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How Psychological Biases Affect Intelligence Analysis

Introduction

The problems that the management of intelligence analysis faces, still remain as one of the main topics of intelligence studies. Being a part of intelligence cycle, analysis and / or production process could be specifiable as a vital point in order to reach to a fulfilling and straightforward intelligence outcome. Regardless of how the collection part of intelligence is managed by rigorous techniques, undoubtedly intelligence analysis is the key phase in processing previously collected data and information on the way of the consumer's attention.

In spite of technological developments that have produced machine-based techniques in intelligence analysis, human intelligence officers still are the important actors in the process of analysis. However several political events in late history such as Weapons of Mass Destruction (WMD) in Iraq have put an emphasis on the intelligence failures mostly based on the problems in intelligence analysis. The most disputable part of this discussion have been the psychological background of intelligence analysts. Accordingly, one of the most important argumentations that this article presents is that individual and collective psychological biases affect intelligence analysis process.

This article describes and discusses the impact of individual and / or collective psychological biases on intelligence analysis through descriptions of fundamental issues and several case samples. First of all, it is significant to draw a theoretical framework in order to understand the notions which are related to intelligence analysis and psychological biases. The discussions that put an emphasis on the article subject could be more meaningful while they are referred with clear descriptions of notions. Thus, several descriptions of concepts and major argumentations among them will be discussed in following pages. The main argumentation of the article which includes the role of psychological biases on intelligence analysis will be discussed accordingly.

It is clear that the impact of the consciousness of the analyst is not the only psychological driver affecting analysis. Working conditions such as long working hours, density of collected information on the analyst's desk and probability of danger in certain situations are among other factors which affect the psychology of the analyst and harm analysis process. The above-mentioned factors also will be discussed in this work. Finally, two cases which are British intelligence community's failure to foresee Falkland's crisis in 1980s and United States intelligence on WMDs in Iraq will be evaluated according to the major discussions on the research subject. While doing research for the writing of this article, document scanning and evaluation of prominent sources in the literature have been preferred as a qualitative method.

Understanding Prominent Concepts

According to Cambridge Dictionary, analysis is the process of studying or examining something in an organized way to learn more about it (Cambridge Dictionary, 2019). It could also be defined as a systematic examination and evaluation of data or information, by breaking into its component parts to uncover their interrelationships (Business Dictionary, 2019). Analysis process in intelligence affairs could be briefly described as a mission to evaluate and interpret information in order to provide a trustworthy assessment to the policy makers (National Research Council, 2011: 3). These assessments vary from foreign actors' possible tactics and their assets that could be turned into fighting sources, to the interior threats targeting the security. In other words, intelligence analysis is the process which requires the usage of all collected information in order to answer tactical questions. As a relevant process to the whole intelligence cycle which is the ideal form of intelligence affairs, the lens-like system of the relationship of data, information and intelligence promotes the importance of the role of analysis for the process of reaching to a pure intelligence (Joint Chiefs of Staff, 2013: 20).[1] For instance, United States intelligence cycle is composed of planning and direction, collection, processing and exploitation, analysis and production, dissemination and integration steps. As it is seen in relevant steps, right after data and information sets are collected from the operational environment, they are processed and exploited. Then, they are evaluated in an analytical way, they finally become ready for the dissemination and integration (Joint Chiefs of Staff, 2013: 23).

The challenges which analysis process has faced have increased in recent years. The world has become more complex especially from final quarter of 20th century and the beginning of 21th century. Issues in security and intelligence fields have been taken their shares from that chaos and complexity. The reality of a highly changing world has created significant improvements in intelligence analysis techniques to foresee the security challenges. One-size-fits-all analytic approaches have been no more useful (National Research Council, 2011: 33). However, despite of the technological innovation resulting in creation of software-based techniques in analysis to solve the newly emerged problems such as big data, human analysts are still important members of intelligence services across the world. A proper reason for this could be explained by the fact that the rise of technical analysis needs more human control. It is obvious that analysis has had different challenges rather than macro-developments in the world. Problems which are regarding structural and organizational sides could be evaluated as inner questions of intelligence community. For instance, difficulty to find sufficient critical thinking skills among graduating students is a much-debated phenomenon in recent years (Hart & Simon, 2006: 38).

The prediction of the possible behaviors of the actors should be included in the responsibility set of intelligence analysis process. As it comes to the security challenges that several states faced in late history, it is quite common to see the intelligence analysis' role for taking a proactive action in order to contain them. However, the concept of failure comes to the scene on this point. The failure to foresee

[1] For the figure, check this link (p. 20): http://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp2_0.pdf

the security problems could create more chaotic situations. Total opposite of this situation related to analysis also creates another problem which is called politicized intelligence in the literature. If necessary to explain in more detail, a dominant political situation could result in improper analysis in intelligence. It means that objectivity as a fundamental principle of intelligence affairs could be lost in such cases (Lowenthal, 2016: 5). All of these responsibilities and burdens of analysts require more rigorous processes and a clear working style. Analysis which has been affected by a mental error could result in wrong inferences and that could direct the policy makers into taking wrong actions.

On the other hand, the term of psychology as the mental or behavioral characteristics of an individual or group meets the intelligence business especially in the analysis phase. Intelligence analyst's mental abilities carry responsibilities while he / she is assessing and evaluating given evidences. Psychological biases could be seen as the limitations in objective thinking that is born from the inclination for the human brain to take information within a filter of individual experience. The term of psychological bias could be briefly explained as an inclination to reach decisions in illogical ways. In other words, psychological biases are mental errors which are the results of simplified information processing of human mind (Heuer, 1999: 111). Consciousness and subconsciousness have significance in such situations as they drive one to make selective use of information. Heuer urges not to confuse psychological bias with other forms of biases such as cultural, organizational or other bias that results from one's own self-interest (1999). The existence of psychological biases doesn't mean that each person has a bias behind his / her decision. The intensity of bias varies based on the features of a group or situation. When the bias related to cognitive processes are taken into consideration, the phenomenon and / or role of a group takes its place in the center of discussions. The main reason for this is the nature of bias that one's decision-making process is generally driven while it communicates with others. Accordingly, the relationship of analysts with the groups that they are parts of has been one of the most debated and researched topics so far (Puvathingal & Hantula, 2012: 5). These discussions have generally gathered on the concept of *groupthink*.[2]

Common Psychological Biases in Intelligence Analysis

When the psychological biases of analysts are taken into consideration it is important to stress that there are two classes of theories regarding the subject. One focuses on psychological processes inside human brain's judgment, while the other stresses on the role of the environment outside the individual (Cook & Smallman, 2008: 746). This may take us to an agent - structure debate. However in this work, the discussions will be upon the potential biases during the phases of intelligence analysis.

The psychological biases that are encountered during analysis process in intelligence affairs should be discussed in a specific framework regarding security. Even though the notion of psychological bias was born and has been researched under

[2] Groupthink: The practice of thinking or making decisions as a group, resulting typically in unchallenged, poor-quality decision-making. (Oxford Dictionary of English)

research area of psychology, scholars who study on subjects concerning intelligence affairs have been approaching to the phenomenon of bias with a perspective of security. It is important to stress the tender line between biases in daily life psychology and biases in intelligence analysis. For that manner, in this work the subject of psychological bias is discussed within the framework of analysis process of intelligence business. One of the most prominent scholars who studied on the psychology of intelligence analysis, Heuer focuses on the biases according to the phases of intelligence analysis (Heuer, 1999).

It is also possible to classify biases as the types of cognitive limitations. Psychological biases which are related to intelligence analysis could be classified as anchoring bias, availability bias, confirmation bias, and mirror imaging. Beside their relevance to intelligence analysis business, these could be regarded as biases under the type of **decision making biases** as a subgroup of psychological biases. Anchoring affect is the tendency of the brain to rely too much on the first instance of information. Availability bias refers to the inclination of the brain to come to a conclusion that a known example is more representative of the whole than is actually the case. Confirmation bias could be accepted as a very common one because of its prevalence in the humans cognitive activities. It is the inclination to desire embracing a pattern in a random sequence of numbers or events. Finally mirror imaging is the assumption that the people who are studied think and behave like the analysts themselves. Such as confirmation bias, mirror imaging is also another common mental limitation in intelligence analysis process.

As it is mentioned before, biases during analysis process could also be evaluated according to the phases of the process. One of the most prominent bias in analysis process could be seen during the evaluation of information that comes from collection part of intelligence process. If pieced together appropriately, collected data and information could open the ways of a successful foresight for the analyst itself. As mentioned, data and information need the touch of a proper analysis on the way of becoming a true intelligence. However, evaluation process of evidences that have been collected by agents is influenced by several cognitive factors. It should be remembered here that human mind tends to care the compatibility of the evidence more than reliability of it. The vividness of the evidence is a strong tendency of analyst's mind. Concrete and more personal information could create a bigger impact on our mind (Heuer, 1999: 116). Thus, irresistible charm of the content of information replaces the reliability principle. To miss the importance of a lacking evidence is another bias regarding analyst's evaluation. While a missing part of a puzzle would reveal an important information and take the analysis to another point, analyst's mind has a tendency to ignore it. Anchoring and availability biases play important roles in such situations.

Cause and effect of the events always desire to be taken into consideration. Analytical flow of human mind needs a system of cause and effect in order to construct an appropriate theory. However mind's perception upon cause and effect could originate from psychological biases and result in wrong judgments. Confirmation bias shows itself while analytical work seeks to find a cause and effect relationship on a given study. According to Heuer, human mind makes decisions on causality according to its inclination to impose order on its environment. This also comes from the cognitive habit that is resistance to unpredictability of events. Mind generally

doesn't rely on chance, thus it could give a meaning to the irrelevant events. In this manner, type or pattern of course of events is another effective externality coming from subconscious of the analyst. As people tend to make their decisions according to a centralized direction which has been generally experienced, they feel difficulty while trying to understand the events which are out of the course of events. Accidents, coincidences or small details that are generally out of analyst's sight could have greater effects. Finally, it is important to stress that the confusion of features of cause and effect and wrong correlations could be mentioned under these types of biases.

It is an explicit truth that intelligence analysis often copes with the probabilities during its process. **Neglect of probability** is the tendency to avoid other options when making a decision under uncertainty. Similar bias would occur as there is a tendency to judge probability of the whole while the probabilities of the parts are needed to be analyzed or vice versa (Baron, 2000). They could be regarded as probability biases. The mind which is in an analytical thinking process generally installs the levels of probability in order to forecast the likelihood of an event. Such situations occur especially when the analyst produces a written report in intelligence business. Probability of events should be clearly found out by policy makers in order to take proactive and rapid actions. As a retired intelligence analyst from the field, Petersen stresses on the principle of making the complex comprehensible, and he explains this is not same as simple (Petersen, 2011). Apart from intelligibility, it is also important for the trustworthy of intelligence services. In several cases, wrong alarms which were raised by services had created a mistrust against intelligence community.

Thinking about probabilities appropriately is still among the most important principles of intelligence analysis. Psychological biases which affect probability estimation is another type of bias. It is related with availability that is about analyst's imagination and memory. Human mind generally have a tendency to measure the likelihood of an event while referring to the number of occurrences before. **Availability bias** takes place again in such cases (Schwarz et all, 1991).

False memory is another psychological bias that is a form of misattribution where imagination is mistaken for a memory. It is related with the imagination of the analyst which is another measuring reference. The imagination of the analyst is sensitive and could be affected by psychological biases easily. While deciding on the probability of an event analyst could take its previous judgments into consideration and jump to the conclusion.

Anchoring could be accepted as one of the most common psychological biases seen in analysis process as mentioned before. As it is explained, this bias occurs when an individual relies on a first piece of information when deciding. This initial part of information is embraced as "anchor" and once the effect of this anchor is set, next assessments, estimates and negotiations are organized in relation to the anchor (Tversky and Kahneman, 1974).

Another bias regarding deciding on probability is likened to **a coin toss** resulting in the same conclusion again and again. This fallacy is seen when analyst expects past events to influence the future. After likewise conclusion of events, analyst would await the same conclusion again. This could be a dangerous consideration. It is known that several terror groups use a pattern of attacks before suddenly changing their

tactics in order to deceive the security forces. Analysts should take care of any small details in order to avoid this kind of a deception.

As it is discussed in this study previously, **working conditions** of intelligence analysts are also significant for their proper analyses on the issues that are studied. Long working hours, lack of technology or other logistic and facility problems, and external factors which could be dangerous if the analyst works in a conflict zone would create a damage on the analytical capacity and capabilities. Biases are not only caused by lack of proper thinking or the capability problems of the analysts but it could also be caused by above-mentioned externalities. As a common discussion point in intelligence analysis business, “crises versus the norm” problem requires more efforts to solve the question of what to do during crises in order to stay in the analytical norms (Lowenthal, 2016: 185). It is vital for intelligence organizations to handle external factors in order to have more appropriate analyses.

Biases on Falklands Crisis and WMDs in Iraq Cases

The world history has so many examples that show the significance of a rigorous intelligence analysis. Intelligence failures which are among the major issues in intelligence history and studies are mostly related to lack of successful analyses. Two cases which are Falklands War in early 1980s and United States intelligence community’s analysis on the existence of WMDs in Iraq by 21st century will be specific examples in order to deeply comprehend bias during analysis process. One is the result of seeing a lack of probability, the other is an aftermath of an overestimation.

Falklands War was the conflict that began with Argentine invasion of Falkland and South Georgia Islands in 1982. The war lasted six weeks, while Britain under Margaret Thatcher government intervened to take back the islands, Argentine forces’ withdrew from the occupied lands. After the war, the Galtieri Junta in Argentina were overthrown. The motivation behind Argentine invasion was the geographical proximity of the islands to the mainland of Argentina. However British argument on the issue was regarding the residents with United Kingdom origin. The debates over the sovereignty upon the land since 1964 eventually resulted in the invasion. The invasion has always been regarded as a tactical surprise and an intelligence failure. Joint British Intelligence Committee has been accused of not warning British government for an Argentine aggression. Britain had have to fight in a war which is thousands of miles away.

According to Aldrich, the war was so sudden that no one had predicted the invasion (2014). The assumption that Aldrich raises was that the invasion could had been prevented and the most prominent reason of the outcome was lack of intelligence. In this case, regarding the biases in the analysis mirror imaging stands out. Joint Intelligence Committee states that there had become a tendency to assume the factors according to a democratic government rather than a junta regime (Omand, 2014: 229). The influence by a single leader had triggered Argentine forces to invade the islands. Another bias was the anchoring tendency in this case. Both Joint Intelligence Committee and Foreign & Commonwealth Office showed cognitive weakness and followed their previous judgments regarding a security threat from relevant geography. As it is discussed in this study before, there was also a problem in analysis of the probability of a possible intervention of the rival force in both British and Argentine intelligence communities (Welch, 1997: 505).

United States' analysis failure upon the existence of WMDs in Iraq in early 21st century was related to overestimation and politicized intelligence. As Heuer states, the analysis process of intelligence during the estimation of Iraqi WMDs were limited to the information on the media (2005). The cognitive limitations played an important role during the analysis process. Analysts did not start their work with a blank mind under a situation which is ambiguous and highly affected by estimations of media and policy makers. Another failure of the analysts especially who are the members of Central Intelligence Agency (CIA) was the biases about probability. They constructed a set of judgments based on a "certainty" and this reflected on The Senate Select Committee on Intelligence's relevant report (2004).

It is appropriate to state the analyses upon the possibility of WMDs in Iraq were affected by anchoring and availability biases. Documents on Iraq's efforts to develop WMDs were known by intelligence analysts as Israel took an action against Iraq's secret program to build a nuclear weapon in 1981 (Heuer, 2005: 85). Other events in Iraq's history was in accordance with this information. Iraq had used chemical weapons against Iran and against its people on the northern parts of the country. It seems that the analysis failure in Iraq's WMD issue was because of the previous information that analysts rely on too much on the previous patterns and expect the same correlations (2005: 86). Previous information created a kind of availability and resulted in a failure. Mindsets of the analysts play an important role in analysis as it is seen in the analysis of the probability of existence of WMDs in Iraq.

Conclusion

Intelligence analysis has always been an important phase of intelligence cycle. Collected data and information gain their meaning on the analyst's desk and that promotes the role of analyst in the overall structure of intelligence affairs. Analyst's decision-making process is closely related to his / her cognitive status. It is obvious that the psychological biases affect and create and impact on intelligence analysis.

Psychological biases could be accepted as paradigms or frames. The analysis on a specific issue depends on the analyst's cognitive background while the notion of objectivity still matters for a proper intelligence business. As it is seen in this work, several security challenges in the world history have important backgrounds which are related to intelligence analysis' failure. The cases show that psychological biases of the analysts might come together and create collective illusions. While mirror imaging results in strategic and tactical surprises which mean briefly unexpected outcomes related to the intelligence failures, overestimation of relevant data and information generates politicized products of intelligence.

It is obvious that intelligence organizations should make an effort for a better training for analysts and protect the principle of objectivity during analysis process. During the phases of evaluation of collected data and information, raising a judgment on the probability of an event and reasoning on cause and effect of the events, psychological biases could be detected and proactively prevented. Even though psychological biases are naturally inseparable parts of human consciousness, it is still possible to prevent human decision-making mechanism from those biases by promoting detailed precautions.

Intelligence organizations should implement analytical trainings on analysis personnel to overcome bias problem in intelligence analysis. These techniques could be “devil’s advocacy” which refers assigning someone to challenge the strongly held consensus by building the best possible case for an alternative explanation, “what if analysis” that means trying to explain an unexpected event’s possible outcomes, alternative futures analysis which is about the identification of driving forces’ possible roles in plausible future scenarios, and finally more brainstorming exercises. Another strong recommendation is the bureaucratization of the exercise of imagination in the analysis departments of intelligence organizations, as 9-11 Commission Report states (2004). Thus, routinization of the multiple imagination would be improved among analysis personnel and open a gate to overcome the intelligence failures regarding analyses which affected by psychological biases.

It is needed to state that the way to reduce psychological biases in intelligence analysis business is required a strategic and integrated planning which train analysts, control their capabilities and motivate them with the help of possible logistic facilities. Any systematic effort to direct intelligence analysts into a thinking process which has more questioning tendency and to reduce external factors’ negative effects on their analysis processes will be helpful to overcome the possible effects of psychological biases.

References

ALDRICH, R. J.; CORMAC, R. and GOODMAN, M. S. (2014). Spying on the World: The declassified Documents of the Joint Intelligence Committee, 1936-2013. Oxford University Press.

BARON, J. (2000). *Thinking and deciding*. Cambridge University Press.

Business Dictionary. (2019). Retrieved from: http://www.businessdictionary.com/definition/analysis.html

Cambridge Dictionary. (2019). Retrieved from: https://dictionary.cambridge.org/dictionary/english/analysis

COOK, M. B., & SMALLMAN, H. S. (2008). Human factors of the confirmation bias in intelligence analysis: Decision support from graphical evidence landscapes. Human Factors, 50(5), 745-754.

HART, D., & SIMON, S. (2006). Thinking straight and talking straight: Problems of intelligence analysis. Survival, 48(1), 35-60.

HEUER, R. J. (1999). Psychology of intelligence analysis. Washington, DC: Central Intelligence Agency. *Center for the Study of Intelligence*.

HEUER, R. J. (2005). Limits of intelligence analysis. *Orbis (Philadelphia)*, 49(1), 75-94.

Joint Chiefs of Staff. (2013). The Nature of Intelligence. In: *Joint Intelligence*, 20. Joint Publication 2-0.

LOWENTHAL, M. M. (2016). Analysis. In: *Intelligence: From secrets to policy*. CQ press.

National Commission on Terrorist Attacks. (2004). Final Report of the Commission on Terrorist Attacks upon the United States. *9-11 Commission Report.* W. W. Norton.

National Research Council. (2011). Analysis. In Intelligence analysis for tomorrow: Advances from the behavioral and social sciences. 33-48. National Academies Press.

National Research Council. (2011). Intelligence analysis: Behavioral and social scientific foundations. National Academies Press.

OMAND, D. (2014). *Securing the state.* 229. Oxford University Press.

PETERSEN, M. (2011). What I learned in 40 years of doing intelligence analysis for US foreign policymakers. *Studies in Intelligence*, 55(1), 13-20.

PUVATHINGAL, B. J., & HANTULA, D. A. (2012). Revisiting the psychology of intelligence analysis: From rational actors to adaptive thinkers. *American Psychologist,* 67(3), 199.

SCHWARZ, N., BLESS, H., STRACK, F., KLUMMP, G., RITTENAUER-SCHATKA, H., & SIMONS, A. (1991). Ease of retrieval as information: another look at the availability heuristic. *Journal of Personality and Social psychology*, *61*(2), 195.

TVERSKY, A., & KAHNEMAN, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185(4157), 1124-1131.

U. S. Congress. (2004). US Intelligence Community's Prewar Intelligence Assessments on Iraq. *Report of the Senate Committee on Intelligence*, S. Rept, 108-301.

WELCH, D. A. (1997). Remember the Falklands? Missed lessons of a misunderstood war. *International Journal*, *52*(3), 483-507.

S U M M A R Y

20th and 21st centuries' intelligence failures put an emphasis on the requirement of evaluating the influence of psychological biases on intelligence analysis. The aim of this study is to provide a discussion on how psychological biases affect intelligence analysis. Accordingly, conceptual discussion upon the notions of analysis and psychological bias is presented, and the biases that could have impacts on the intelligence analysis are defined in the study. By doing this, it is aimed to raise a clear understanding on the article topic through analyzing prominent sources and official reports in the literature. United Kingdom's failure to foresee Falkland's crisis in 1980s and United States' intelligence analysis on Weapons of Mass Destruction in Iraq in the beginning of 2000s is selected as case studies in order to discuss how psychological biases affected intelligence analysis and accordingly caused intelligence failure. In conclusion, recommendations are presented in order to overcome the impact of psychological biases in intelligence analysis.

Keywords: Intelligence analysis, psychological bias, Falkland's crisis, weapons of mass destruction

R E S U M É

ARSLAN, Alp Cenk: JAK PSYCHOLOGICKÉ PŘEDSUDKY OVLIVŇUJÍ ANALÝZU INFORMACÍ ZPRAVODAJSKÝCH SLUŽEB

Selhání zpravodajských služeb ve 20. a 21.století kladou důraz na požadavek vyhodnocování vlivu psychologických předsudků na analýzu zpravodajských informací. Cílem této studie je poskytnout prostor pro diskusi o tom, jak psychologické předsudky ovlivňují analýzu informací získaných zpravodajskou cestou. V souladu s tímto je předkládána koncepční diskuse o názorech na analýzu a psychologickou předpojatost. Předsudky, které by mohly mít dopad na zpravodajskou analýzu jsou v této studii definovány. Studie se zaměřuje na pochopení tématu článku analyzováním významných zdrojů a oficiálních zpráv v literatuře. Jako případové studie jsou vybrány příklady selhání Spojeného království při předvídání Falklandské krize v 80. letech minulého století a chybná zpravodajská analýza týkající se zbraní hromadného ničení v Íráku na začátku 21.století, aby bylo možno diskutovat o tom, jak psychologické předsudky ovlivnily zpravodajskou analýzu a následně způsobily selhání zpravodajských služeb. Na závěr jsou předložena doporučení, jak překonat dopad psychologických předsudků ve zpravodajské analýze.

Klíčová slova: zpravodajská analýza, psychologický předsudek, krize na Falklandech, zbraně hromadného ničení.