive approach produces more creativity than a structured method. As a discussion accompanied to the intuition-structured techniques debate, art-science distinction shows itself again. Intuition enthusiasts think that qualitative analysis is an art and coming from

experience and personal talents. As a psychologist who studied intuition, Gary Klein also conducted researches that supported this proposition and argued that the structured method does not work in practice as it comes to qualitative intelligence analysis (Folker, 2000: 7).

However, Folker notes that Klein researched with the leaders in the military field and emergency services where being agile is the most significant task, but not with the intelligence analysts. Thus, the objections of Klein are not helpful in the intelligence community (Folker, 2000: 7).

Another opposition to the structured techniques is about becoming an expert. According to the opponents, experts could produce better results in qualitative analysis, and expertise requires personal experience, and the employment of structured techniques could not create a closer result. According to this view, analysts should improve their intuitive skills by studying specific areas to improve analysis (Folker, 2000: 8).

There has been a decrease in the quality of analyses, and decision-makers have ignored the products. A significant reason for both of the problems is the lack of objective scientific methods that could transparently support the conclusions (Folker, 2000: 12).

In Folker's survey, both intuitive and structured predictions create accurate results 90 percent, from time to time (Folker, 2000: 12). The structured route depends on the thinking models of the mind and habits of the analysts. Therefore, it is difficult to change the thinking paradigm and create new foundations. According to Folker, failure in the attempts for intelligence reform and the low budget ratio of intelligence analysis units are because of the traditional habits, culture in other words.

The reluctance of the analysts to change the paradigm has other reasons. They think that the rising time pressure and increasing accountability that could come with the use of structured techniques are barriers in front of a free-working space. By trusting intuition, the analysts think that they create more space themselves. Another reason for the resistance to the structured methods during qualitative analysis is the assumption that those methods will not improve the analysis. It requires an empirical study that shows substantial improvement. On the contrary, if intuition takes a step forward in the result of

empirical research, then the analysts would tend to intensify their intuitive abilities (Folker, 2000: 14-15).

The study tries to find an answer to the question of whether implementing structured methods improve qualitative intelligence analysis. It produces competing hypotheses for the research question, examines thoughts supporting both hypotheses, composes an objective experiment to have empirical evidence. Then the survey results are tested to understand the importance of the final evidence.

As a result of the survey, the participants who employed structured methods create more accurate forecasts, rather than the participants who did not. Thus, Folker decides that the employment of structured methods will advance qualitative analysis (Folker, 2000: 32).

Though both intuitive and structured types of research create similar accuracies, structured techniques could be easily explained to other analysts. Thus, it could create a standardization. The employment of both methods at the same research would produce enhanced results. However, on many occasions, analysts prefer only intuitive ones (Folker, 2000: 14)

Marrin's response to Folker's study on the exploitation of SATs in qualitative analysis is also valuable for the discussion. According to him, the problem with Folker's definition is that Folker connects intuition with a lack of structure at the beginning of the study. However intuitive techniques could also be structured, even if their structure is not visible to the observers. While intuition is an invisible analytic process, the structured approach is a visible process. Thus, as Folker updates his definition later, the distinction should be between visibility and invisibility of the methodology, rather than between structured and intuitive methods (Marrin, 2007: 8).

Organizational culture is vital for the embracement of new techniques. The barrier in front of the employment of SATs comes from the long traditional organizational culture. As Marrin states even though Heuer's observations about the necessity of structured techniques are more than 30 years old, intelligence scholars still discuss this necessity (Marrin, 2007: 10).

Marrin thinks that advocates of structured methodology should prove that the techniques are superior in practice if they want the intelligence community to embrace them. Thus there should be more research on their practicality (Marrin, 2007: 14).

In another study prepared by Marrin, the question of “is analysis an art or a science” is discussed. According to Marrin, at an International Association for Intelligence Education (IAFIE) e-mail discussion in 2009 and 2010 over 30 participants discussed the issue over 50 messages. The result was that there was not a sufficient answer however it was helpful to discuss the question for the future of practicing teaching and learning intel analysis (Marrin, 2012: 530).

The other results are as follows (Marrin, 2012: 533-534);

- According to intuitive approach supporters, pattern recognition skill is acquired from experience, so intelligence analysis is an art
- Cynthia Storer states that the art or magic of good intelligence analysis involves pattern recognition and pattern matching to gain insight from a large amount of fragmented data within a short amount of time
- David Terrell states that the analyst compares known data entities and their interrelationships to various mental paradigms in an attempt to classify the current situation
- Experience is the foundation of the analytic art.
- For the question of “Are creative and imaginative aspects teachable? Storer responds as yes to some extent, however it is a talent according to her.

Advocates of the answer of “Intelligence is Science” states that rejecting scientific method is rejecting rationality and scientific principle, and supporting unanalyzed conjectures, while other party suggests that understanding the nature of reality or the nature of truth. So, it is artist’s or philosopher’s role (Marrin, 2012: 535).

Improvement of intelligence analysis is the combining both art and science can be accomplished by combining artists and scientists on analytic teams. It is possible and

better to specialize in the analyst's area of strength. Thus, optimization could be achieved through the complementary skill sets (Marrin, 2012: 540).

The debate does not provide knowledge about the practice. However, it provides a route to conceptualize the analytic process through art and science frameworks. The debate and the dichotomy helps to contrast the perspectives and positions according to Marrin (Marrin, 2012: 541).

On this question, Richards states that the cognitive side of the analysis is the art of the work. It contains the thought process, critical thinking, and judgment. On the other hand, the structured technical side of the analysis is the science of analysis that comprises scientific requirements and techniques that are exploited (Richards, 2010: 97-137).

Heuer defines potential vulnerabilities, by studying how the human mind works and discussing ways to minimize the margin of error in intelligence analysis. The various features of human perception, memory, and mind could develop a significant hindrance in the process of analysis, but this restriction could be defeated by the scientific method that is also the product of the human mind.

However, the sole difficulty is not the mental structure of the analysts. Intelligence agencies' bureaucratic structures have bureaucratic passivity as Heuer states. Even in the most developed countries, intelligence agencies are not following scientific methodology because of this inactivity (Heuer, 1999: 13).

The most important problems that hinder accurate intelligence analysis are due to cognitive limitations that humans have. As Heuer states in his well-known work "Psychology of Intelligence Analysis", intelligence analysis is essentially a mental process. This process is interrupted by limited cognitive awareness.

People do not have conscious knowledge of the work of the human mind. The mental process works with perception, information processing, and memory. According to Heuer, the finding is that spontaneous incident in consciousness is the outcome of thinking, not the thinking process. Thus, the limitations and biases of the human mind are presented by experiments. Also, their effects could reduce by the implementation of analytic tools (Heuer, 1999: 1).

Heuer also examines the process of perception in order to answer the question of why the analysts could not see the signals despite their existence. According to him, perception creates a connection between people and their habitat. It is crucial to truly understand the world around them. However, the perception process is assailed by many traps. The intelligence analysis process is even harder in this context because of its nature (Heuer, 1999: 7).

Heuer presents suggestions in order to overcome the problems. According to him, agencies should promote products that clearly outline their assumptions and their level of uncertainty; sustain analytical products that reexamine key problems; provide alternative perspectives; and train consumers about the restrictions of intelligence analysis (Heuer, 1999: 16).

The memory is another crucial part of the intelligence analysis process, as information that is remembered determines the outcome of the analysis. Long term memory skills could help the structuring of data. Long term memory is also more capable than short term memory/sensory memory (Heuer, 1999: 17).

Considering the strategies for analytical judgment, it is necessary to exceed the boundaries of incomplete information. Heuer compares situational logic, theory, and simple immersion in the data being strategies for hypothesis creation.

Situational logic is an analytical strategy that is mostly employed by intelligence analysts. It concentrates on pursuing cause and effect relationships or means and ends relationships. However, it has shortcomings. Firstly, it is hard to guess the mental and bureaucratic mechanisms of foreign leaders and governmental agencies. The second is that situational logic fails to employ the theoretical knowledge obtained from the study of similar phenomena in states and in other time periods.

Theory, on the other hand, has both strengths and weaknesses in intelligence analysis. As a strength, theory saves thought and facilitate the analysts' thinking processes. Theory allows the analysts to classify the less important details. It also allows to understand beyond current events. However, it often fails to designate the time frame of developments that are about to occur. So, it fails to predict (Heuer, 1999: 31).

There are strategies for the generation of strategies in the work with incomplete data (Heuer, 1999: 43);

- Satisficing that is usually employed by analysts refers to selecting the first hypothesis that seems good enough
- Incrementalism focuses on a restricted range of alternatives symbolizing limited change, without regarding the requirement for a dramatic change from an existing point
- Consensus that is opting for the alternative that will evoke the greatest deal and support. But it usually means telling the boss what he/she likes
- Reasoning by analogy that is accepting the alternative that seems most likely to avoid errors/to repeat the success
- Employment of principles that differentiate a good from bad alternative

Is it true that analysts generally need more information? To answer this question Heuer compares the investment to collection techniques for obtaining more information and limited budgets for the intelligence analysis. According to him, intelligence shortcomings are not because of the lack of information, but because of limited investment in analytical efforts (Heuer, 1999: 51).

Heuer also analyzes the mind. He parallels mind with parachutes as it solely functions when it is open. A novel idea is the starting of the creative process which is essential in analytical thinking. However, the organizational structure is also important for the development of open minds and creative ideas (Heuer, 1999: 65).

It is important to decompose and externalize to structured analytical problems. While decomposition refers to separating a problem into its components, externalization is carrying the problem out of mind and put it into a visible space. Thus, it will be easier to handle the problem (Heuer, 1999: 85).

It is also significant to discuss the scientific methodology. The vital principle of scientific method is denying hypotheses. At the end of the process, the hypotheses that are not refutable could be provisionally accepted as possible. The intuitive method, on the

other hand, focuses on supporting the hypothesis. This approach brings an erroneous style that is preferring the supporting evidence rather than weakening one.

According to Heuer, the human mind does not pursue invalidating evidence by nature. It disregards when it faces this kind of evidence. Perception also seeks more proving evidence for the present images. Information that disproves the hypothesis is perceived as an "insignificant anomaly" and as "unreliable". The danger about hypotheses clearly appears by examining the processing of information in mind (Heuer, 1999: 46).

As a structured approach, concurrent evaluation of alternative and competing hypotheses allows for a well-organized and objective analysis process. The evaluation of competing-alternative hypotheses requires more cognitive effort for analysts. However, this energy brings more accurate and less faulty analyses. Due to its challenge, multiple hypotheses method is only used in the intuitive analysis of complex problems (Heuer, 1999: 49).

In another work done by Heuer, he compares the Analysis of Competing Hypotheses (ACH), which is one of SATs, with intuitive approach. According to Heuer (Heuer, 2008: 256);

- ACH bypasses the satisficing pitfall
- ACH ascertains the diagnosticity of evidence
- ACH charges the analysts to crush vulnerable or wrong hypotheses rather than doing vindication

2.3. STRUCTURED ANALYTIC TECHNIQUES

In this study, it is useful to mention prominent SATs to fully cover the concept and its application. SATs could be grouped as diagnostic techniques, contrarian techniques, imaginative thinking techniques, and testing techniques according to publications of US Government (2009), Heuer and Pherson (2011). Garner and McGlynn add an additional grouping to the set of tools as pattern recognition techniques (2019).

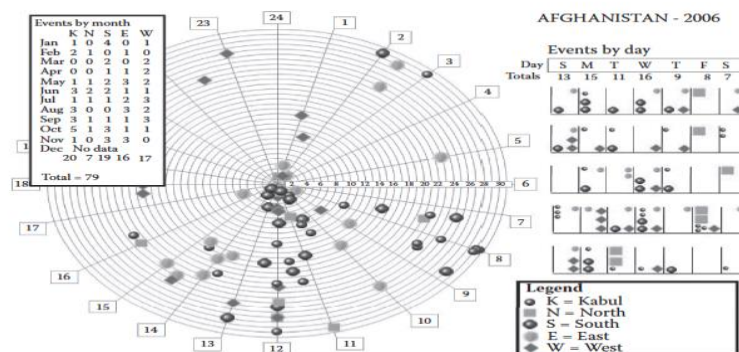
2.3.1. Pattern Recognition Techniques

Pattern recognition techniques order information to improve the understanding and perception of patterns or connections. All techniques under this title attempt to arrange and visualize the data, thus help analysts to understand the information as specific parts, although it is part of a broader context. They also support analysts to explain the information, understand and state the meaning of experiences.

2.3.1.1. Classic Pattern Recognition

Classic pattern recognition is the ordering of information to intensify the recognition of patterns or connections. The employment of pattern analysis concentrates on transactions over a period in a designated location. The method aims to find patterns or similarities that direct to a reasonable conclusion (Garner and McGlynn, 2019: 141-142). An example of pattern analysis plot work could be seen in Figure 2.2.

Figure 2.2: Pattern Analysis Plot Sheet



Reference: Garner and McGlynn, (2019:142).

2.3.1.2. Social Network Analysis

Social network analysis defines and graphs connections between individuals, groups of people, organizations, or resources. It illustrates developing and common communication patterns in an arrangement through graphing the relationships. It enables analysts to anticipate decision-making mechanisms and behaviors. It also helps users to understand action lines impacting the constituents of a social network (Garner and McGlynn, 2019: 143).

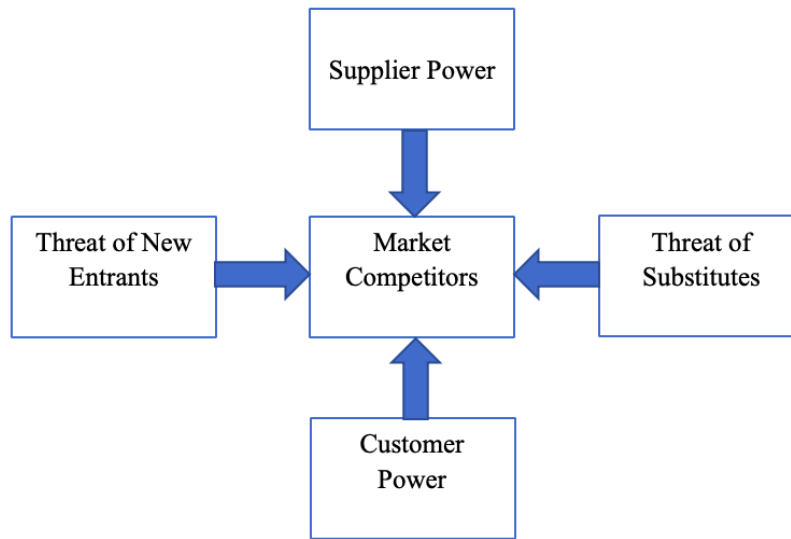
2.3.1.3.Trend Analysis

Trend analysis examines differences over time. It contains several other methodologies, such as timeline analysis and content analysis. Garner and McGlynn suggest other methods should feed trend analysis (2019: 143). Analysts should take the soundness of the data into account to guarantee that it accurately measures the data. Trend analysis is also employed in business sphere to proceed in a competitive market.

2.3.1.4.Five Forces Analysis

Five Forces Analysis is another business-oriented method of strategy that raised by Professor Michael E. Porter from Harvard Business College. However, its employment in national security and intelligence analysis creates value. According to the model, five forces impact markets: the threat of new competitors, the power of suppliers, the power of customers, the threat of substitutes, and market competitors. The method is useful for combating criminal organizations and terrorist cells (Garner and McGlynn, 2019: 145). The Figure 2.3 depicts five forces analysis (Garner and McGlynn, 2019: 145).

Figure 2.3: Five Forces Analysis



Reference: Garner and McGlynn, (2019:146).

According to the method, the explanations of each force are as follows (Garner and McGlynn, 2019: 146):

- The power of suppliers evaluates the ability of suppliers to increase prices. The number and incomparability of the products of suppliers play an essential role in this context. The fewer the supplier choices and the more requirement of their assistance, the more powerful the suppliers are.
- The power of customers/buyers refers to their power to decrease the prices. The number and the significance of the customers in a selected business are crucial. The fewer customers mean that they have more control over the business.
- Market competitors comprise the number and ability of the competitors. The more uniqueness of competitors' products and services means they are more influential in the market.
- The threat of substitutes is hit by the potential solutions raised by the customers. It means that if customers find new methods to reach products and services in the market, they will become more powerful. If the products and services are easier to find or generate, it weakens the suppliers.

- The threat of new competitors refers to the possibility that new actors enter the market. If the capital is easier to obtain in terms of time, effort, or money, there will be more competitors in the market. Eventually, this situation will create a weakness in the strength of existing competitors.

2.3.1.5.SWOT Analysis

SWOT (strengths, weaknesses, opportunities, and threats) analysis assists in implementing an evaluation to recognize an entity's domestic and outer situation. SWOT analysis enables its users to concentrate on critical points for achieving a better understanding (Garner and McGlynn, 2019: 147). It has a form of a matrix that contains strengths and weaknesses of the entity on one side, and opportunities and threats toward it on the other. While strengths and weaknesses are elements of internal structure, opportunities and threats have external origins. Strengths should be able to embrace the opportunities, as weaknesses should be restored to deal with threats.

2.3.1.6.Geospatial Analysis

Geospatial analysis contains the collection, demonstration, and manipulation of images, GPS coordinates, and satellite photography. It could be employed with both Open Source Intelligence tools and more covert information such as addresses. It enables analysts to add insight into their evaluation (Garner and McGlynn, 2019: 148).

2.3.1.7.Timeline Analysis

Timeline analysis exposes the patterns and connections of data while employing a visual depiction such as graphics. It could be employed with trend analysis to create more robust insight over data. Visual representation displays the course of events in chronology, thus helps analysts to recognize cause and effect relationships between them (Garner and McGlynn, 2019: 148).

2.3.1.8. Cost-Benefit Analysis (CBA)

It is a method to compare both costs and benefits of an action or project. It is fruitful to understand the strengths and weaknesses of alternative actions and steps. CBA aims at defining the strength of a decision and at presenting a foundation for examining decisions. It is used to see if the benefits exceed the costs. This method is generally used in economic decisions in public institutions.

Garner and McGlynn note that a CBA was conducted in 1945 considering the use of the atomic bomb on Japan. The conclusion was that the occupation of Japan could cost America 267 thousand dead soldiers, with 1.2 million victims (Garner and McGlynn, 2019: 150).

2.3.1.9. Event Trees and Fault Trees

This methodology comprises a visual depiction of a possible sequence of developments. Event trees and fault lines are different tools in this method. While event trees are used to define the elements of continuity, fault trees are capable of recognizing projected failure situations. As event trees display sequences of events associated with dependent probabilities, fault lines show connections and relationships of developments (Garner and McGlynn, 2019: 152). The rational methods that assess event tree chains are similar to the methods employed in fault tree analyses.

2.3.2. Diagnostic Techniques

Diagnostic techniques try to define analytic assumptions and gaps and make them more transparent while pushing analysts to reevaluate the foundation of their judgments. Diagnostic techniques aim at verifying their users' mindsets.

2.3.2.1. Key Assumptions Check

Key assumptions check ranges and examines the critical assumptions of essential judgments. Key assumptions are the hypotheses that should be accurate and the foundation of the estimates. The value of this method assists to (US Government, 2009: 7):

- Define the reason behind the argument and reveal faulty inference
- Explain the critical factors that form a development
- Incite considering a question
- Reveal covered relationships and connections among main factors
- Recognize events causing to quit an assumption
- Provide a basis for changing conditions creating surprise

The methodology of the technique has four steps (US Government, 2009: 9):

1. Examining the would-be appearances of the current analytic position on a specific problem and listing them
2. Linking all the propositions in the finished analysis that are accepted as accurate for the analytic position
3. Testing each assumption while questioning why it has to be true and whether it persists valid under all circumstances
4. Filtering the list of key assumptions to include only must-be-true ones and examining under what circumstances these assumptions could not hold

2.3.2.2. Quality of Information Check

Quality of information check examines the integrity and the vividness of accessible information sources. Considering the soundness of sources is employed with critical

thinking. Quality of information check strengthens the analysis by testing the accuracy of information sources (US Government, 2009: 10).

While employing quality of information check, the required steps are as follows (US Government, 2009: 11):

- Examine all information sources for the correctness
- Recognize information sources seeming most critical or convincing
- Review for satisfactory and reliable confirmation of critical reporting
- Reconsider beforehand removed information with new facts or conditions
- Guarantee that any disqualified reporting is recognized and sufficiently revived for other analysts and determine if the reporting was required to the judgments
- Weigh if ambiguous information has been explained correctly
- Designate the intense of confidence for the sources that are likely to decide in future analytic estimates

2.3.2.3.Indicators or Signposts of Change

Indicators or signposts of change technique systematically evaluates a range of discernible developments or trends to follow changes, track targets, point developing trends and inform of unpredicted change. The method is employed in understanding economic reforms, military modernizations, and political developments such as instability.

Methodological steps behind the technique is as follows (US Government, 2009: 12):

- Recognize competing hypotheses
- Generate different lists of probable actions, comments, or events anticipated for each hypothesis
- Periodically examine and renew the indicators lists to understand which is changing
- Recognize the most likely hypotheses according to the number of changed indicators

- Produce at least two lists of indicators for each hypothesis - if possible

2.3.2.4. Analysis of Competing Hypotheses (ACH)

Analysis of competing hypotheses (ACH) is a tool to assist judgment on significant problems needing thoughtful consideration of alternative explanations. By employing ACH, analysts are capable of overcoming/limiting their cognitive restrictions during the analysis process.

Heuer's presentation on ACH has eight-step that include basic insights from psychology, decision evaluation, and the scientific method. Because of its integrity, the method is fruitful to demonstrate the path to judgment during analyzing contentious problems (Heuer, 1999: 95).

It is necessary to remember the Heuer's description of ACH's steps (Heuer, 1999: 97):

1. Determining the possible hypotheses by brainstorming
2. Listing important evidence and reasons for and against each hypothesis
3. Creating a matrix for the hypotheses across the top and evidence down the side while analyzing the diagnosticity of the evidence and arguments
4. Cultivating the matrix by considering the hypotheses and eliminating evidence and arguments that do not own a diagnostic value
5. Studying provisional conclusions about the probability of each hypothesis while trying to weaken the hypotheses rather than support them
6. Analyzing the sensitivity of the conclusions to the critical evidence, and regarding the results of the analysis whether evidence is faulty, misleading, or required a diverse interpretation
7. Reporting results while discussing the likelihood of all the hypotheses without focusing on the most likely one
8. Determining significant points for further observation in case developments take a different path than anticipated

The different points of ACH against the traditional intuitive method in the analysis process as follows (Heuer, 1999: 108):

- ACH begins with alternative possibilities that are equally treated, not with the most likely alternative to be confirmed as with intuitive method
- ACH defines and highlights the few pieces of evidence or assumptions having the highest diagnostic value in deciding the possibility of the alternative hypotheses, as traditional intuitive method considers core evidence as consistent with the first possible alternative
- ACH comprises searching for evidence to invalidate hypotheses. According to Heuer, the most probable hypothesis is generally the one having the least evidence against it, rather than the one owning the most evidence for it. However, the intuitive method often seeks for evidence to prove a favored hypothesis

2.3.3. Contrarian Techniques

Contrarian techniques force thinking processes of the analysts by the contribution of different variety of information and perspectives.

2.3.3.1. Devil's Advocacy

Devil's advocacy forces a concrete understanding or accord among analysts by providing the most solid probable matter for an alternative interpretation. As analysts could fall into groupthink or other biases primarily when they work so long, the devil's advocacy technique challenges the key assumptions and helps to reach an accurate conclusion.

Devil's advocate among the analysts should (US Government, 2009: 17-18):

- Plan the primary judgment and key assumptions then designate the evidence confirming that prevailing analytic opinion
- Choose assumptions that are the most responsive to an examination
- Examine information employed to define if there is a controversial validity, if there is a deception, or if there are gaps

- Emphasize the evidence supporting an alternative hypothesis or opposes the prevailing thought
- Declare the findings to the analysts
- Develop a distinct contrarian document that displays the arguments for a separate conclusion
- Guarantee that the study is defined as a devil's advocate methodology

2.3.3.2. Team A/Team B

Team A/Team B approach contains the employment of distinct groups of analysts that oppose multiple competing hypotheses and judgments. This method defines competing and probably equally strong mindsets. When at least two competing judgments exist, this method would be the most suitable technique to be used. There is a difference between Team A/Team B technique and Devil's Advocacy as Devil's Advocacy is designed to contrast a single mindset (US Government, 2009: 19).

In the methodology of Team A/Team B technique, there are two phases as analysis phase and debate phase (US Government, 2009: 21).

In the analysis phase, the technique should:

- Recognize multiple (two or more) competing hypotheses or viewpoints
- Build teams or select individuals to produce the best cases for each hypothesis
- Examine all relevant information that supports their positions
- Recognize missing information that would support their hypotheses
- Construct each argument with a clear presentation of key assumptions, critical evidence, and precise combination of the reasoning behind the argument

In the debate phase, the analysts should:

- Prepare an oral presentation of findings of different teams

- Form a jury that listens to the presentation and questions the teams in terms of their research logic, evidence, and key assumptions
- Question the other team's arguments and defend owning arguments against the other team's questions
- Allow the jury to evaluate the robustness of each presentation and advise next steps for further research

2.3.3.3.High-Impact/Low-Probability Analysis

High-impact/low-probability analysis emphasizes an unlikely development that would have significant political and social outcomes when it happens. It stimulates analysts to the possible impact of low probability occasions that would have significant effects on national policy and security.

The methodology of the technique has the following steps (US Government, 2009: 22):

- Determine the high-impact result
- Design one or more credible explanations for the low probability result
- Put possible scenarios if suitable, such as natural disasters or sudden death of a national leader
- Organize brainstorming session with analysts over the plausible but unanticipated developments
- Recognize each route to the indicators and developments
- Define factors that would turn an adverse outcome or support a positive outcome

2.3.3.4. “What If” Analysis

“What if” analysis is a technique based on the assumption that development occurs with possible impact. This technique also tries to understand "under what kind of conditions developments occur". It forces strong mindsets assuming an event will not happen. Its difference from high-impact/low-probability analysis is that it does not focus on the results as accepting their significance, but it concentrates on the explanation of how events occur.

This method includes a brainstorming process and is organized with the following steps (US Government, 2009: 24):

- Supposing the development has occurred
- Selecting some triggering events that would be the result of the previous development
- Building a chain of arguments to explain how the results emerged
- Thinking backward from the incident to see what must happen at each stage of the scenario
- Recognizing plausible scenarios to the unlikely incident
- Listing of indicators for the scenarios that would show the way to detect the commencements of the incident
- Identifying the extent of the positive and negative results of the scenarios and their impacts
- Track the indicators developed periodically

2.3.4. Imaginative Thinking Techniques

Imaginative thinking techniques concentrate on generating new insights, creating various perspectives or alternative results, forecasting future events.

2.3.4.1. Brainstorming

Brainstorming is an unlimited group method intended to create new ideas and notions. Brainstorm could be applied at the beginning of a project to help create hypotheses about the question. A team of analysts could gather and conduct a brainstorming session at significant parts of an analysis process. This method also helps to structure an idea.

Brainstorming process should be conducted according to a structure to be successful. The process has a divergent thinking phase and a convergent phase. While divergent thinking phase aims at creating and gathering new ideas, those ideas are grouped around key concepts in convergent phase. The methodology of the technique has the following rules (US Government, 2009: 27-29):

- Do not censor an analyst's ideas
- Understand what inspired that thought, because it might show the linkage between the problem and an unstated assumption
- Prepare enough time for the session, as brainstorming should be conducted properly
- Add one outsider to the group. That person should have a different cultural background and technical knowledge, however, have a familiarity with the topic

In divergent thinking phase:

- Use pens, board markers to write down the findings
- Form a concrete question about the problem
- Write down answers from the group and use keywords on notepapers

- Display all the answers and treat all answers the same
- Give pauses after the flow of ideas
- After some pauses terminate the collection stage

In convergent thinking phase:

- Reorganize the notepapers according to their similarities within clusters
- Name the clusters according to the characteristics of their contents
- Recognize the notes that are not fitted with others. They can be useless thoughts or starter ideas for further thinking
- Evaluate the points that deserve further brainstorming
- Organize a voting in the group. Each participant should choose one or two points according to their significance
- Determine the group's priorities based on the voting and settle the next steps

2.3.4.2.Outside-In Thinking

This technique is employed to recognize the primary factors and trends that indirectly shape a topic. It is most useful in conceptualization where analysts try to recognize all critical factors that have influence how a situation will develop.

The methodology of the technique has the following steps (US Government, 2009: 30):

- Develop a general explanation of the phenomenon under study
- Organize a list of all key drivers that could create an impact on the problem
- Concentrate on key factors that could have an influence
- Consider how the drivers could affect the problem

- Decide on if the drivers influence the problem

2.3.4.3.Red Team Analysis

This method mirrors the possible behavior of an adversary. It needs time to form a team of experts who could imagine like the adversary. Externalization from the analysis is crucial for red team analysis. Analysts should totally be in the adversary's world.

For conducting red team analysis, it is required to form a team of professionals with in-depth knowledge about the environment and target. Team members should understand the language of the target, and they should be familiar with the culture of it.

The analysts should (US Government, 2009: 31-33):

- Place themselves into the adversary's conditions
- Formulate first-person questions that adversary could ask
- Outline policy papers that have decisions, recommendations, and courses of actions

2.3.4.4.Alternative Futures Analysis

It discovers various ways that a situation could produce during complexity and ambiguity. This method is fruitful during a circumstance that is seen as too complex to rely on a single consequence.

The methodology of the technique has the following steps (US Government, 2009: 34-36):

- Building the focus point by surveying experts and officials
- Gather a group of experts to brainstorm about the drivers and factors that could affect the focus point
- Choose by agreement the two most critical and ambiguous drivers and turn these into axes or processes with the most relevant endpoints

- Place the most relevant endpoints for each factor
- Create a futures matrix by intersecting the two chosen axes. The four outcoming quadrants give the base for characterizing alternative future worlds
- Create stories with different colors that represent the futures and how they could plausibly come about. Then indicators could be generated

By this technique, decision-makers could consider how existing decisions or strategies would manage in each of the four worlds and produce alternative policies.

2.3.5. Testing Techniques

Heuer and Pherson expands the list of SATs in their study (2011). The techniques for hypothesis generation and testing emphasize that these skills do not insert to the analysts by nature. These techniques are logical structures that require practicing. Instead of presenting all of the techniques under testing cluster, this study has two of them which are critical for a more accurate analysis.

2.3.5.1. Argument Mapping

This technique is employed to test the hypothesis. It displays the argumentation and evidence that are for and against the hypothesis by visualizing them.

The methodology of the technique has the following steps (Heuer and Pherson, 2011: 135):

- Beginning with a hypothesis or judgment with supporting and conflicting evidence
- Generating boxes with arguments connected with arrows
- Identifying the statements connected to boxes with arrows
- Colorizing and/or shaping the boxes according to their functions

By this method, it is possible to distinct arguments supporting a hypothesis from arguments contrasting it.

2.3.5.2. Deception Detection Technique

Deception detection comprises checklists to recognize when to check for deception. This technique allows analysts to detect the deception and understand what to do when deception is present.

It is employed (Heuer and Pherson, 2011: 137):

- If the possibly-deceiver has conducted deception before
- If the potential deceiver is at a critical point that it will either gain or lose
- If information that is used is obtained from a questionable source in terms of its intentions
- If the estimate is relied on a single critical information
- If there is a new entry of information
- If the possibly-deceiver has a contact to closely see the outcome of an information's impact

The methodology has the following rules (Heuer and Pherson, 2011: 138):

- Avoiding over-trust on a single source of information
- Closely checking the ideas of the personnel closest to the reporting
- Suspecting sources
- Considering more material sources rather than verbal information

- Checking for the patterns during previously conducted analyses if there is an assessment that turns out to be wrong
- Creating logical hypotheses
- Ensuring the restrictions and opportunities of the possibly-deceiver



CHAPTER THREE

INTELLIGENCE ANALYSIS TODAY

3.1. THE CONTEMPORARY TYPES OF ANALYSIS

3.1.1. Threat Analysis

The term "threat" refers to someone's decision to harm someone else, according to Prunckun. Threat agents may create harm to entities and people. The effects of the threat are not only physical, but they also may be psychological. Even though threat agents do not always declare harm decisions to create a threat explicitly, there are warning signals to detect potential threats for the Intelligence Analysts (Prunckun, 2010: 163).

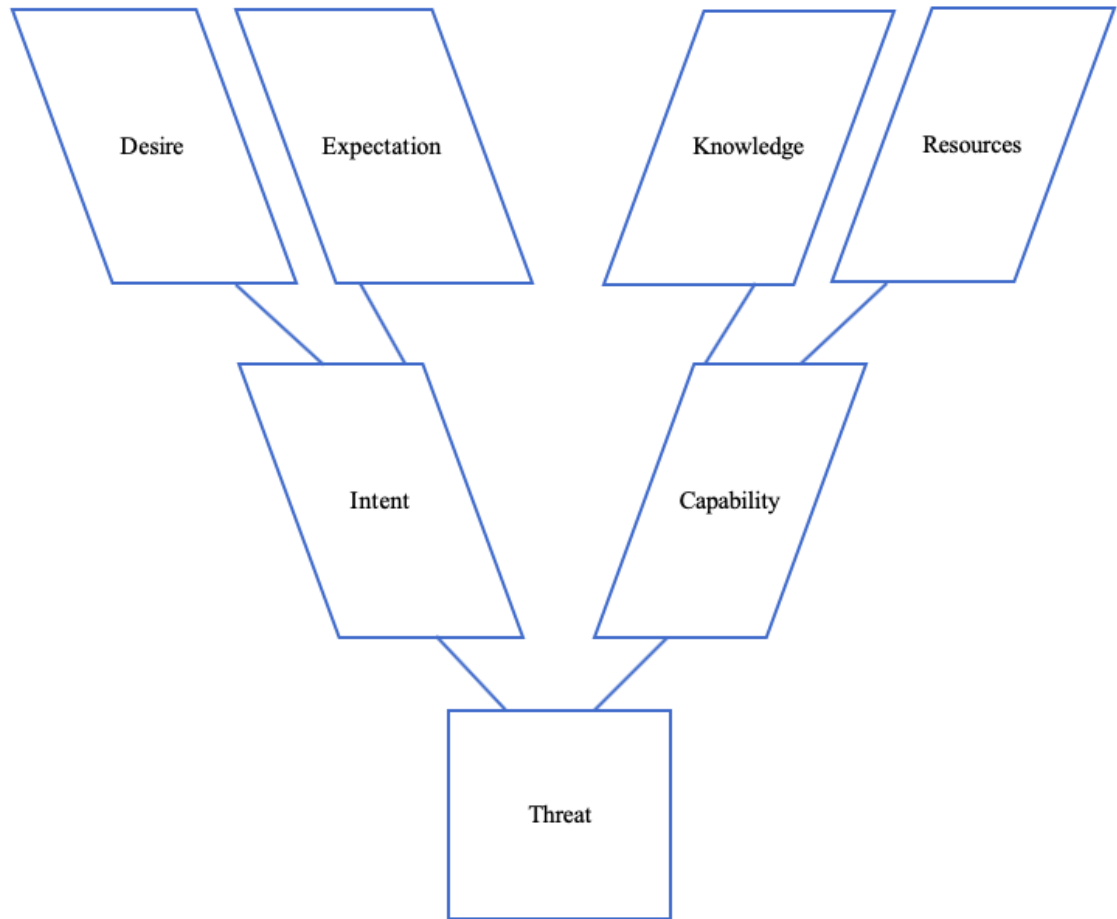
Threat analysis has two major components that are a threat agent and an object that is threatened, which is the "target."

According to the formula that Prunckun presents;

$$\text{threat} = (\text{desire} + \text{expectation}) + (\text{knowledge} + \text{resources})$$

Prunckun defines two different concepts that are related to threat analysis: threat intent and threat capability. According to the definitions, threat intent is the desire a threat agent carries to organize a to-the-point attack over its target, as threat capability refers to the ability of the threat agent to organize the attack (Prunckun, 2010: 164).

Figure 3.1: Threat Analysis



Reference: Prunckun, (2010:164).

Intelligence Analysts need to examine a list of potential targets when adopting a threat context. While doing this, they should regard the institutional mission of their organizations, and more importantly, a model to define the context of the threat. Table 3.1 represents a threat calculation.

Table 3.1: Table of Threat Calculation

SCALE	SCORES	TALLY
Desire		
Negligible	1	3
Minimum	2	
Medium	3	
High	4	
Acute	5	
Expectation		
Negligible	1	3
Minimum	2	
Medium	3	
High	4	
Acute	5	
INTENT		6
Knowledge		
Negligible	1	3
Minimum	2	
Medium	3	
High	4	
Acute	5	
Resources		
Negligible	1	3
Minimum	2	
Medium	3	
High	4	
Acute	5	
Capability		6
Threat Coefficient		12

Reference: Prunckun, (2010:165)

Prunckun also presents a table of the example of a threat coefficient scale in the Table 3.2.

Table 3.2: Threat Coefficient Scale

Threat	Coefficient
Negligible	4-6
Minimum	7-10
Medium	11-15
High	16-18
Acute	19-20

Reference: Prunckun, (2010:166).

The potential threat agents may be external and internal. While external threat agents include competitors, terrorists, insurgents, cybercriminals, and foreign intelligence agents, internal threat agents could be among contractors, employees of the organizations, and business partners (Prunckun, 2010: 168).

3.1.2. Risk Analysis and Risk Assessment

It is a risk that has likelihood and result functions. According to this formula, the concept of risk is the sum of likelihood and consequence. A risk analysis and risk management concepts, on the other hand, are models and techniques that are adaptable to many situations. Today, risk management could not be accepted only for fighting security problems (Prunckun, 2010: 172).

Intelligence Analysts working on risk assessments have several options, such as accepting the risk and mitigating its impact, comprehending these terms well aids in separating the risk management process from the risk assessment analysis process.

According to Prunckun, likelihood is calculated by measuring the probability of an event by a ratio of specific results to the total quantity of possible results (Prunckun, 2010: 174).

The prevention, preparedness, response, and recovery (PPRR) model is a far-reaching way to deal with risk management. PPRR could be exploited for plans which mitigate potential damages of any event, and also it assists in business interactions. Prevention is acting to lessen the probability or impacts of an event. Preparedness is proceeding before an event to guarantee a solid reaction. Response is the containing of the effects of an event. Finally, recovery refers to finding a way to limit disturbance and sustaining recovery (Prunckun, 2010: 178).

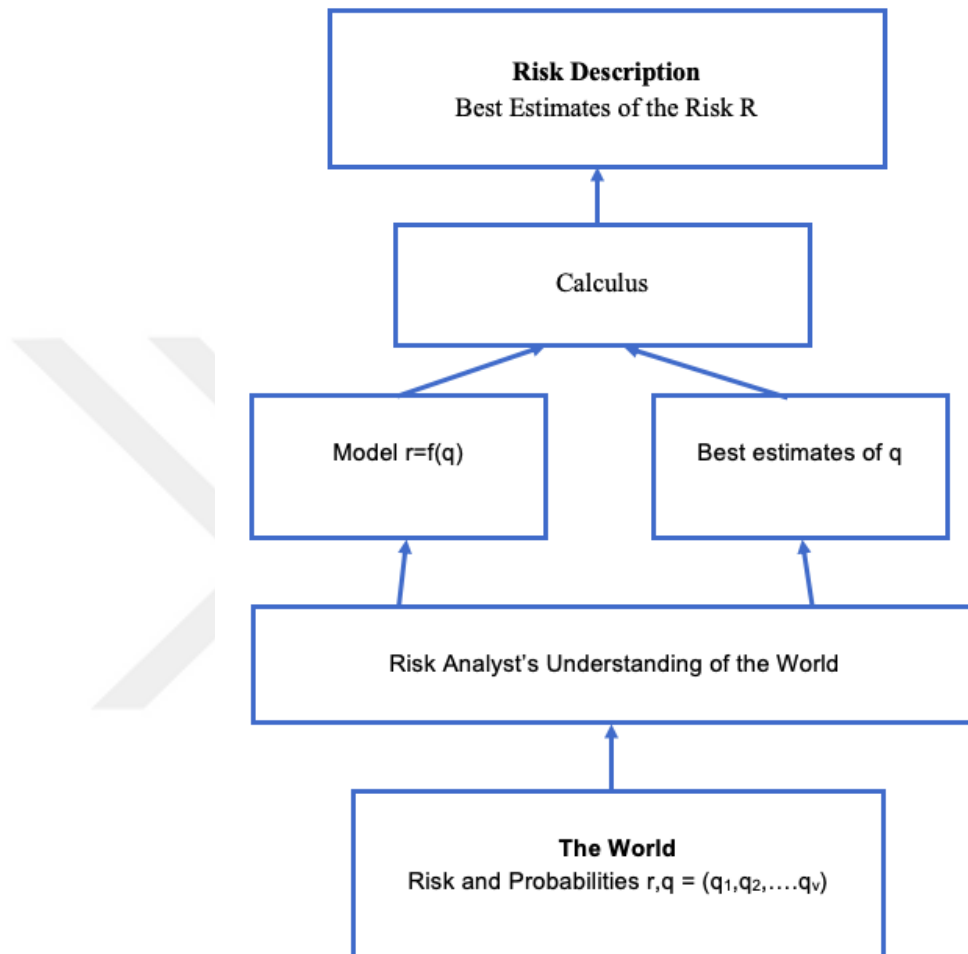
Risk analysis also contains "best estimate approach" that calculates the frequency of accidents. Events with one and two numbers of fatalities are the subject of this approach (Aven, 2003: 12).

Figure 3.2 represents the classical approach based on best estimates.

Best estimate approach has the following steps (Aven, 2003: 15):

- Recognizing adaptable risk signs
- Constructing a model that could be examined, connecting detailed components of the system
- Considering undiscovered parameters of the model
- Exploiting the model to create an estimate of the risk signs

Figure 3.2: Classical Approach Based on Best Estimates



Reference: Aven, (2003:15).

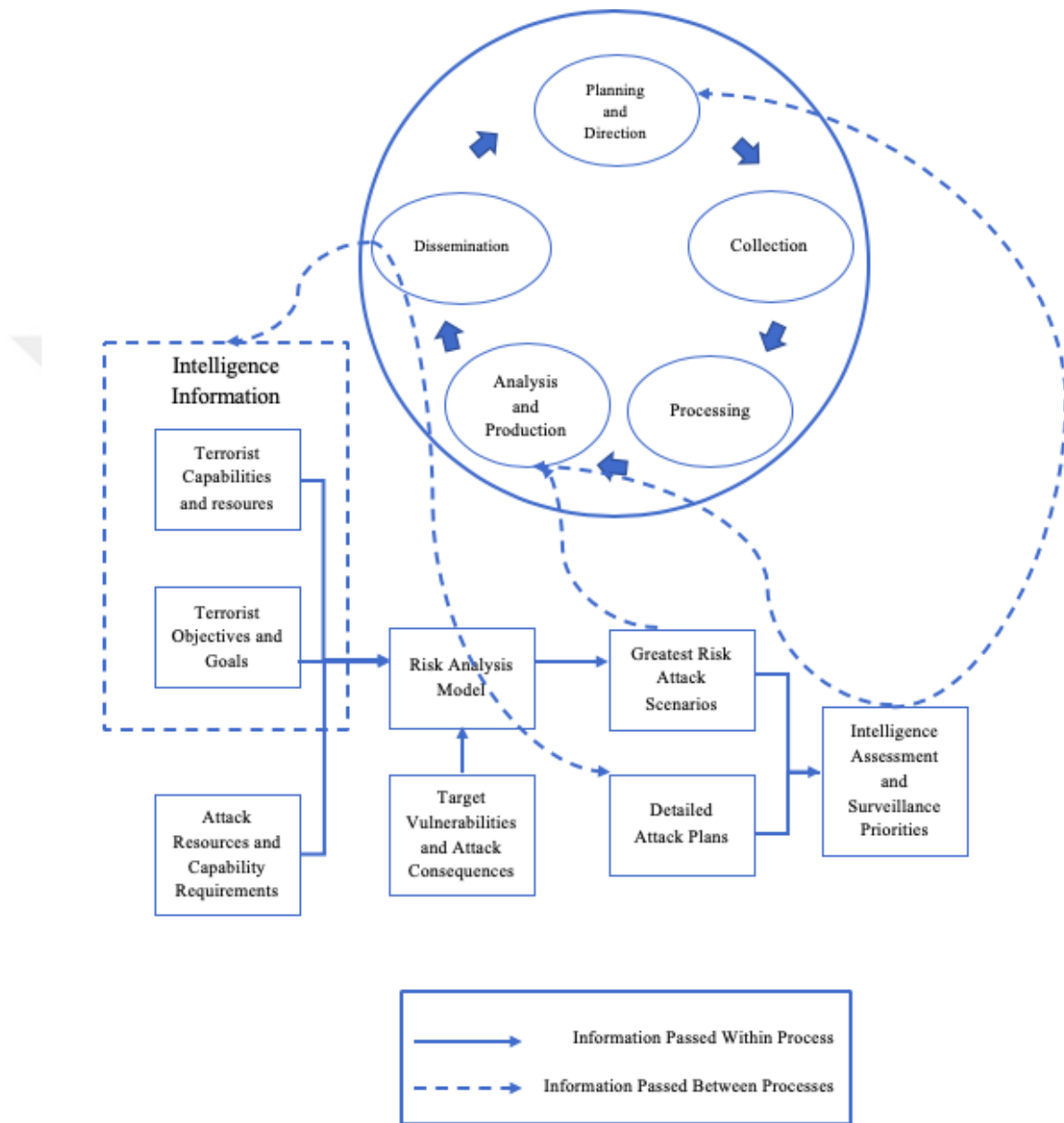
In several times, conservative assumptions show themselves as a useful tool to diminish the risk related to some background knowledge. If the decision criteria face conservative assumptions, it becomes clear for them as if the system is safe. However, the analysts could be erroneous, as they miss uncertainties, and they do not have sufficient knowledge about other quantities in such a situation (Aven, 2020: 136).

According to Aven (2020: 137);

- The risk classification and definition of risk analysts based on conditions - which is formulated by $(C', Q|K)$ - could fail in informing the decision-maker. It is because the risk which is involved with knowledge is missed.
- The decision-making mechanism requires knowing the risk involved with knowledge.
- Strength of the knowledge (SoK) should be added into the formula.

Regarding the scope of the Intelligence Cycle, risk analysis could posit within the model to produce risk assessments. Risk examination should include data about terrorist capabilities and objectives and projected scenarios, according to Willis, as it is seen in the Figure 3.3.

Figure 3.3: Risk Analysis and the Intelligence Cycle



Reference: Willis, (2007:5).

3.1.3. Crime Intelligence Analysis

Crime intelligence analysis is another analysis type that is preferred in policing. It should include the following actions: Reviewing police reports coming from the field to detect designs. Analyzing patterns, and specific problems to report to the decision-makers/managers. Gathering information from records and ongoing operations to extract valuable insight from the information. Generating visual tables and other form of analysis items to carry the data to the society (Grana and Windell, 2017: 15).

Crime analysis could be separated into four levels of analysis, according to Grana and Windell (2017: 205);

1. Tactical analysis
2. Strategic analysis
3. Administrative analysis
4. Police operations analysis

To sum up, tactical analysis search patterns in crimes with "how, when, and where" questions (Grana and Windell, 2017: 205). The strategic analysis deals with data concerning long-run issues. The crime analysts regard information from a long-run perspective. The analysts also become busy with statistical summaries at the strategic level (Grana and Windell, 2017: 216). The administrative analysis deals with inquiries that are dependent on political and functional matters (Grana and Windell, 2017: 217). Finally, police operations analysis defines the investigations obtaining from a more policing perspective. That includes the capabilities of police offices (Grana and Windell, 2017: 218).

3.1.4. Competitor Analysis / Competitive Intelligence Analysis

Competitive analysis is led to empowering a firm to make necessary arrangements according to its present position. Protecting a current position and keeping the improvement are among these arrangements. Competitive analysis enhances data about the market positions and insight over the rivals. The competitive analysis process

separates openings and focuses on strategies to abuse these open doors in an industry or market (Bensoussan and Fleisher, 2007: 322).

Bensoussan and Fleisher describes the major categories and analysis in the Table 3.3.

Table 3.3: Category of Analysis

Scope of Analysis	Specific Targets
Competitors	• Product / Brand Level • Product Category Level • Needs-based / Generic Level • Share of Wallet
Environment	• Competitive • Customer • Economic • Political, Legal, Regulatory • Social • Technological
Technology	• Innovation • Product / Process • Research and Development
Decision Location and Decision-Maker	• Strategic Decisions • Tactical Decisions • Operational Decisions

Reference: Bensoussan and Fleisher, (2007:114).

If the scope is competitors, specific target levels are product/brand level, product category level, needs-based/generic level, and share of wallet level. For the product/brand level, Pepsi is a contributor to Coca Cola. The product category level is broader and categorical features - flavor, size - of the products are essential for this level. Needs-based/generic level includes the equivalent needs of the customers. Finally, the share of wallet level comprises of anything that customers would like to buy than the company's product (Bensoussan and Fleisher, 2007: 115-116).

As it comes to environmental sectors, the competitive analysis focuses on the following concepts (Bensoussan and Fleisher, 2007: 117-118);

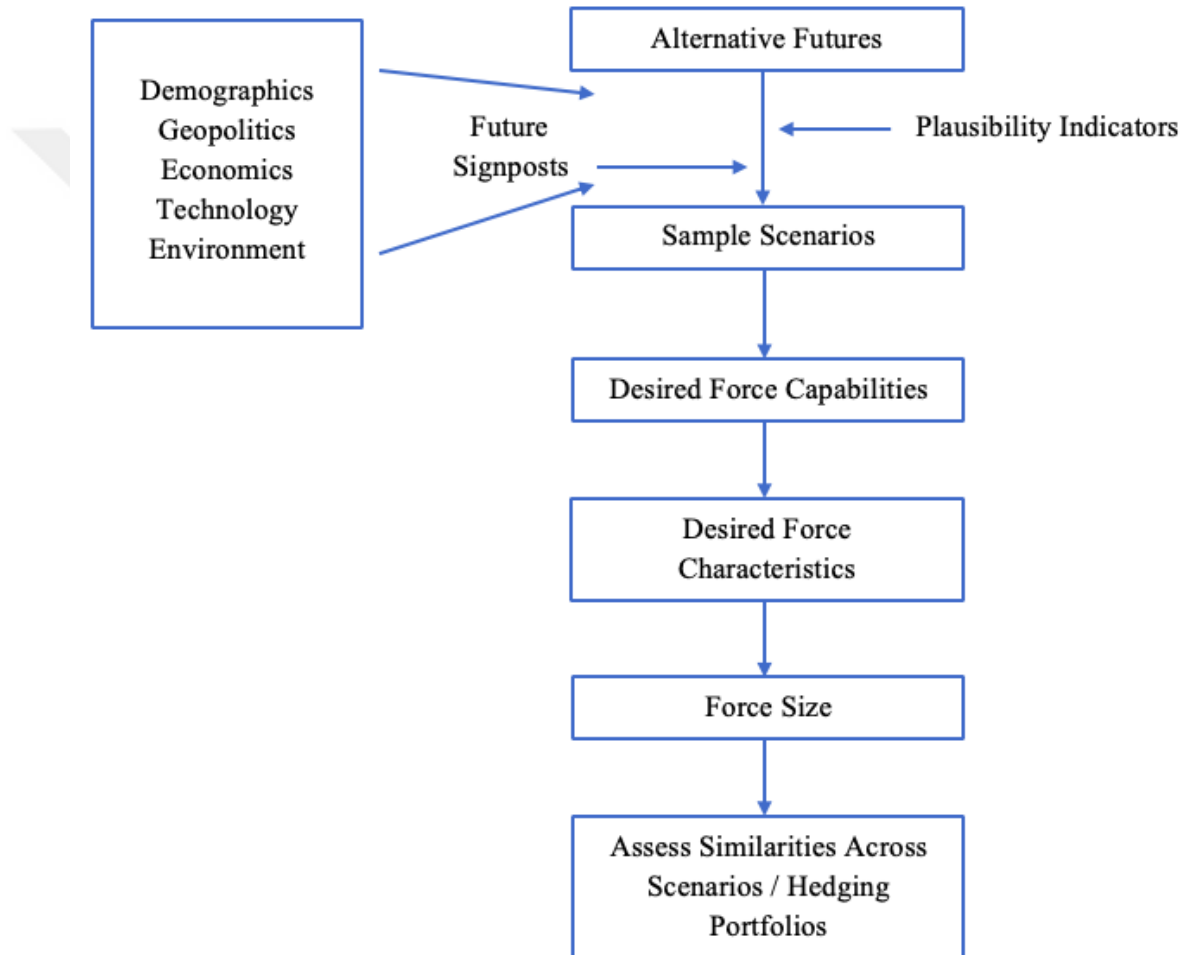
- competitive which comprises the competitors and the means utilized by competitors
- customer which refers to the current and potential customers, and the competitors' customers
- economic that are the statistics such as inflation, interest rates, and prices
- political, legal and regulatory sector that are the pressure groups, institutions and governmental bodies
- social that is statistics and data about society such as demographics and culture
- technological that includes research and development initiatives and technological innovation

3.1.5. Future Projections Analysis

Future projections analysis could be accepted as one of the most eye-opening types of analysis as it enhances the insight about possible outcomes of the variables. It could include best and worst-case scenarios to reach a broader insight.

Nichiporuk's work on a future projection reveals the methodology in the Figure 3.4 and Table 3.4.

Figure 3.4: Project Methodology



Reference: Nichiporuk, (2005:6).

Table 3.4: The Matrix of Outcomes

	Good	Medium	Bad
Demographics	Population Stability	Regional Overpopulation	Systemic Demographic Pressure
Geopolitics	Hegemonic Stability or Benign Multipolarity	Peer Competition or Multipolarity	Nation-State Collapse
Economics	Steady Growth / Low Inflation	Slowdown	Stagnation
Environment	Resource Management	Water Scarcity – Soil Erosion	Climate Change – Famines
Technology	Information Technology Boom – Biotech Growth	Information Technology Slowdown	Destructive Applications

Reference: Nichiporuk, (2005:7).

3.1.6. Financial Analysis

In many offices, the financial analysis is organized by a certified accountant in light of the level of information he/she requires to perceive the procedures to recreate the objective's financial position. Analysts could organize an examination of the target's net worth using several methods. Right after the initial steps of analysis, a more complicated examination would be in the account.

Net Worth Analysis, on the other hand, is a backhanded strategy for surveying the objective's salary and is a convenient instrument in circumstances where the examiner

may have gone over data that recommends some unlawful undertaking. Net Worth Analysis is essentially the contrast between the advantages and liabilities of the objective.

The steps of the formulas for net worth calculation are as follows (Prunckun, 2010: 159);

- $\text{Assets} - \text{Debts} = \text{Net Worth}$
- $\text{Net Worth} - \text{Previous Term's Net Worth} = \text{Change in Net Worth}$
- $\text{Net Worth Increase/Decrease} + \text{Living Expenses} = \text{Income}$
- $\text{Income} - \text{Funds in Recognized Sources} = \text{Funds from Potentially Illegal Sources}$

3.1.7. Perception Assessment Analysis

Perception assessment analysis is useful to see connections among activities in the field and perception upon those activities. The psychological field of study accepts that perception is the mindfulness obtained from sensory data. Perception assessment analysis allows operatives to understand the potential limitations in front of several actions. The technique and type of analysis would also be helpful in terms of cultural features of a society (Prunckun, 2010: 149).

According to Prunckun's citation from U.S. Army, there are several ways to measure perception (Prunckun, 2010: 151);

- Recognizing social and cultural factors that form perceptions
- Distinguishing patterns and signs from previous reactions in a society's history
- Comparing reported reactions to discovering whether they are real
- Observing most major news outlets of a society reflecting perceptions

CONCLUSION

Since intelligence affairs is a practical issue as the world's ongoing security problems continue, theoretical discussions mostly fall behind the everyday crises. However, intelligence studies, as an academic field, have been focused on the development of intelligence affairs since the late 1940s. Researchers, scholars, and practitioners in the field have long argued around some of the questions. One of these questions is to determine the definition and structure of the intelligence production process, while another is to determine the methods by which the intelligence analysis process will be carried out. This study is mainly about the process of intelligence production and the definition of intelligence analysis as a phase in this process, and then the significance of intelligence analysis in the whole process.

Intelligence analysis is the most crucial phase of the entire intelligence production process as a profession based on the transforming of information and knowledge into a valuable understanding. As stated in the proposal of this study, the cycle of evaluation consists of raw data, information, knowledge, analysis, and understanding phases, respectively, based in a pattern with the concept of informational transformation. The final stage is the phase of creating an influence. This interpretation upon the importance of intelligence analysis is appropriate, as it enhances the state with the capability of creating an influence over target entities with the help of a qualified understanding.

Intelligence analysis, as a concept which focuses on reality, is also closely related to the preservation of truth in a world that is becoming increasingly complex, volatile, and where the importance of truth is beginning to fade. Because the virtuality that played a role in the transformation of truth into post-truth has spread to all corners of today's world with the effect of technological developments, intelligence analysts need to pay much more attention to the accuracy of the data they use in the analysis process, so as not to be the subjects of deceptions.

In the arguments discussed in detail, it has been argued that intelligence analysis has a vital importance. The first of these arguments is that intelligence analysis is a preemptive process to prevent a state from surprise attacks. Surprise always has its dynamics in it. The most crucial function of intelligence agencies is to protect the state by

detecting surprise attacks in advance. That may be possible with an analysis carried out appropriately. No matter how powerful the intelligence-gathering capability is, surprises are inevitable unless a holistic analysis can be done.

The second argument is that intelligence analysis is an influential process that allows the state to influence over an entity. The most critical point for both the avoiding surprises in connection with the previous argument, and the formation of the ability to influence as the ultimate goal and stage of the evaluation process is the analysis stage where indicators are evaluated correctly. In this way, intelligence analysis creates the ability to influence a different entity through covert operations and to protect the homeland from the influence of the secret services of different countries in the context of counterespionage. In summary, intelligence analysis is the heart of the entire intelligence production process.

The debate about the methods by which intelligence analysis should be conducted has generally revealed two camps. These are the camp that advocates analysis with intuitive techniques and expert opinion, and the camp that argues that more accurate results can be obtained with structured analytic methods. However, as discussed in this study, it is evident that both views have strengths and weaknesses. Therefore, it is necessary to put forward a synthesis by combining these two perspectives and carrying out intelligence analysis with the techniques revealed by this synthesis. Such a procedure would also help to confirm the accuracy of the data and to analyze it more efficiently in a world where the truth is being corrupted.

In the same context, the exploitation of structured analytic techniques without completely ignoring intuition comes to surface as a necessity in today's complex world. Therefore, structured analytic techniques are required to be examined in detail. Presenting these techniques with an accurate and detailed classification would be useful not only for intelligence officers and intelligence researchers but also for market actors.

In the post-Cold War globalized world, the techniques of intelligence analysis of intelligence services, which can be considered as security devices of states, have also been used by private sector firms. The increasingly competitive markets have led to the need

for firms to obtain and analyze data accurately if they want to stand out in this competition. Therefore, the business intelligence units established within private firms have mainly focused on the analysis phase. Therefore, the contemporary types of analysis outlined and discussed in this study will also open the horizon for the private sector.

There are certain limitations to this research, which is a comprehensive literature discussion. The first and most important of these limitations is the lack of intelligence research in Turkish literature. The habit of western intelligence services to reveal intelligence literature makes them the first to be discovered in a survey of open sources. Therefore, the primary sources of any research into intelligence affairs and intelligence analysis are those produced by western intelligence agencies or individuals who have left those agencies and stepped into academia. Considering Turkey's experience, it is necessary to create a broad literature on Turkish intelligence theory and history, which has much more pioneering roots in the intelligence research literature than in the western world.

For this reason, intelligence researchers in Turkey should focus on creating intelligence literature and write more master's thesis, PHD thesis, and book about the field. Another limitation is that although the research is relevant to intelligence work, it is done by employing open sources. The way to understand all the phases of the intelligence production process, including intelligence analysis, is to conduct direct interviews with practitioners and decision-makers working with intelligence agencies. Therefore, further research on intelligence analysis must be applied to different research methods. I also aim to conduct more extensive research on the structure of the intelligence production process and the concept of analysis.

The main reason for me to conduct this research was the rising significance of analysis which is related to information especially in a changing world. Therefore, as a conclusion, I would like to emphasize that there is a necessity to produce more academic studies on one of the argumentations of this study that is about creation of influence. An influential history of intelligence deserves to be studied in order to emphasize the

significance of one of the most prominent goals of intelligence affairs. Influence studies would be a distinct research area within the scope of intelligence and security studies.

Further extensive work on the concepts of intelligence and analysis will improve the capabilities of practitioners in the short term and contribute to strategy-making methods in the medium and long term. In this way, as discussed and forecasted by this thesis, raw data and information will be transformed into an understanding, and then a strategic influence will be created. It would not be too extravagant to assume that small studies will come together and nurture the grand strategy.

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