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16. Supreme Audit Institutions and New Aspects for Public Value Creation in Complex Adaptive Systems

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My idea synthesizes three seemingly distant key areas: value creation, complexity and Supreme Audit Institutions. These external audit institutions must face increasing pressure – owing to the financial-economic and sovereign debt crises – to contribute to a healthier and more effective functioning of the public accountability system and to generate higher social impacts by their activities. In order to meet these legitimate and justified expectations their value creation processes should be reconsidered and adjusted to the new recognitions about the complex adaptive systems. In my article I elaborate some proposals which are based on the complex systems theory.

Keywords: Supreme Audit Institutions, value, public value creation, complexity, complexity leadership theory

1. Introduction

Supreme Audit Institutions (SAIs) are one of the most important elements in the accountability system, they are on the highest level in the framework of checks and balances mechanisms. Their reports, remarks, opinions and proposals about the state budget and the functioning of public finance management are submitted to the legislature foremost. Their independent status and auditing mandates – based on constitutional and legal guarantees – allow their functions to evolve and can contribute to the general public welfare. Their work and communication activities to wider public community can induce higher public confidence, increasing efficiency, effectiveness and transparency of public finance management, the development of accountability system, and the reduction of corruption and rent-seeking behaviour by delivering objective, impartial, relevant, timely information and reports which rely on evidences, knowledge and best practices in accordance with professional standards and criteria predetermined (Kovács 2010, Báger 2013).

Their activities are carried out subject to international norms and standards (e.g. INTOSAI's ISSAI or IFAC – The International Federation of Accountants). The most determinative organization affecting the SAIs' operation is the INTOSAI (International Organization of Supreme Audit Institution). It embraces the community of external state auditors and provides a politically independent platform in order to create and transmit knowledge (explicit and tacit) and share best practices among its members (192 full member)

to respond challenges and common interest.

Owing to the financial and economic crisis and other turbulences in the public sector the activities of the Supreme Audit Institutions have been more appreciated and reevaluated (Nagy 2012). The importance and enhancement of their usefulness or value-creating capabilities have been placed into the focus area of social expectations, so the examination and understanding of this special (relatively neglected) research field are reasonable, justified and promising. My research orientation basically concentrates on the ways and means by which the external auditors' impact on the public accountability system, on the communities and on the wider society could be increased considering the fact that their operating environment bears the marks of complexity. In this article I try to find answers *how* and *in which form* the different kinds of complexity management and leadership techniques and methods – both organizational and managerial aspects have been emerged and evolved in the knowledge-based competitive sector – can be interpreted and inserted into the value creation processes of a particular SAI.

The term „complexity" can be linked to the operation, the behaviour and the structure of the complex systems, which – otherwise – can be derived from the complex systems theory (Mitchel – Newman 2002). The complex systems theory is a scientific framework which tries to reveal and explain how the simple rules and driving forces induce macro- or organizational level emergence, how could the adaptive pressure generate self-organization and system dynamics. The complexity does not mean the same thing as the expression „complicated". A space shuttle for example is a complicated machine, but the complexity cannot be derived from its structure and design. The adjective „complex" refers to such set of properties which unambiguously define complex systems. The new approach creates new opportunities and opens new research directions for several scientific disciplines including the social sciences and the business administration as well. Building on these pillars I want to place the theory into the context of state auditing (Kaisler – Madey 2009).

In the first part of my short, recapitulative paper I give a short description about the "value" and Moore's "public value" concept followed by the public value creation chain of Supreme Audit Institutions. After the discussion of the complexity management and leadership techniques used in the competitive sector, I examine the possible utilizations of this new paradigm for the external auditors. Finally, on the basis of extensive literature review I formulate some proposals to SAIs how to be more responsive, creative and innovative and how to generate more impact in the society and the in the public finance system.

The novelty of my paper is the integration of results and ideas from the complex

systems theory to public value creation of a Supreme Audit Institution and the recommendations targeting certain characteristics of SAIs derived from the new approach.

2. The „value" and the „public value"

By studying complex systems we can observe numerous notions whose clear and precise definition is almost impossible. Can we exactly define the beauty or goodness? From the observer's perspective maybe yes, but a generalized definition does not exist at all, which would be accepted by all individuals or observers. It is the same situation if we focus on „value" and „valuable". In capitalist societies we have to face high pressure on agents (entrepreneurs, companies, the state, employees etc.) to create value in economic sense. Companies have dual value creation which means that in parallel they generate shareholder value (increasing profit) and customer value (increasing total utility) (Chikán 2008, Illés 2008). In the long term they can only exist in a complementary way. If we look closer the different concepts of value they have in common that each can be connected basically to the utility (Ueda et al. 2009). Nowadays the determination of value covers more and more perceptual dimensions (IFAC 2013) and the "extension" of utility towards the society or the natural environment can also be observed. When interpreting it in the public sector the logic of the public value creation seems to be expedient. The following subsections give a more detailed insight into this topic.

2.1. What is value?

In the course of history several approaches have been emerged to describe and understand the concept of „value". The determination of the notion can be traced back to the ideological frameworks of the given historical context. The subjective and objective perceptions and the conflicting preferences of individuals and the society about the „value" and „valuable" have appeared in the academic debate as well. The discipline of axiology tries to catch the essence of it: the Greek word („axios'' – worthy, valuable – and "logos'' – discourse, reasoning – refer to the methods and ways the value was analyzed and interpreted. The most relevant domains are the following: ethical, philosophical, psychological, economical, technological and environmental (Ueda et al. 2009). Because of its embeddedness into the multidisciplinary space the interpretation and the logical concept of „value" become more and more complicated and compound. By now, already in the

competitive sector the value creation is more than merely the contribution to shareholders' profit or the utility provided by the product or service for consumers. For instance the CSR activities of companies or the implementation of "greenwashing" strategies also became the part of their value creation processes. The current and forward-looking challenges and questions of sustainable development and value creation seem to be a problem of decision-making and series of choices in the society constrained by limited resources both in the private and public sector. Consequently an integrated and synthetic approach would be necessary in the field of value creation (Ueda et al. 2009, IFAC 2013). The concept of public value creation is also based on this logic.

2.2. Moore's public value concept

Moore's idea – elaborated at the Harvard University – is focusing on the strategic dimensions of decision-making of public managers in order to maximize their institution's contribution to the social well-being – in other words the concept pays attention to the relevant public value creation processes. The three interacting cornerstones are the following: (1) authorizing environment, (2) public value outcomes and performance, (3) organizational capacities. Dealing with the latter, I want to focus on management and leadership challenges and capacities supplemented by the issue of organizational innovation (Moore 1995). The effective accountability relations (public financial accountability) should hiding in the background to balance the three vertices.

(1) Authorizing environment (authorizing environment, legitimacy, enabling environment and support): the mandates, authorizations and the public functions are highly associated with the delegation of public money and public resources, this requires reporting obligations. Output legitimacy occurs, if the value created and the organizational performance acceptably increases (related to predetermined parameters) the welfare of the society. In such cases the public entity's raison d'etre substantiated (Sanchez-Barrueco 2014).

(2) Public value outcomes and performance: at this point specific strategic goals, values and their desired long-term effects – which the community consider important – must be clarified and defined; which in the given context and condition of a wider system can adapt to the particular situation. Here, it is needed to develop appropriate performance measurement tools and methods, as well as to support the continuous learning opportunities and processes.

(3) Organizational resources, capacities and capabilities: thereby the desired public value creation can be realized. This could include managerial skills, leadership approaches

and the complexity (non-linear) thinking.

The public value creation is much more, than producing public goods or providing public services. It is about the decision-making conditions and procedures of public managers, and the pubic institution's social impact. To understand the difference let's see an example. The residential waste and recycling service is a public service which could induce individual benefits (private value) for the residents, but it also deliver useful outcomes for the citizenry as well: improvement of hygienic conditions, public health protection, neat and clean townscape, comfortable livable environment, green issues, sustainability and recycling. These are already the categories of public value (O'Flynn 2007). The notion and the purpose of the public value creation can be transposed to the functioning of Supreme Audit Institutions as well (Talbot – Wiggan 2010). In order to gain insight into the (public) value creation processes of a SAI in the next chapter I demonstrate a generalized framework which includes the most relevant elements, and depicts the structure and logic of value creation.

3. The general framework for public value creation at Supreme Audit Institutions

The importance of public value creation has been also recognized by the INTOSAI as well and it laid down its basic principles in ISSAI 12 standard in 2013. (ISSAI 12: The value and benefits of Supreme Audit Institutions – making a difference to the lives of citizens. This standard essentially covers the quiddity of public value concept.)

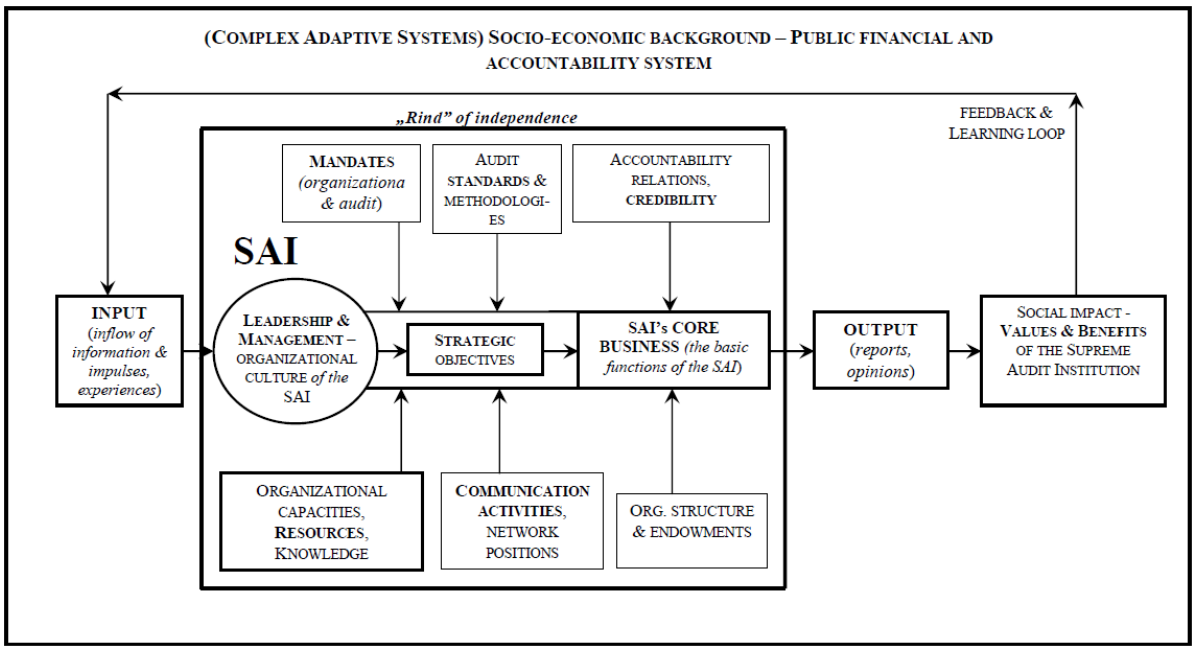
Observing the deeper content and the idea of the INTOSAI we can state that the elements of Moore's framework turn up here also: (1st group of principles) strengthening the accountability, transparency and integrity of government and public sector entities, (2nd group of principles) demonstrating ongoing relevance to citizens, Parliament and other stakeholders, (3rd group of principles) being a model organization through leading by example.

Following Porter's (1985) train of thought Figure 1. depicts the primary and support activities and factors affecting the public value generation at the SAIs.

The main direction or path of value creation is illustrated by the horizontal axis ranging from inputs towards the social impact. The primary activity of the institution is the auditing – here: the core business of the SAI – which is supported by other no less important determinants and elements (e.g. internal and external communication, management of network positions and relations in the system of accountability, the credibility as a special factor in the public sector with a high relevance). The management, the leadership and the organizational culture enjoy a high priority, as well as the strategic objectives, which are

formed in response to the external environmental changes. As a result of the redefining the strategic objectives the elements, the composition of value creation could be subject to change.

Figure 1 The generalized public value creation chain of a Supreme Audit Institution



Source: own construction and synthesis based on Azuma (2004), INTOSAI IDI (2012), Moore (2007), Porter (1985), Talbot − Wiggan (2010)

Audit mandates refer to several types of audit which can be conducted: (1) regularity (including financial or financial statements) audit, (2) comprehensive audit focusing on „good management" issues, (3) performance or value-for-money audits in which economy, effectiveness and efficiency aspects are analyzed. In (4) follow-up audits SAIs monitor and observe the utilization of previous suggestions and comments, basically made at performance audits (ÁSZ 2008, ISSAI 3000).

The SAIs carry out their work covereth in independence, but no means isolated. If we take a look at the value creation chain then both at the input- and the output/impact-side attributes of the complexity can be perceived. The input side contains the following: needs and expectations (impulses) in the systems of society or the public finance; detection and knowing the complex or wicked problems (Ritchey 2013); collection of information and evidences in sufficient quality; mapping and understand the behavioral patterns, positive and negative externalities generated by the redistribution of public resources. The achievement of long-term effects of auditor's work and the application, utilization of reports, findings, and recommendations can be interpreted as the social impact side. Of course other parts of the

support activities and determinants – not described here in detail – play a vital role.

Our World, the environment around us consists of interconnected nested systems and the networks or patterns of the connections among agents and other system components bear the marks of complexity. The academic research of these areas has been intensified in the last two decades and penetrated into several scientific disciplines (e.g. life science, physical science, social science, formal science) (Barabási 2010, Beinhocker 2007, Csermely 2005, Kornai 1971, Vas – Bajmócy 2012). In connection with the business administration (as part of the social science) the message of the researchers are unequivocal: the characteristics of complexity should be taken into consideration, however at the same time there is a strong and substantiated need and recognition to adapt to this new approach either on organizational level or regarding the managerial decisions.

In the next chapter I demonstrate the most important and relevant properties of the complex adaptive systems and I try to reconsider the operating environment of a SAI in the light of complexity.

4. Complexity and the Supreme Audit Institutions

In recent years the concept of public value greatly appreciated due to the extreme, turbulent changes, structural transformations perceived at global and local levels (e.g. effects of climate change, rearrangements in the network of the society, issues of sustainable development, phenomena of corruption, financial and economic crisis, management difficulties regarding the public debt). The new conditions draw up new questions and challenges for governments, for decision-making, public managers and the audit institutions as well (Báger 2008, Kis 2014, Kovács 2010).

During this period significantly strengthened the vision of „more output/outcome from less resources" and this was supplemented with the increasing need for a more efficiently running control/accountability system. In such cases the performance, the public value creation ability and the „3E" criteria of the public sector come into the spotlight (Benington – Moore 2011, Benington 2012). Considerations about complex systems offer an alternative perspective, which describes the spheres and systems nested in each other.

The events, occurrences and emerging patterns of the last period confirmed and even more justified that the operational environment of a Supreme Audit Institution should be described as a complex adaptive system (CAS).

4.1. Complex adaptive systems in brief

Kaisler and Madey define the complex adaptive systems as follows: "*...they* e*xhibit behaviors arising from non-linear spatio-temporal interactions among a large number of components and subsystems*" (Kaisler – Madey 2009, p. 5). This short description tries to capture the essence of such systems, but it does not give the whole picture.

Those systems are considered complex and adaptive which can be described with the following properties (Boisot – McKelvey 2011, Dinya 2008, Kaisler – Madey 2009):

- large number of heterogeneous agents or elements arranged in structures
- these agents interact locally and are connected with each other directly or even indirectly
- there are basic/simple rules inducing, enforcing self-organization and system (non-linear) dynamics (the system changes over time)
- non-linearity: slight changes in the initial conditions of the system status induce: (1) large, (2) small changes or (3) do not cause any change at macro level
- feedback mechanisms in the system facilitate the adaptation
- emergent features and patterns on macro level owing to the system dynamics
- far-from-equilibrium state
- interdependencies and optimal adaptation at the edge of chaos in response to environmental changes

The complex adaptive systems (e.g. biological, ecological, social, economic) show the same characteristics, thus the understanding, the adaptation and the interventions can take place on the basis of analogies.

In respect of the public value creation chain of a SAI and in favour of the efficient maximization of auditing impact the above mentioned characteristics should be taken into consideration and the SAI should be adaptive in the light of the identification of complexity. For SAIs it is indispensable to build novel capacities such as the creativity, responsiveness, learning, innovation capabilities, activation of unconventional resources to generate high level operational value added. The deterministic environment, the extensive and far-reaching „catchment basin" of a Supreme Audit Institution concerning information flow and incoming stimuli, assuming to be simple, predictable and easily cognizable would be thoughtlessness.

4.2. Complex operating environment of the Supreme Audit Institution

The socio-economic problems and the public finance disturbances emerging in a constantly changing, complex adaptive systems and they should be alleviated and solved in line with the rules and conditions of the non-linear "game". The development of new approaches, techniques and strategic frameworks which able to manage the complexity can be also expected deservedly from governments too (Cairney 2012, CIPFA 2013, Dolphin – Nash 2012, Duit – Galaz 2008, Duit et al. 2010, Gilpin – Murphy 2008, Jones 2011, Kovács 2014, Nooteboom – Termeer 2013, Swanson – Bhadwal 2009).

The general auditing functions and features (GAFF) of a specific SAI should be harmonized to this circumstances in order to reach greater responsiveness, more refined interpretative skills and more powerful impact (van der Knaap 2011). Placing logically the organization in question in a complex system is not a new thought, one of the first initiation could be linked to Pat Barrett – the former Auditor General of the Australian National Audit Office, ANAO. In his publication he has explicitly emphasized the importance of the organizational adaptation and the challenges of value creation (Barrett 2000). It is clear from his reasoning that the ANAO could only be relevant and generate "fresh" impressions gratifying public interest, if it would be recognized that the organization works in knowledge-based industry and with the help of the re-calibrated management higher performance could be realized. In the light of the foregoing findings he considers the following factors particularly important:

- the importance of creativity, the acquisition of knowledge, adoption of new technologies
- building up knowledge networks and effective operation
- branding and demonstrating the value and benefits of SAIs
- knowing the needs of the society
- creating changes and influence social norms
- tutorial and facilitator functions
- considering sustainable development aspects and long-term effects
- being professional, top organization

In certain areas of the competitive sector (knowledge-based services, creative industry, IT-sector) several organizations formed which have been developed such techniques and solutions by which the management of the complexity can be successfully implemented. So far these new ideas and methods have been only marginally penetrated into the public sector

and in case of Supreme Audit Institutions it has not yet been completely and systematically developed. The next section deals with the discussion of the theoretical aspects of the complexity management to provide a starting point for adoption regarding the public value creation of SAIs.

5. The management of complexity

In the private sector some exemplary companies can be found which are able to manage the complexity successfully, their organizational structures and leadership styles are subordinated to this new paradigm. Some of them – which accomplish and realize it at a professional level – serve as good examples even for the public sector: inter alia CNN, Google, PIXAR Animation Studios, Prezi. In their value creation chain numerous special elements can be observed. The different concepts of value creation in the private and public sector are evident, although the addressing the issue of complexity can be the point of intersection.

In order to manage the complexity sufficiently, the only way for a proper response if we increase our organization's complexity as well. Blending of the complexity and organizational theory is not a newfangled idea. Such companies can be better, more efficient and prosperous than a traditional/mechanical/bureaucratic one (Allen 1988, Burns – Stalker 1961, Brown – Eisenhardt 1997, Morgan 1997 in Levy 2000).

Enterprises operating in knowledge-based, information economy – producing non-traditional industrial products – can be labeled as „new generation" organizations. Similar to the complex adaptive systems within organizations, collaborative networks and interest groups informal, dynamic – in many cases overlapping and/or spontaneously organized – interactions emerge which could subserve the creative problem solving, the learning and the intelligent adaptation. I believe that the relevance of creativity and the innovation, innovative attitudes is important at traditional firms, but here in overwhelming majority the „old-fashioned" specifications bulges out (top-down control, linear thinking, hierarchical structure, predictability, need for simplification and stability).

In case of new generation companies we can meet sub- and super-ordination too (formal relations), but fundamentally there is great emphasis on bottom-up dynamics and informal, ad-hoc, horizontally structured clusters that accompanied with the free flow of information. We can find the complexity, the self-organization, the instability and the adaptive tension (the term was created by McKelvey 2001), which stimulates the rapid innovation that drives the

company forward (Bettis – Hitt 1995, Cawsey et al. 2012, Eisenhardt – Piezunka 2011, Houchin – MacLean 2005, Schneider – Somer 2006). The changes in external environment treated not as threats rather new possibilities for higher value creation. It is obvious that the leadership style should be also adjusted for exploitation the benefits stem from the complexity (Bennet – Bennet 2008, Hazy 2008, Surie – Hazy 2006).

5.1. The complexity leadership theory

The previous criticisms partly answered Uhl-Bien et al. developed the complexity leadership theory (CLT) (Hunt 1999; Osborn et al. 2002 quoted in Uhl-Bien et al. 2007). The CLT-model distinguishes 3 leadership roles: (1) administrative, (2) enabling and (3) adaptive leadership, which complement each other at the same time. The concept creates a link between the traditional organizational leadership functions and the emergent informal processes of complexity.

(1) administrative leadership: such activities which can be predictable, easily coordinated/synchronized, their outcomes can be efficiently and effectively kept under control. This includes bureaucratic functions.

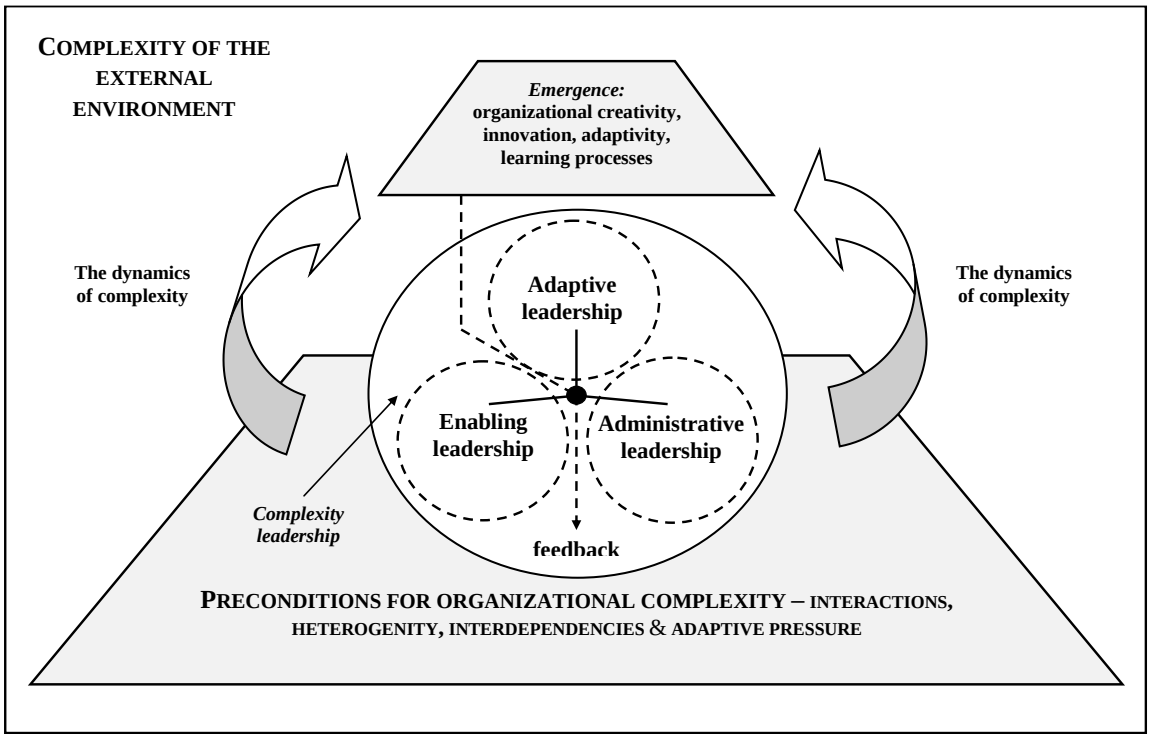
(2) enabling leadership: the basic task here is to provide suitable conditions in order to promote the development of adaptive leadership and the implementation, realization of its results, furthermore it helps the interlacement of administrative and adaptive leadership by handling the adaptive tension.

(3) Adaptive leadership: the authors define it as follows:*„…adaptive leadership is an emergent, interactive dynamic that produces adaptive outcomes in a social system...it originates in struggles among agents and groups over conflicting needs, ideas, or preferences; it results in movements, alliances of people, ideas, or technologies, and cooperative efforts...proximal source of change in an organization”* (Uhl-Bien et al. 2007, p. 306).

It clearly implies that novel, creative ideas, entirely new knowledge or capacities emerge on organizational level and even the quality and speed of learning processes will be favorable influenced. The essence of the concept is summarized in Figure 2.

Based on the apparent similarities and parallels can be stated that the management of the complexity, the means of managerial/regulatory responses can be integrated into the logic of public finances.

Figure 2 The logic of complexity leadership theory and the emergence of organizational creativity, adaptability, innovation and learning.



Source: own construction based on Uhl-Bien et al. (2007)

6. The utilization of complexity leadership theory at SAIs and practical recommendations

The analysis of the issues regarding the efficiency aspects of public policies, providing credible information, formulating opinions about long-term effects of budgetary decisions, the monitoring of the dimensions of sustainable development – including fiscal sustainability –, the accountability of public managers, restraint or balancing of the enforcement possibilities of governmental self-interest, identification of the negative emergent patterns and barriers to public welfare increasingly come into the scope of SAIs. We can consider the Supreme Audit Institutions – knowing their general challenges and complex operational environment – as new generation organizations wherein the new possibilities and paradigm of public value creation can be identified.

The theoretical considerations presented in previous chapters – in my view – are adaptable to this special organization too. The innovation, the creativity, the emergence of new knowledge, the responsiveness of auditing mostly come into the forefront in the field of performance auditing (particularly at problem-oriented performance audits) (Lonsdale et al. 2011; van der Knaap 2011). This is almost the only area where the ISSAI standards allow the

SAIs to form the concept of auditing freely without strict, prescriptive rules (ISSAI 3000). However the audits conducted on regulatory/control- and management systems, the risk analysis and the advisory activities could be also promising fields. Nevertheless it could cause problems that projects analyzed merely audited from the aspects of economy and effectiveness, but the issues of efficiency and the effects on sustainable development are neglected in many case or explained obscurely especially in the input-impact relation. Moreover, the value added of performance audits is difficult to measure and not standardized/unified (van Loocke – Put 2011).

SAIs are committed to their own value-creation and performance, in the course of functioning, they intend to maximize positive effects and impacts (ÁSZ 2013, INTOSAI 2010b, Reed 2013, Talbot – Wiggan 2010). Nowadays we can already find several independent external audit institutions (e.g. National Audit Office UK, Algemene Rekenkamer NL) where some modernization process have started, and they are already at a stage of change and alteration, where certain attributes and features of „new generation" firms can be noticed and identified (operation on the basis of extensive and well-managed knowledge base, high level of flexibility and adaptability, innovation, creativity and the signs of complexity management). The strategic goals and vision of INTOSAI about the value creation confirm/fortify these efforts and initiatives (ISSAI 12). However obstructive factors of change will emerge for sure:

- lack of (basic) resources and capacities (SAIs found mainly in Africa and other developing countries)
- professional disagreements, respect for traditions
- lack of innovative attitudes

Below – relying on earlier thoughts – I enumerate former initiatives and findings, and I formulate novel proposals refer to such characteristics of a new generation SAI by which they could understand, interpret, manage and exploit the complexity. This follows the logic of Moore's strategic triangle. The ideas outlined are initiatives for general application and only call attention to the importance of change.

But I must emphasize, that the suggestions must be formed, clarified and tailored in the light of the working conditions, the general features and possibilities of a given audit institution.

I. Value creation and the organizational performance measurement:

(1) At the SAIs the concept of „public value creation line/chain" should be introduced,

focusing on management and monitoring activities relating the complexity. In order to make the SAIs' performance measurement framework (PMF) more effectiveness, relevant and objective the components of the value creation line should be extended and analyzed/checked on value-for-money auditing level too.

(2) Strenghtening the independence of Supreme Audit Institutions (de jure & de facto). In fact, the most important foundation for the value creation is the independence (organizational, legal, operational, financial independence).

(3) Boosting and integrating the concept of value- and performance oriented behaviour and mindset in the SAIs' everyday work and performance auditing.

(4) The elaboration of new methods and measures considering/reflecting complexity and non-linear processes in order to demonstrate, increase, measure and follow-up the impact (value-added of SAI's work, contribution to public welfare) of the Court.

(5) Increasing peer review activities to promote organizational credibility. In the peer review other SAIs try to reveal shortcomings, risks of operation and form a comprehensive opinion about the examined auditor (ISSAI 5600).

(6) In consequence of the feedback processes – typical for complex adaptive systems – the follow-up audits are even more appreciated, so greater emphasis should be placed on them.

II. Authorizing and supporting environment:

(7) Enhancement of learning processes and public finance awareness (PFA): SAIs should launch/set off learning processes, attitudes and generate needs of actors involved in public finances, civil society, younger cohort as well as provide objective, credible strong points about public finance affairs.

(8) More intense communication with stakeholders (Bringselius 2014, Dye 2009, INTOSAI 2010a) and to build capacities to absorb impulses from the operational environment (public finance system and the society). More effective interlacements with the academics would be necessary, because currently the research of the Supreme Audit Institutions limited and not so popular due to scarcity of data available. Though there are some efforts to build up databases, but they realized only some success. It is very encouraging that more and more SAIs use up-to-date communication channels (Facebook, Twitter, Youtube), moreover for example the European Court of Auditors recently will introduce its new communication strategy and spokesman.

(9) Measuring own organizational performance and release the results considering the needs of continuity and comparability.

(10) Detect and understand the imaginations of the society about value and public welfare.

III. Capacities, capabilities and the development of auditing techniques:

(11) Introduction new leadership and management techniques, especially the complexity leadership style and arrangement (particularly the adaptive and enabling style).

(12) Formation of stimulating working environment, liberation of communication within the organization, installation long-term incentives, reinterpretation of personal and organizational performance indicators.

(13) Hunting for new and non-traditional resources. In the value creation line should appear new kinds of inputs and elements such as the cooperation, commitment, knowledge, creativity, innovative skills and credibility. The trinity of value creation (independence, credibility, knowledge) has increasing significance. The measuring and improving of the elements of value creation should be treated as high priority issue.

(14) Rethinking focus points of auditing: in performance audits greater attention should turn to efficiency, sustainable development and public value creation issues. New challenge could be the detection of emergent patterns on macro level, I denote it "emergence audit". From the point of view of auditing methodology in this case the deeper, investigative/exploratory social network analysis will play more important role than the classical statistical sampling.

(15) Improving organizational and personal learning capacities: building knowledge in connection with auditing, free flow of best practices within the INTOSAI community.

(16) Selection of auditing topics: bottom-up initiatives within the SAI for the selection of value-for-money topics contrary to the recently observed top-down planning (Put-Turksema 2011).

(17) Projects with seemingly less risk and relevance should be also audited because of non-linear traits since they could induce such impacts in the society which could enjoy deeper interest or affect the accountability system. This can contribute to the restraint of harmful emergent patterns (corruption, rent-seeking behaviour etc.).

(18) Building capacities to understand complexity, the motivations for self-organization, to detect emergence and to get the big picture about the whole public finance system and its context.

The aforementioned listing could give strong points and additional ideas to serve a more efficient value creation at the Supreme Audit Institution which could contribute to the improvement of social benefits in terms of common good and welfare.

7. Summary

The management of complexity, the adaptation capabilities, boosting the innovation processes, fostering the organizational level creativity could induce long-term competitive advantages in favour of the knowledge-based, post-modern companies. My basic premise was that the concept of complexity can be integrated into the public value creation of Supreme Audit Institutions. Studying these special institutions within the frameworks of the complex systems theory I have concluded that the Supreme Audit Institutions can be considered as „new generation" knowledge-based organizations which could successfully adapt to external, complex operational environment and thereby generate higher social impact (public value). After the theoretical considerations and arguments I formulated practical recommendations which could be indispensable or necessary preconditions for a modern Supreme Audit Institution.

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