

INTELLIGENCE CYCLE MODEL DILEMMAS AND SOLUTIONS

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Motto:

“Of all the weaknesses of the Cold War intelligence paradigm, the hegemony of the intelligence cycle models probably the most important single factor in producing an intellectually inadequate concept of intelligence”
(Wilhelm Agrell, 2009)

Abstract

A result of the pressure put by globalisation and the Information Age on all informational processes, various suggestions to adapt the intelligence cycle range from slightly amending the model to radical change. This paper supports an adaptation of the cycle, and gets inspiration from communication theory, where the receiver of the communication is, of course, part of this process. The decision taken by the beneficiary and the subsequent actions take place in the risk management system, above the intelligence system. So, intelligence operates as an open system, and Dissemination seems to be the weakest link of the cycle. Complexity theory issues and the Clausewitzian friction are also considered. This paper proposes Utilisation as a main link of the cycle, instead of Dissemination and discusses the consequences, variations of the model, and the implications in intelligence management.

Keywords: intelligence cycle, intelligence management, communication process, open system, dissemination, decision-making.

The informational cycle model in a complex environment

Since the last decades of the XX Century, the major transformations generated by the Information Age impact upon any human activity involving the use of data and information, from journalism to business, from public services or education to intelligence services.

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The functional pressure generated by globalisation and technological progress on all informational processes reveal the need for a critical evaluation of the informational cycle as a functional model defining the heartbeat in all the fields operating with information. From the point of view of complexity theory, the above mentioned functional pressures reflect more intense and quicker interactions among the actors within the informational environment. They also reflect an increase in the entropy and the strengthening of the non-linear feature of all phenomena, described by the well-known "butterfly effect": a minor change in a distant part of the system causes a significant change in the opposite side of the system. In a *complex system*, the disproportionate effects give away only a blurry causality, and a quicker pace of all information processes is needed for understanding and controlling such causalities.

Current global phenomena produce deeper implications especially upon the decisional system and the metabolism of the organisation or macro-systems associated to power writ large, because power relations are the most sensitive to the impact of new information technologies (Marguin, 2001, p. 120). Thus, an in-depth research into the fine grain and the intimate links of the informational cycle look like a promise path for the critical domains, with major social impact, such as media, economy, education, national security, and law enforcement.

Yet, what is the informational process? In a nutshell, information of any kind needs to be obtained, processed – more or less – and the result is used one way or another. Considering the system as a black box, the information has to enter from the environment into the box, where the system processes them in a certain way, then the system does something as a result of the absorption of that information: it moves, or it changes colour, or it signs an international treaty. The use of information, basically for decision-making and subsequent actions, generate, the need for new information to continue and deepen the process of knowledge in view to further a pursued interest. Inside the black box, as a result of input information processing, somebody produce another information, and passe it to somebody else, who decide, for example, to sign the international treaty.

In terms of complexity theory, as a consequence of that decision, *the info-decisional system*, perceiving a certain *criticality*, triggered an action/*transition*, which changed its *state* (status) within the environment. In a new situation then, the system needs new information to decide the way to *interact* (what to do) in the new *state*, how to control the new *criticality*.

Considering just the information, so only the informational (sub-) system within the black box, not the decision or the action, the loop ends and, in the same time, starts again, on another level of knowledge, hence the 3D

spiral image of the informational cycle, in an iterative view. These three phases are the core of the informational process, because they are the ones operating directly with the information: *obtaining* information, *processing* it, then *transmitting* the information to a decision-maker (who uses it for starting an action).

However, the complexity of the intelligence activities points to other more or less important operations, eligible to be added to the core triade of the process mentioned above (obtaining/collection/access, processing/analysis, and distribution of information). The most important case includes command, control, direction, development and planning of the whole work, as well as orientation and prioritization of all activities pertaining to the other separate phases of the informational cycle, and for the entire information process as a whole. This functional component is included in most representations of the informational processes, usually under the name of *Direction*.

Consequently, the classic form of the informational cycle has four phases: *Direction – Collection – Analysis – Dissemination*, as the model in Figure 1 shows.

In business, the effects of modern global communications were obvious, mainly in stock markets. Then, in the field of security, the effects of the Information Age upon the informational cycle was felt primarily in military operations, as the battle rhythm accelerated the pace of changes, especially in the case of non-conventional conflicts¹. These conflicts were the first show of complexity at revolutionary scale in military affairs, considering *asymmetry* as expression of *non-linear behaviour*.

Besides the basic form shown in Figure 1, there are several other graphic representations of the informational cycle model, featuring the above mentioned considerations and using different terms for different process phases. Some models are more sophisticated and display secondary transfers to reflect various functions specific to intelligence

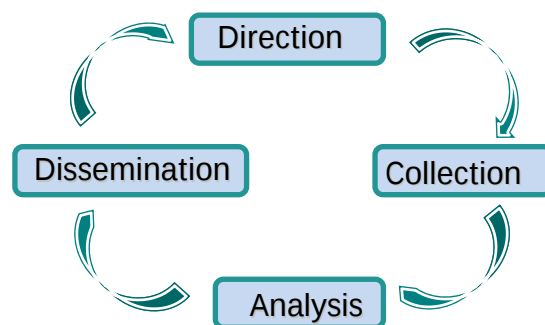


Figure 1. The classic model of the informational cycle

¹ The term “non-conventional” is also used, in this paper, equivalent to “assymetric” and “transnational”.

activities. For example, in some models, *Processing* appears as a phase of its own, separated from Analysis, because it includes a large number of activities² meant to bring collected information to a shape which can be used by the analysts.

In the particular domain of intelligence, the informational cycle is termed «intelligence cycle» to underline the secret information component and the specific activities of the intelligence process. Similarly, the term “intelligence support” defines the component of the general *information support* (with information of all kinds) provided to decision-maker, for the particular case of intelligence (mainly, involving secret information).

Critics and amends to the classic model of the intelligence cycle

The limits of the intelligence cycle classic model have been underlined by many experts of the realm, pointing to major failures in reflecting several important activities in intelligence services practice and the new security realities which request either interleaving or omission of core phases.

Kristan Wheaton (2011) builds a true indictment against the intelligence cycle classic model, which he deems “a relic of the Second World War”, the cause for resource waste and an obstacle to progress in intelligence, because the intended reforms would engage the intelligence services on wrong directions, should they be based on a flawed model (Wheaton, 2011, pp. 1-2). K. Wheaton objects that the traditional model is linear and sequential, while the process it is supposed to represent is non-linear, interactive, simultaneous, collaborative and iterative, especially in the conditions of the global asymmetric threats. He notes that the human mind does not operate in a linear manner either, and indentifies two directions where the efforts are engaged to reflect today's intelligence process, i.e. tweaking the model to better reflect the reality, respectively to overhaul the graphic representation of the way the intelligence services work (Wheaton, 2011, pp. 5-7).

The most radical visions presented by K. Wheaton are the *sensemaking loop* developed by Peter Pirolli and Stuart Card, and the *Target Centric Approach* (TCA) imagined by Robert Clark.

Pirolli and Stuart developed (2006) a chain of five successive loops of actions which include, in principle, elements and activities belonging to the the phases of collection, analysis and dissemination, as they appear in the classic cycle. The process starts with “external data sources” and the feed-back

² For example, decryption, translation, imagery interpretation, even transportation to the analyst, as well as tagging and labeling for the convenience of all branches in the intelligence structure.

appears in each loop, but the whole process is still linear, like stretching the classic cycle broken after Dissemination, limited here to the act of "presentation". In the struggle to represent truly more concrete activities, the sensemaking loop model introduces new concepts, gets complicated and does not solve the limitations of the classic cycle. Even worse, there is no reference to beneficiaries and requirements, and no general feed-back, the cyclic pattern of the intelligence activity being ignored.

The more recent TCA model (2009) is more successful because it responds very well to the intelligence activity in military campaigns, where the effort of the entire organisation can focus on a single target. More precisely, R. Clark (2009) develops a graphic model in which two loops are tangent in the point represented by the objective of the intelligence structure (the "target") and embodies the keen requirement to integrate the activities of analysts and collectors. The very merit of this model is also drawback, i.e. the fact that it cannot be applied *in extenso* to large organisations, which deal with events, crises and conflicts all around the World, including transnational risks and threats.

K. Wheaton comes up with his own suggestion for a representation of the intelligence process in the form of four parallel and partially overlapping waves, but also presenting successive surges, which reflect the dominant activity at a certain time. These waves are the *mental modeling, collection, analysis, and production*, with no reference to dissemination or user.

The models proposing only the revision of the classic cycle either suggest the inclusion of the user in the model (Lisa Krizan, 1999 and Gregory Treverton, 2003), or rename collection by the larger term of "access" (Sir David Omand, *Securing the State*, 2010). Others describe the process in multilayer representation (Lowenthal, 2005) or extensively detail the known activities (Johnson, 2005).

A possible way out

"Most intelligence professionals see the intelligence cycle as «imperfect», but generally the best available description of [a complex and dynamic] process, and useful for teaching broad concepts" (Wheaton, 2011, p. 1) of the intelligence activities. However, "the cycle is a simplification – possibly an oversimplification – and real-world intelligence has to be understood in terms of a far more complex ad-hoc model" (Agrell, 2009, p. 108) than the established picture of the intelligence cycle.

Among the flaws, K.Wheaton (2011, pp. 3 and 5) thinks that „the simplicity of the cycle is both seductive and deceiving”, but admits that its

„continued existence suggests that its inconsistencies are outweighed, to some extent, by its simplicity”. However, the simplicity and natural construction of the conceptual model in discussion provides generality, flexibility, and strength to the paradigm which all informational architectures and all activities dealing with information are based upon. This is why I support the „tweaking” of the intelligence cycle to present realities, and not an „overhaul” or discarding the classic cycle, which still offers two essential features in a concise form: it presents logical action steps, and reflects the cyclic and iterative character of the intelligence process.

The weakest link of the model, the area most susceptible to be examined with priority, seems to be dissemination, the finalization of intelligence support.

Why? The perennial issue of the functional distance between the intelligence structure and the decision-makers draws attention to the positioning of the whole intelligence system *vis-à-vis* the superior/above system, which is the decision-making system. Thus, the intelligence support is located within a larger function, that of *risk management*, albeit in national security, law enforcement or business. In the same time, the practical destination of the intelligence products – the integration of the “actionable” information (included in these products) into decision and concrete action – highlights the importance of the functional relation between the activities in the intelligence domain and the realities in economy, national security or law enforcement.

The interaction between the intelligence structure and the decision-making system is done through two points of the intelligence cycle, one for the transfer of the intelligence *requests* and that of the beneficiary *feed-back*, and the other for *dissemination* – the completion of intelligence support.

These two moments of the intelligence activity are considered to be the most tricky. This statement is based on the fact that these “gates” are the contact points with the decision-making system, where the rubber meets the road, while the other activities in the intelligence cycle occur **inside** the intelligence structure, more stable and strongly regulated. Therefore, they benefit from the coherence of a stronger self-correcting validated system.

The two “gates” of the intelligence cycle which mark the intake – exit of information into/out of the intelligence organisation prove that intelligence is an *open system*. The intelligence cycle defines the information flow which crosses both the intelligence structure and external compartments, belonging to the beneficiary. The model presented in Figure 2 highlights the open system feature of the intelligence structures.

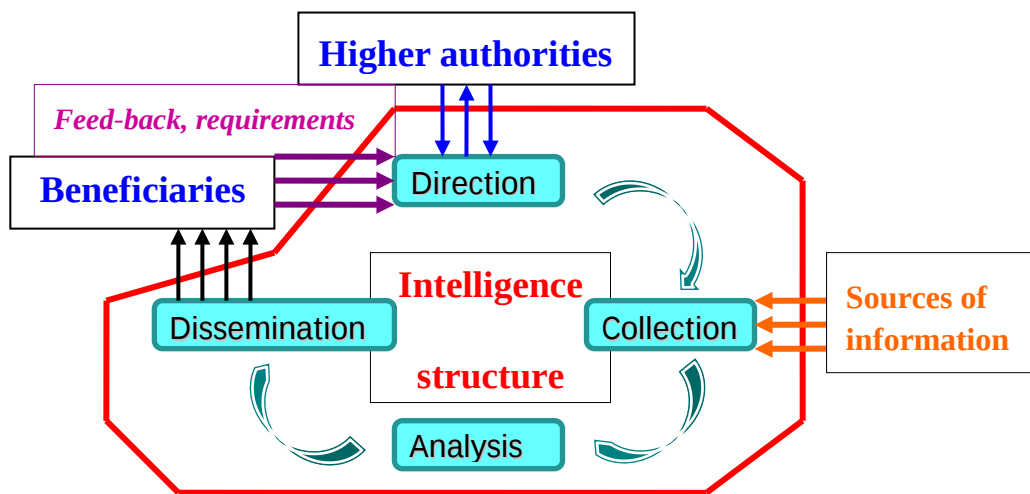


Figure 2. Communication gates between the intelligence structure and the environment

Figure 2 also shows other interactions with the environment: the relations with chain-of-command authorities (in administrative capacity, not as beneficiaries) and the injection of information into the intelligence flow. These interactions support the idea of open system, and the complex interactions within the security environment, but present no further interest for this paper.

Studies about the classic phases of the intelligence cycle do not clear out the destiny of the information after dissemination of the intelligence products to the beneficiaries, although some vaguely maintain the *user* or the *integration / consumption* of intelligence, following *dissemination*. There are studies about the distance between analyst and decision-maker, the importance of the feed-back and the actions conducted as result of the intelligence support. However, the transfer towards the beneficiary “beyond the regiment gate” has not been examined in-depth, nor has the contents of the phase called “*dissemination*” seen as *intelligence support*, not as *delivery*, or the processes lived by the information after its transfer to decision-maker and the feed-back “chemistry”.

Regarding dissemination, research on the intelligence support as *communication process* provide significant conclusions about the rapport between the intelligence structure and the beneficiary of intelligence work. The revision of this functional rapport is relevant under Information Age pressure and networked operation (networks of distributed capabilities). However, in today's military science, "the concept of Network Centric Warfare (NCW) is wrought around (...) the term of information dissemination" (Dumitru and Roncea, 2005, p. 41). The role of dissemination and the traditional format of the intelligence cycle reflect a *closed system* approach on intelligence structures, and ending the intelligence cycle loop by the phase called *dissemination* reveals a reasoning jam and a parochial vision on the intelligence domain. Such drawbacks are caused by the institutional responsibilities of the intelligence services developed in the Industrial Age and especially during the Cold War. Nonetheless, "the process of transferring information from producers to consumers is largely standardized. The intelligence community established a «production line» which covers the types of products and the beneficiaries it has to serve" (Lowenthal, 2005, p. 48). By this «product delivery», the duty of the intelligence service is deemed accomplished.

I believe, though, that the way intelligence is integrated into the *decision* taken by the beneficiary and into the *action* based on that decision provides important conclusions about the very structure of the intelligence cycle, opening the gates towards the optimization of intelligence activity as a top driver for national security, as well as for the other major application domains – business or law enforcement.

Following the increase in the intensity (clauswitzian friction) of the confrontation, albeit a military, economic or law enforcement conflict, in the conditions of distributed capability operation (in network), the intelligence support displays certain particularities which generate significant mutations not only on management requirements in intelligence, but also, again, on the core phases of the intelligence cycle.

Proposal for improving the classic model of the intelligence cycle

Noting that the decision-makers play a significant role in all phases of the intelligence process, seems logical to drop the limitation of the intelligence cycle to activities performed by intelligence structures. Thus, failing to include the beneficiaries into the intelligence cycle looks like a judgement error, especially in the conditions of modern technologies and non-conventional

threats. In the same time, looking at the intelligence support as a *communication process*, having the receiver of the communication inside a model of the process is mandatory, as the scholars of the Palo Alto School³ argued. They introduced a *psychosocial/interactionist model* of the communication process, presented in Figure 3, to include the *psychological determinants* of the communication process actors.

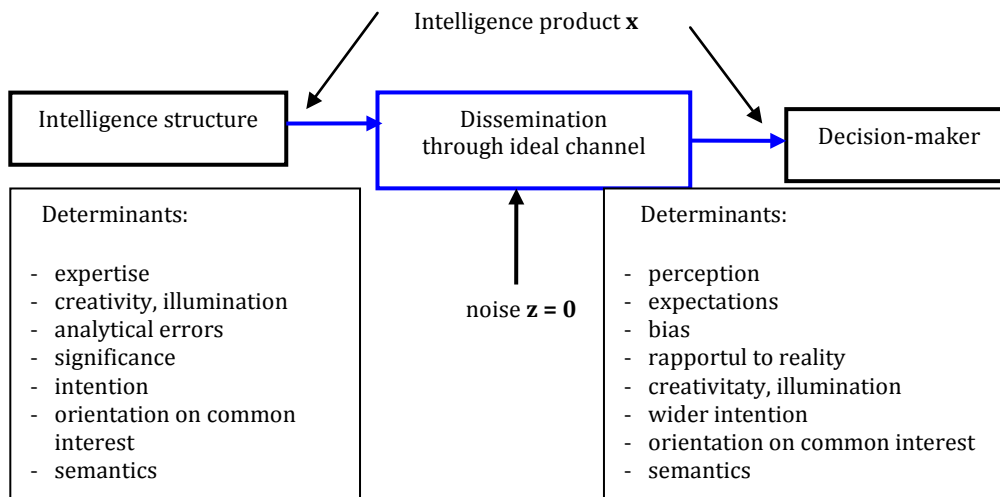


Figure 3. The interactionist model of the informational process
(source Sălăvăstru, 2004, pp. 116-117)

As the trigger of decisions which are the very *objective* of intelligence support, the beneficiary ought to be considered a natural actor of the intelligence cycle, as Greg Treverton suggests. Consequently, a model of the intelligence cycle which reflects the roles of the main actors: director - collector - analyst - beneficiary seems quite natural.

The decision-maker activity in rapport to intelligence products can be termed as *use* or *utilization*, which has been proposed before as part of the cycle, but has not been developed as a concept. Based on the functions of

³ Group of researchers of various domains (sociologists, linguists, psychiatrists, antropologists) reunited around Gregory Bateson. The Palo Alto School (Stanford University) includes Donald Jackson, Paul Watzlawick, Janet Beavin, Edward Hall, Ray Birdwhistell, Erving Goffman, Margaret Mead, Virginia Satir, Jay Haley, John Weakland, Richard Fish *et. al.*

communication processes, I can argue that intelligence utilization implements three functional categories of intelligence support: *construction of intelligence superiority*, *warning*, and *integration into action* (Mocanu, 2014). These functional categories reflect different levels of clausewitzian friction, different levels of impact by the actionable substance transferred through intelligence products, as well as different approaches to the international environment complexity in security, economy or law enforcement.

The above rationale supports the general conclusion that *the use of intelligence products* by their integration into decision and subsequent action is a natural component of the intelligence cycle, following the dissemination procedure, and closes the cycle logically, by beneficiary's requirements and feed-back, towards the phase of direction. In the proposed model, presented in Figure 4, *dissemination appears as a procedure linking two main phases and not a phase itself*, is the connection between analysis and utilization, and not an essential phase of the intelligence cycle.

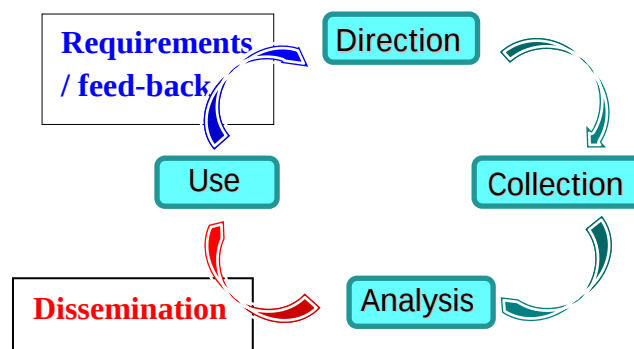


Figure 4. Proposed model for the intelligence cycle

In the same time, the proposed model allows developments in defining the levels of feed-back (*analytical*, *system*, and *phenomenon*) (Mocanu, 2014) and the study of intelligence requirements according to the type of intelligence product utilization. The feed-back occurs also through an interaction gate towards outside the intelligence system. Consequently, it completes the natural cyclic of the model.

Conceptual developments of the proposed model

Enriching the proposed model with detailed activities is easy. Interesting, however, is the direction to further simplify the model, aiming to generalise and streamline the intelligence process. For an ever simpler form of the intelligence cycle, the *utilization* phase should not be the first shed from the loop, but probably the *direction* phase. The reason is that direction is not crossed by information for more than validation before dissemination. Since it applies to all phases of the cycle, by chain-of-command coordination, direction can be placed in the centre of the cycle, as shown in Figure 5. By the spokes of the cycle, from the centre to the three remaining phases of the cycle, this model reveals the direct connection of Direction to all main intelligence activities, the responsibility for dedicated management of the structures performing the three main phases of the process: *Collection, Analysis, and Utilization*.

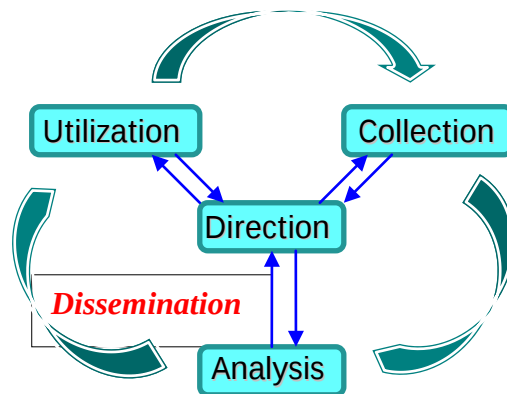


Figure 5. Intelligence cycle with central direction

The inclusion of *Utilization* as an essential phase of the intelligence cycle provides conceptual avenues for developments in the management of intelligence structures aiming to improve intelligence support. By considering *use/utilization* a phase of the intelligence cycle, the intelligence structures can shape intelligence support in its entirety, bearing in mind the

three identified functional categories. The proposed model can thus be completed in versions to include specialised management structures: collection management (CCIRM⁴), production management, and intelligence product *utilization management*. This third structure would take over the responsibilities regarding dissemination, cooperation, and the absorption of the feed-back, but also improves the intelligence support by an *intelligence product utilization policy*.

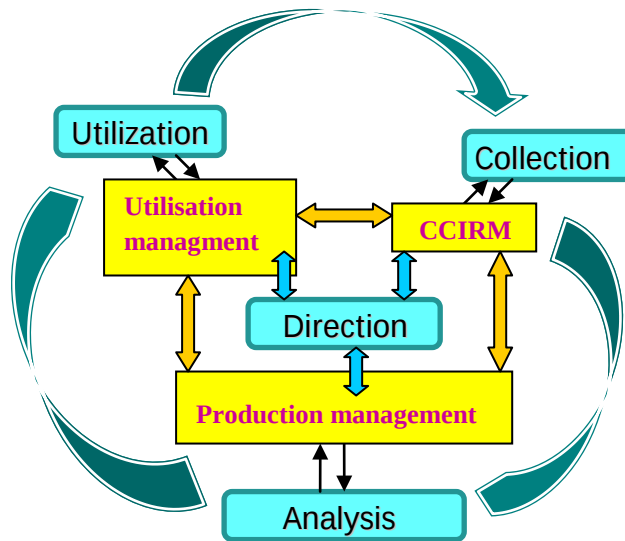


Figure 6. Intelligence cycle with specialized management

The management activities corresponding to the three core phases of the intelligence cycle can be represented as a crown around the central direction box. Such model, presented in Figure 6, highlights the horizontal cooperation among the management compartments dealing with specific intelligence issues.

⁴ CCIRM – Collection Coordination and Intelligence Requirements Management.

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This model can also be represented in 3D (Figure 7), as a cone where the loop of essential three phases forms the directrix (the cone's circular basis), Direction is the vertex (tip of the cone), and the three kinds of specialised management form a median circle. This model suggests better the spiral dynamics of the intelligence process.

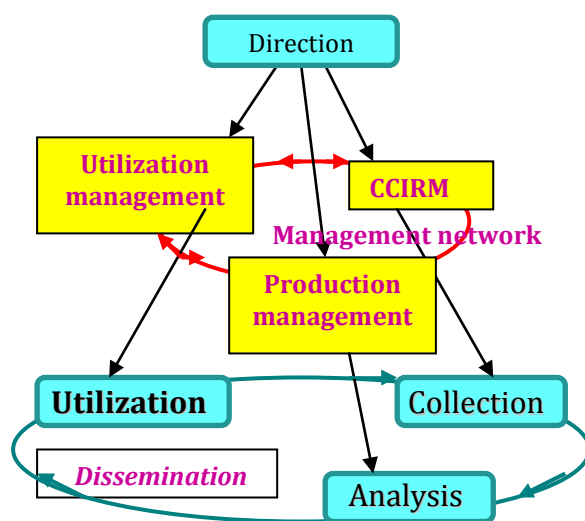


Figure 7. Conic model of the intelligence cycle

Conclusion

The study of the intelligence cycle and the efforts to identify new conceptual solutions to better serve the adaptation of the intelligence services to current realities of the security environment are in full swing.

In the versions proposed in these pages, the new model of the intelligence cycle, which includes utilisation as an essential phase instead of dissemination, opens avenues for the optimization of the use of intelligence capabilities and the improvement of intelligence support by taking into account all aspects of risk management in their entirety and complexity.

References:

1. Clark, Robert, (2009), *Intelligence Analysis: A Target Centric Approach*, Congressional Quarterly Press, Washington DC.
2. Cristea, Dumitru, Ion Roceanu, (2005), *Războiul bazat pe rețea. Provocarea erei informaționale în spațiul de luptă*, Editura Universității Naționale de Apărare „Carol I”, București.

3. Lowenthal, Mark, (2005), *Intelligence. From Secrets to Policy*, CQ Press, Washington DC.
4. Marguin, Jean, (2001), *Tehnologia informației va schimba lumea?*, în *Puteri și influențe*, Editura Corint, București.
5. Mocanu, Mircea, (2014), *Intelligence de la rețele la decizie și acțiune*, Editura Universității Naționale de Apărare „Carol I”, București.
6. Pirolli, Peter, Card, Stuart, (2006), *The sensemaking process and leverage points for analyst technology as identified through cognitive task analysis*, PARC paper, accesibil la www.vadl.cc.gatech.edu/taxonomy/docInfo.
7. Sălăvăstru, Dorina, (2004), *Psihologia educației*, seria Collegium. Psihologie, Editura Polirom.
8. Treverton, Gregory, Agrell, Wilhelm (coord.), (2009), *National Intelligence Systems. Current Research and Future Prospects*, Cambridge University Press.
9. Wheaton, Kristan J., (2011), *Let's Kill The Intelligence Cycle*, accesibil la www.sourcesandmethods.blogspot.com/2012/03/part-13-whole-picture-lets-kill.html.