Research Article

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The octograph and the delight of understanding organizational artistry

How to enjoy social interaction and stimulate job performance?

Abstract: This paper proposes the Octograph, a cube-like model of leadership and organizational performance. Eight concepts, placed on eight corners of the cube, create eight triangular models and four processes of Decision-making, Communication, Production and Innovation. The eight concepts are nested together through one-arrowed dependency lines. Saying «Leadership» depends more on «employees» than vice versa, presupposes causal explanations of the how and why of the dependency.

1 Introduction

Charles W. Kennedy (1987: 139) says that «Organization theory has become too complex for managers and employees to understand and apply». The conceptual framework:[1] The main Research Area of this paper is Organization & Leadership. The Research Topic is causal Modelling. The Research Question reads: In which way does a leader, despite dependency on supportive groups, stimulate development & growth using the process of Decision-Making, Communication, Production and Innovation (Henceforward the DCPI-processes)[2]. The Research Objective is to puzzle out answers to questions on DCPI-processes.

The Research Activities/writing process are as follows: First, to highlight the Process of Throughput, the cornerstone in GST (General System Theory), using inherent criteria like the SEGD (Strength/Solidity, Extent, Genus Proximum & Differentia Specifica) as well as contextual acronyms like the PEAK (Power, Earnings, Activities & Knowledge). Next, to highlight the DCPI-processes of throughput (the process of Decision-making, Communication, Production & Innovation) within the Octograph. Then, to elaborate two triangular models: The System of Distribution and the Process of Communication, and the phenomenon of oscillation between task performance and social interaction. Finally, to conclude with alternative understandings of the Octograph.

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1 Seen through the PEAK-attributes, the Research Area identifies the field of research, and the research Topic identifies a specific topic within this field. Both are factors of Power (P in PEAK). The research Questions, whose answers will guide solving the problem, and the research Objectives behind such questions, are both factors of Earnings (E in PEAK). The research Activities (A in PEAK) are things to be done to meet each of the research objectives. This conceptual framework that guides the writing process is a factor of Knowledge (K in PEAK).
2 The four DCPI-processes are organizational processes, created by Al-Araki in close relation to the acronym PEAK (Power, Earnings, Activities & Knowledge).

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2 Throughput & organizational theory

General System Theory (Henceforward GST), ascribed to Ludwig von Bertalanffy (1950), has four linear elements that cover Input, Throughput, Output & Outcome. These are explicitly or implicitly used in almost all theories of organization.

Throughput – the main element of GST – happens when materials or items passing through the system are correctly operationalized and processed. Burns & Stalker (1961) say that creativity and innovation demand adaptation and acceptance from employees. However, this cannot be carried out *in isolation from prevalent* internal arrangements where throughput is in question.

To operationalize the process of throughput, authors use concepts like People, Tasks, Structure and Technology, as in Leavitt's Diamond (1964). Gwen Andrew (1965) elaborates on a systemic model for organizational analysis. Lawrence & Lorsch (1969) apply a system of causal implications for developing organizations. Beer (1980) elaborates a systemic view of change and development. Cummings (1980) operationalizes all the elements of GST in his System Theory for Organization Development.

Processing materials and items according to GST differ among authors and organizations due to methodological differences. For instance, when measuring the constitutive elements of the "thing-in-itself", e.g., a conflict-in-itself, using inherent SEGD-measurements (Strength/Solidity, Extent, Genus Proximum & Differentia Specifica). The SEGD-measurements of a *conflict at work* could, for instance, be described as Serious (S in SEGD), Broad (E in SEGD), Personnel-related (G in SEGD) and/or Specifically related to Distribution of Responsibilities, Resources and Role (D in SEGD). Furthermore, among the contextual PEAK-acronyms (Power, Earnings, Activities & Knowledge), the Differentia Specifica (D in SEGD) may have an impact that conditions the Activities (A in PEAK) implied in that conflict. Other impacts could emerge from combinations of the constitutive SEGD-elements and the contextual PEAK-acronyms.

Complex System Theory (CST), as opposed to GST, has rather abstract properties like the property of emergence, that of parts nested together and that of parts not containing the whole (Anderson, 1999; Steel, 2000). Here we need to understand causal modelling and the mental perception that enables us to grasp the emergence of the coming into being of an idea or a picture as the case is in social psychology when gaining awareness of apparently perplex perceptual figures. The property that the whole is greater than the sum of the individual parts leads our mind to fill in missing information while expecting the phenomenon to emerge during perception.

In «A Causal Model of Organizational Performance and Change», Burke and Litwin (1992) use eight small cubes that expand the 7S model of Pascale and Athos (1981) with seven variables: Strategy, Structure, Systems, Style, Staff, Skills and Shared values. Each of the eight small cubes reminds in shape of the Octograph. However, as separated cubes they do not fulfil the property of parts nested together as recommended in Complex System Theory.

Throughput has many facets. Morel & Ramanujam (1999) envisage complexity through organizations having adaptive and evolving systems. Rockart and Short (1991) describe network organizations as heading towards unclear lines of authority, an increased role complexity and a need for cultural adjustments. However, the most direct expressions of Throughput lies in the theories of Beer (1980) and Cumming (1980) who create, detail and exemplify the elements of GST in their books.

In their "Cracking the Code of Change", Beer & Nohria (2000) introduce two basic theories of change. Theory E change, a "hard" approach that emphasizes economic incentives, and Theory O Change, a "softer" approach that emphasizes developing culture, teamwork, and communication. Change happens through carefully and simultaneously balancing these two approaches. Here throughput is detailed in a table with three columns showing elements of change dimension (goals, leadership, focus, process & reward system) and how to combine theories E & O while referring to practical examples on each element.

Transactional and the relatively new approach of transformational communication are directly or indirectly connected to throughput and to socio-psychological areas (Price & Weiss, 2013). Transformational leadership is also discussed in the writings of Tichy and Devanna (1986), Morton et al. (2011), Giltinane (2013) and Zhu, Avolio, Riggio, & Sosik (2011: 805). Transactional and transformational theories remind of E-change and O-change approaches of Beer & Nohria.

The above concepts and theories operationalize throughput based on differentiated conceptions of General System Theory. Others describe throughput using acronyms (Sternberg, 2003) or taxonomies (Camarinha-Matos & Afsarmanesh, 2008), illustrated in circles, cubes and/or boxes. In Leadership literature two theories excel with their causality. These are the Yukl's Multiple Linkage Model (Yukl, 2006) and The Decision-Making Tree of Vroom & Yetton (1973). On the other hand, Complex System Theory is comparatively less frequent in Organizational literature probably due to the demanding nature of the properties of CST.

The cube-like model, the Octograph, discussed in this paper, combines the four elements of GST with the rather abstract properties of CST to differentiate between parts of the cube not containing the whole, experiment with parts nested together and theocratize on emerging properties. The organizational processes, the DCPI-processes, the PEAK contextual attributes, and the SEGD-measurements are also considered during this differentiation, experimentation, and theory building. Explanatory examples are given underway in this paper.

When buying a bouquet of flowers, for instance, and the florist uses her Input of materials and her professional insight to design a bouquet that satisfies your request, you may, upon receiving the Output, praise the designer saying: «Oh, very beautiful indeed. Thank you! ». This Outcome is due to your perception of the entire bouquet of flowers where parts are beautifully nested together. Upon satisfactory performance of a task, the sum of Earning (E in PEAK) received by the person could be called "Solid" remuneration (S in SEGD-measurements). The judgements as "Solid" can further be differentiated when asking "Solid" according to which PEAK-attribute, and to which measurement. Solidity can be due to Activities or Artistry (A in PEAK) and be valued as Differentia Specifica or the difference that makes the difference (D in SEGD).

The DCPI-processes (Decision-making, Communication, Production & Innovation) of throughput are interconnected. When baking bread, for instance, you first decide to bake bread (Process of Decision-Making), and here your need Input. Then, you communicate your decision further (Process of Communication), first to yourself, reflexively (Adams, 2006; Pillow, 2003; Probst & Berenson, 2013), and then one word to your friend. Så, you start production (Process of Production). Once the bread is out of the oven, your friend tastes a slice of the Output, and expresses discontentment. Outcome measures the quality of the product and it may lead you to change something or revise the entire throughput (Process of Innovation). This example combines GST with the DCPI-processes.

From the above examples, it follows that rethinking throughput may renew associations and reduce the complexity of organizational theory, previously worded by Charles W. Kennedy (1987: 139). Here come the properties of CST (the property of emergence, that of parts nested together and that of parts not containing the whole), as a kind of speculative thinking that causes newer ideas to emerge.

3 The octograph & associative thinking

Drawing upon his encyclopaedic political experience, Ibn Khaldūn (1332–1406) illustrates eight sentences of political wisdom in a circle-model in his Muqaddimah(Ibn & al-Araki, 2012b: 72). He ascribes this political wisdom to among others a pseudo-Aristotelian "Politics", known as Sirr al-asrār "Secretum Secretorum." It is said that these sentences on political wisdom have been spread during the 14th century in connection with the constitution of the Athenians (Gilbert, 1928).

The Khaldounian circle-model begins with: «The world is a garden, the fence of which is the state. The state is an authority through which life is given to proper behaviour. Proper behaviour is a policy directed by the ruler. The ruler is an institution supported by the soldiers. The soldiers are helpers who are maintained by money. Money is sustenance brought together by the subjects. The subjects are servants who are protected by justice. Justice is something familiar and through it, the world persists. The world is a garden... – and the previous sentences are repeated.».

Al-Araki worked out the above mentioned eight political sentences, adapted them to organizational theory (Al-Araki, 2005a) and abridged them into short concepts and acronyms. These are thereafter structured in triangular models and nested causally together in a cube that Al-Araki calls "the Octograph" (cf. Figure 6). The eight acronyms and concepts gave dynamic and causally interactive eight triangular

models, four of them cover the DCPI-processes of throughput (Decision-making, Communication, Production & Innovation).

The Octograph requires that one acquires, improves and masters certain didactical techniques (Ibn & al-Araki, 2012b: 1094–1095) as well as methodological approaches to discover the eight concepts, their sequence on the corners of the cube and the rationale behind their dependency relations. This may lead to associative thinking & Theory building (Ibn & al-Araki, 2012b: 297–298). The thing «in itself» and in «its context» are kept in mind during such reflections. A concept in itself generates ideas on spot reading. An arrowed-line between two concepts generates arguments from their dependency.

Accordingly, this paper involves the reader in reflexive thinking and self-organization of ideas (Hébert, 2014). Since the part does not include the whole (cf. CST), it is possible to discuss each of the eight triangular models apart. The following steps are useful when brainstorming a triangular model:

Step 1: Localize the concepts and lines of a triangular model in a cube to reveal the area they occupy.

Step 2: Reflect on the associations emerging when reading the four concepts of the triangular model. Suppose the four concepts belong to the System of Distribution of Responsibilities, Resources and Roles (cf. Figure 1). They could give some associations, for instance, when answering the question «In what way could the System of Distribution be affected by Objectives & Plans?». This may lead to other ideas and arguments.

Step 3: Reflect on the logic of the internal dependency relations or the one-way-direction of arrows in the triangular model.

Step 4: Reflect on the external relations affecting the extremities of the triangular model.

The triangular models of the Octograph are similar in form, but not in content. To avoid tautology, two of them are selected for detailed elaboration. The first is the System of Distribution of Responsibilities, Resources and Roles (henceforward: The System of Distribution), metaphorically termed the «Nucleus», borrowing all its three lines from other triangular models (cf. Figure 1). The second is the Process of Communication, metaphorically termed the «Octopus», i.e., the glue that connects together all the parts of the Octograph (cf. Figure 2), keeping its independent lines and overwhelming dominance. Each of the two triangular models has its internal causal relations and rationality, as shown through associative thinking to exemplify them separately and in combination.

4 The nucleus: the system of distribution & the management of flexibility

Flexibility upgrades the System of distribution, the reason why the title of this section reads «The System of Distribution and the Management of Flexibility».

The system of distribution (the organizational chart) channels behaviours, rights, and duties in the desired direction. Employees are holders of positions and roles. Three dependency relations constitute the logic of this triangular model.

The first dependency relation ($\check{D} \leftarrow I$) indicates that the System of Distribution depends on input and demand from customers, the reason why line 10, connecting the two elements of dependency, is labelled «Management of Input and Flow of Demand». Somebody in the organization receives information about which products are in demand, by which category of customers and based on which Objectives & Plans. Reversing this dependency weakens the influence of external actors.

The second dependency relation ($\check{D} \leftarrow \hat{O}$) indicates that the System of Distribution depends on respect for Objectives & Plans, the reason why line 3 is labelled: «Norms, Rules and Follow-Up Systems». Line 3, connecting the floor to the roof, is a solid line. Supporters should comply with norms & rules. Reversing this dependency disregards respect for norms & rules. Dissimilar interpretations of strategies flourish.

The third dependency relation indicates that the Output of Resources & Task Mastery – production – depends on how the System of Distribution is maintained ($\tilde{O} \leftarrow \check{D}$), the reason why line 8, labelled: «Working Conditions and Organizational Learning» is a stippled value-ethical line, permitting the viable flow of output to customers. Saying «Output depends on the System of Distribution», implies ethical and

appropriate distribution of Responsibilities, Resources and Roles. Reversing this dependency may favour the few who master the job from before. Flexibility and organizational learning may benefit selected individuals, leading to favouritism, partisanship, and biased competency building.

The rationale behind the three main dependency relations in Figure 1 sum up as follows: Appropriate distribution of Responsibilities, Resources and Roles, enables the workforce to meet input and demand from customers in accordance with objectives and plans. The output, itself dependent on the System of Distribution, becomes the result of cumulative task mastery, also technologically. People learn while producing, and the more they learn, the better they produce.
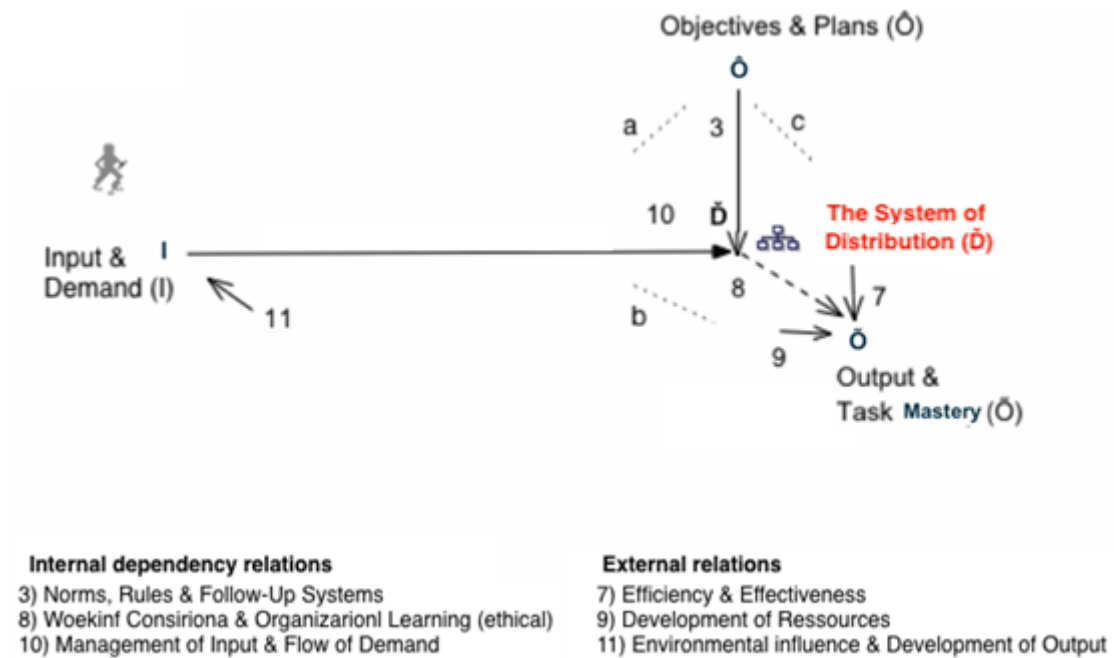

Figure 1. The System of Distribution of Responsibilities, Resources and Roles – the Nucleus. The organizational chart is at the corner Distribution «Ď». Cf. the complete Octograph in Figure 5.

The leader's message to his followers should then be: Do your best to meet Input & Demand from the environment, in accordance with our Objectives and plans so that the Output of Resources & Task Mastery responds to the customer expectations. Such a message is obviously dependent on followers' cohesion & commitment (cf. the process of communication in Figure 2).

Suppose that Apple Company has established a new division to exchange older devices for newer ones. This affects the structure of Responsibilities, Resources and Roles at corner «Ď», Apple's Objectives & Plans at «Ô», Input & Demand from customers at «I» as well as Output & Task Mastery at corner «Õ». Now, which of these four corners (I, Ď, Ô & Õ) constitute the Differentia Specifica (D in SEGD) as to organizational performance? It is « I » – Input & Demand – that plays a decisive role as to efficiency and effectiveness than that played by the other corners. When demand from customers at «I» reaches the organizational chart at «Ď», it is redirected to where it hierarchically belongs, i.e., to one responsible for exchange of devices at Apple. Other relevant questions are: Where does this responsible one have her office? What is the extent of her responsibility regarding the exchange of devices? Which responsibilities does she has control over?

Having a position in a company presupposes that one knows who depends on whom, how to relate to others, adhere to norms and systems and learn while working. The output is favourable when customers express satisfaction over the outcome of products and services rendered (cf. line 12 in Figure 2), and when followers get informed through internal and/or external feedback.

When not illustrated visually on a chart, the structure of an organizational (corner «Ď») is in the heads of

actors. Structure means the arrangement of tasks and people within specific areas and levels of responsibility to implement the organization's mission and strategy. According to Michael Beer, structures and processes mediate the relationship between people's needs and capacities when they enter the organization to live and work in it. He says that structures often do not sufficiently capture flexible tasks in modern organizations. He further says that there «... is some evidence that low correlations between individual characteristics and performance criteria are a function of inappropriate organizational arrangements, such as job design, organization structure, and management process» (Beer, 1980, p. 90). Christian Korunka et al. (1999) say that technological innovations lead to adjustment of roles, but also to problems of self-esteem when people hide their technological "ignorance" from others. Technology provides opportunities and newer challenges (Benson & Dundis, 2003).

The external relations (lines 7, 9 & 11) coming from the near surroundings of Figure 1, affect only the main concepts of the triangular model. «Environmental Influence & Development of Output» that affect Input & Demand, expresses the interest of supporters and customers.[3] How often we develop material and human resources is subject to the necessity of what to develop, when and how to develop it. Development efforts should, in the long run, lead to conformity with reality «Ö» to secure the survival of the organization.

Services rendered to clients consist of what to render, how and why, with which effects and through which media. The main clue for steering modern organizations is to adjust the weight of the System of Distribution on different levels of performance.

Performance that stimulates throughput is measured through internal efficiency, i.e. maximum productivity with minimum waste, as well as external effectiveness, i.e. the satisfaction of needs (Davis & Peri, 2002; Tulloch & Epstein, 2002).

In addition to internal and external dependency relations, the triangular model in Figure 1 shows also three supplementary relations marked with lines «a», «b» and «c», but without arrows. These relations are whether conditional, less realistic or indirectly covered by other relations.

As previously mentioned, leaders stimulate growth & development (cf. Research question) through adjusting the System of distribution. The more technology at work, the more need for flexibility and the more important is the management of Cultural-Mix, i.e. the mix of cultural affiliations and identities (A. M. Al-Araki, 2015), as underlined in the Process of Communication – the Octopus.

5 The octopus: the process of communication & resource development

Communication develops through participation and involvement, secures attentiveness towards customers and promotes organizational learning, the reason why the title of this section reads «The Process of Communication and Resource Development».

The Octopus restricts the socio-psychological mix of Supporters to corner «S» where they depend on Development of Resources (S ←·· D), the reason why line 6 is labelled «Cooperation, Development & Co-existence», an optional value-ethical line where competency building is customary. Supporters depend also on Empowerment & Economic reasoning (S ← E), the reason why line 5 is labelled «Economy & Satisfaction of needs». In other words, employees have a double dependency. They aspire to development and favour empowerment. Leadership depends on them (L ← S) and is responsible to them, the reason why line 4 is labelled Responsibility to Supporters. Line 4 & 5 are solid lines, i.e. not optional value-ethical lines.

Leaders have, similarly to supporters, a double dependency (cf. external relations). Their performance depends on Objectives & Plans (L ← Ô), the reason why line 1 is labelled «System of Loyalty & Managerial Responsibility». They also depend on Input & Demand from clients and customers (L ←·· I), the reason why line 12, an optional value-ethical line, is termed «Responsibility for Input & Demand, and for Conformity of outcomes with expectations».

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3 Environmental dimensions around the cube (SWOT-dimensions) are outside the scope of this article.

External relations

1) System of Loyalty & Managerial Responsibility
2) Participation & Involvement (ethical)
12) Responsibility for the Conformity of
Outcomes (ethical)

Internal dependency relations

4) Responsibility to Supporters
5) Economy & Satisfaction of Needs
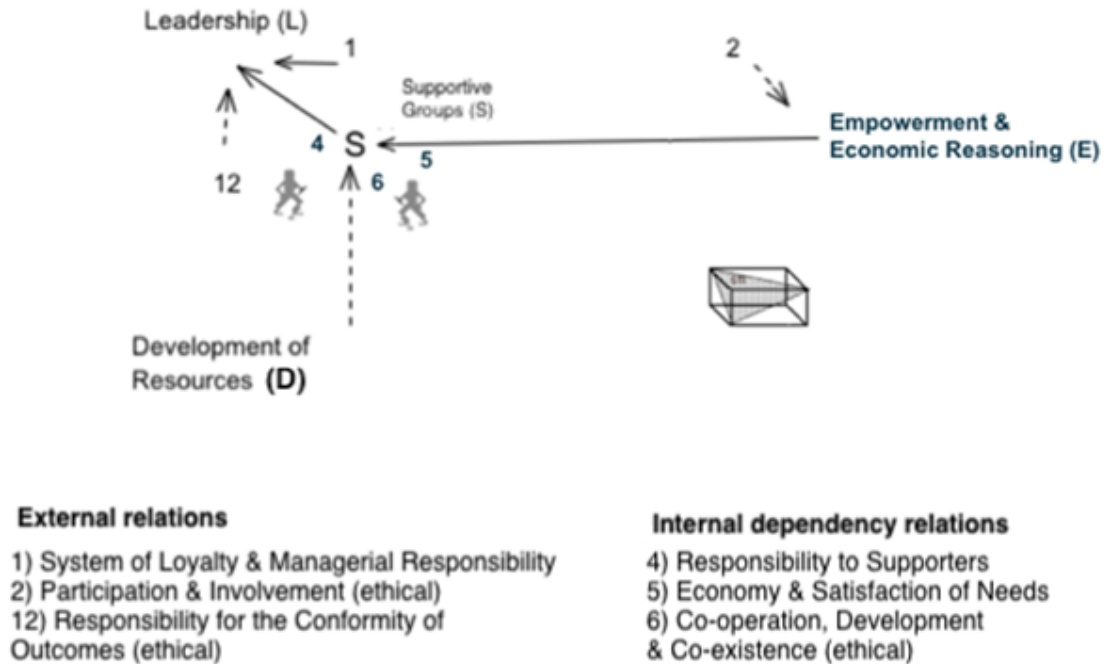6) Co-operation, Development
& Co-existence (ethical)

Figure 2. The Process of Communication – the Octopus –and the Management of Cultural-mix. Cf. the complete Octograph in Figure 5

The internal dependency relations (lines 4, 5 & 6) condition leader's external relations. Responsibility to Supporters (line 4) presupposes a just exercise of leadership authority. Economy & Satisfaction of Needs (line 5) presupposes more earnings than losses. Both require «Co-operation, Development & Co-existence» (line 6). Despite the importance for employees and customers, line 6 risk not to be considered as an organizational asset.

The external relations (lines 1, 2, & 12 in Figure 2) refer to the System of Loyalty & Managerial Responsibility, to Participation & Involvement and to Responsibility for the Conformity of Outcomes with expectations. Lack of conformity between plans and factual output could invite the leader to review the system of Loyalty and Managerial Responsibility (line 1).

The dependency of Leadership on Supportive Groups entails many transformational challenges as to how they spend allocated resources and carry out delegated responsibilities. What is produced and what is delivered, and according to which Objectives & Plans, demand communication and information.

However, employees are often implied in choosing, structuring and reporting information to their leader. To deal with her dependencies, the leader could, therefore, require that employees provide structured information about the dependency of Output on the System of Distribution, itself dependent on Objectives & Plans (Figure 5 visualizes the chain of dependency of Output: $\tilde{O} \leftarrow \check{D} \leftarrow \hat{O} \rightarrow L$). Exchange of meanings and participation may result in habituation, collegiality, and co-existence. Thus, employee cohesion develops further.

Now, whenever the leader does not pay attention to the double dependency of supporters (lines 5 and 6), the information forwarded by supporters may turn out to be ineffective as to the leader's double dependency. Empowerment of employees and their ability to reason economically, «E», are effective only when real participation & involvement are clearly prescribed in organizational policy «Ô». Development of resources and competency building «D» could, when not taken seriously, disturb the flow of communication among actors.

A leader depends on supporters more than they depend on her because any position of power and authority (P in PEAK) depends on support from followers. The surroundings of the leader measure the

Extent (E in SEGD) of that support by reference to organizational output and to the flow of information between leader and employees.

However, among employees there will always exist persons with shared Solidarity feeling «S», Team commitments «T» and Individualistic tendencies «I» (STI are derivatives of "S" in Figure 2). There are also people with high interest in issues of development «D», and high capacity to reason economically «E». Others are less creative, with low interest in the development and low economic reasoning (cf. Figure 2). For leadership, turning «low» to «high» is a socio-psychological challenge that goes beyond the concrete allocation of resources. To enjoy the company of one another (Al-Araki, 2015) demands a just exercise of leadership authority. The transformational leader must sometimes find individualized communicative approaches that suit one or some of the members of her groups, drawing upon their cultural-mix as holders of different identities and styles of acculturation (A. M. Al-Araki, 2015).

According to Luhmann (1990), one is always selecting the desired premises for one's actions, and the three systems that maintain communication (Luhmann, 1985) are the biological, the psychic and the social systems. The psychic and the social create and maintain consciousness (thoughts, feelings, perception, memory, etc.). Successful communication means that employees carry out their jobs efficiently and effectively. We normally mediate written materials in a way that others should understand. However, written communication is often subject to different interpretations, contrary to oral communication where questions are raised and answered on the spot. Both should be practiced in working places.

Leadership seen through the dependency relations in Figure 2, gives the following rationale: As our leader, you have to make recognisable your platform of responsibility, observe and care for our socio-psychological cohesion, spread welfare and empowerment among us so that we manage to reason economically to the benefit of the group and the organization. Our customers are under continuous change, and the same applies to us. Concurrently with this, you must also develop services and products as well as internal human and material resources. This presupposes that you are at ease with our cultural-mix, and with that of your colleagues. Only by doing so, you will manage to anticipate our workload and do something with our role-conflicts. (This rationale is based on lines 1, 6 & 12, as well as concepts «E» & «D» in Figure 2).

The profile of leader-colleagues, their appraisal of one another, their ethical guidelines (Jonathan, Halbesleben, Ronald, Harvey, & Novicevic, 2006) are transferable to communication between leader and followers as well as among followers. To be an effective leader in one's own department also presupposes that one is actively present among leader colleagues and on higher levels. In the coming pages, Figure 3 combines the previously elaborated Figures 1 & 2.

6 Oscillation between social interaction & job performance

Oscillation is switching on and off when at work, due to social interaction or the magnitude of job performance. It happens on different organizational levels and has constructive and destructive effects.

The roof and the sidewall to the left symbolize transformational performance where supporters, corner «S», are considered as holders of identifies and styles of acculturation. Similarly, the lines connecting the floor and the sidewall to the right symbolize transactional performance where all actors, corner «Ď», are considered as part of the System of Distribution. Other geometrical shapes of the cube permit other reflections on organizational performance. Meanwhile, balancing performances reduces mental switching between corner «S» and corner «Ď». When activities are in accordance with objectives & plans «Ô», genuine Participation and Involvement «ethical line 2», cf. Figure 5, could generate a connection between the concepts of the floor and of the roof. The leader and the change agent have dissimilar functions, due to operational and cognitive role specialization.

A leader, corner «L», maintains a system of responsibilities and a system of thoughts, identities, and self-esteem. The first system includes the responsibility for steering the organization, for handling employees, for observing efficiency and effectiveness and for accepting change consequences. The second system is when meeting others and the leader becomes involved in the exchange of meanings, participation, ownership of ideas and organizational learning. Initiating change is top-down. Performing change is bottom-up.
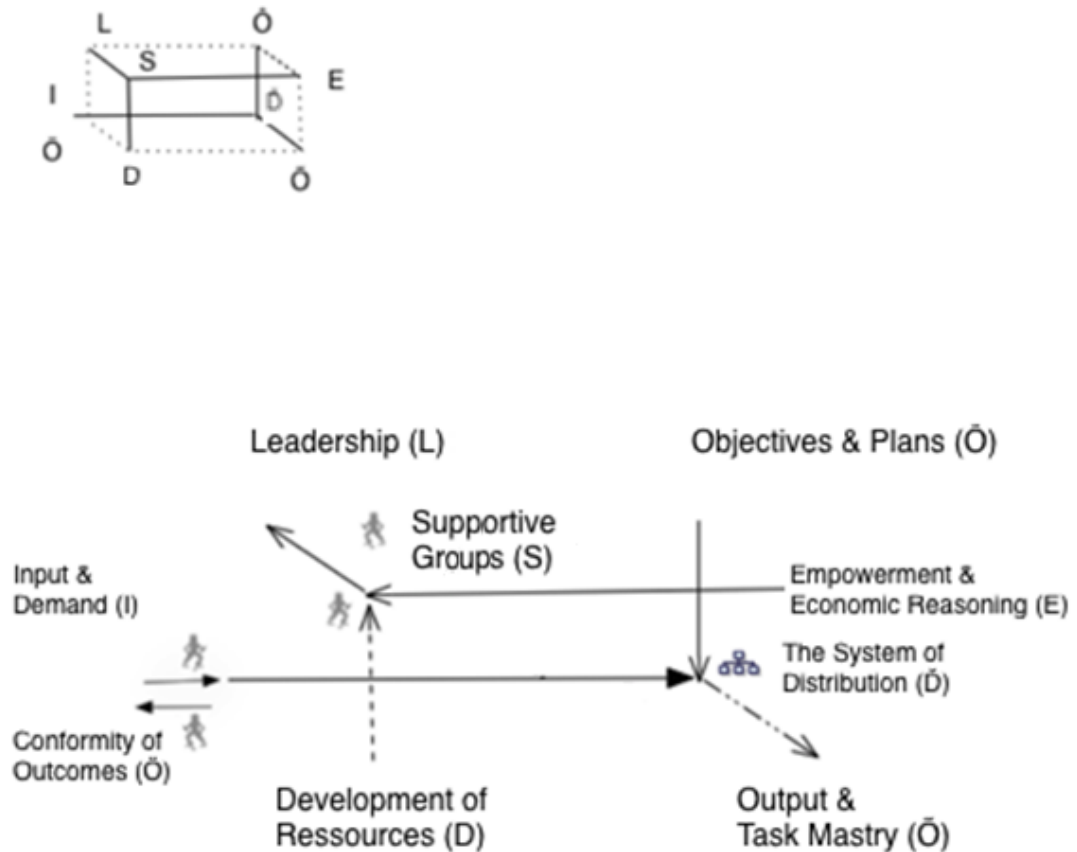
Figure 3. Combines the two previously discussed triangular models.

A change agent, corner «S», performs bottom-up to realize savings through attention to productivity, working conditions and resource development. Therefore, the agent must possess the necessary organizational understanding, problem-solving methods and knowledge of project management. He or she has to control, together with leadership, the output achieved and undertake the final evaluation of projects and pay attention to the follow-up of deliveries, keeping an eye on deadlines and eventualities caused by innovation itself.

However, leader & change agent play various roles & functions when operating from within the four DCPI-processes. The process of Decision-making gives rise to roles like system-analyser, plan interpreter, decision-maker, actor eligible for participation, etc. The process of communication gives rise to roles like conflict-manager, socio-psychological colleague, mentor, supporter, creator of economic results, actor interested in development, actor who maximizes utility, etc. Production gives rise to roles like person-in-charge, problem-solver, economically reasoning actor, specialist, member of a productive force, loss-reducer, etc. Innovation comprises roles like economic actor, resource-person, responsible for change, creative thinker, consultant, change agent, citizen, etc.

According to Treviño, researchers find that «the attitudes and behaviours of peers in the workplace also affect individuals' ethical behaviour.» (Treviño, Weaver, & Reynolds, 2006: 966). Employees often need «more encouragement for intellectual stimulation from leaders who are less distant structurally, so that they would rethink the problems in the workplace.» (Sheng-Min & Jian-Qiao, 2013: 1731). As to the change agent, involvement is the overall strategy. In certain situations, both leaders may need «inspirational motivation» or «individualized consideration» as prescribed in transformational leadership. Transformational leadership (Bass, 2006, Zhu, Avolio, Riggio, & Sosik, 2011), conceives throughput, and the quality of the relationship between leaders and Supportive groups in four I's: [Alternatively IMCS – Influence, Motivation, Consideration Stimulation].

- Idealized influence: The superior is a role model that appeals to the pride of employees, stimulates self-confidence and challenges the reality of things.
- Inspirational Motivation: The superior inspires employees to accept and strive after a future vision and challenging objectives.
- Individualized Consideration: The superior shows personal respect for employees, considering their individual needs.
- Intellectual Stimulation: The superior formulates new ideas that invite employees to think again over habitual practices and ways of thinking.

Flexibility of modern organizations is like changing dress for each occasion due to the multiplicity of roles. Mental activities differ when playing occupational roles and when interacting socio-psychologically (Al-Araki, 2011: 175; Dolson, 2005; Mintzberg, 1973; Reddin, 1967). Appropriate management of flexibility makes job performance educative, visible and productive. When processing throughput, mental switching is beneficial when it leads to more reflection or relaxation. Otherwise it could also be a loss-maker.

An industrious caseworker shared the goals of her company, delivered effective output in accordance with her roles and responsibilities and within the working conditions and organizational learning that were in vigour (line 8, in Figure 5). Her task orientation was effective. However, she had an overload on her shoulders because she processed, and silently, more cases per day than the average at her department. Socio-psychologically she was less integrated, partly due to hidden feelings of antagonism from colleagues, and partly because she had «lost» direct contact with her leader. Her colleagues gained the favour of this «less alert» leader, giving the impression of being more efficient. Her occupational role is undermined. She kept switching over between her office, where she enjoyed her casework and the cafeteria where she «fought» for integration. Her wavering between her department and her inner circle of close colleagues was destructive. This ended with her quitting the job.

In his book *Experiences in Groups*, Bion (1961) writes that when a group carries out a task, it is assisted by certain mental activities that attribute to the members' powerful emotional drives enabling them to deal with anxiety. Three basic-assumption are dysfunctional whenever they dominate communication: Dependent, Pairing and Fight-flight groups. The first «is that the group has met in order to be sustained by a leader on whom it depends, the second is that two of the group (not necessarily of the opposite sex) are to pair off and produce hope, perhaps in the form of some Messiah Figure or symbol. The third basic assumption is that the group has met to either fight something or else to flee from it.» (Steel, 2001: 3). Regulating the effects of Bion's group-assumptions from within the cultural-mix of the group, affects the flow of communication and the support to leadership. «Leaders who tend to be remembered over the course of history are probably, in most cases, those who transform organizations or, more generally, ways of thinking.» (Sternberg, 2003: 293).

Living and working in an organization generates communication and learning (Argyris & Schön, 1974). An employee can live with deficient distribution of Responsibilities, Resources and Roles, but not with biased competency building or «personal» downgrading. Here, «individualized consideration» should be given to certain actors. Genuine understanding of the weight of their roles is beneficial in a system of follow-up and a discussion of the socio-psychological effects. Organizations are therefore in constant search for measures to improve climate and individual outcomes and reduce conflicts at work and at schools (Burns, 2007; Clarke, 2005; Mathisen & Einarsen, 2004; Ostroff & Rothausen, 1997). When faced with less coordinated tasks, followers sometimes «do things alone, because someone has to do the job! » Neither the diversity of roles nor less coordinated tasks should make it advantageous to do things alone.

Leaders should reinforce followers' cultural adjustment and self-organization (Plowman et al., 2007), i.e. fortify the bridge between transactional and transformational communication (Berson, Nemanich, Waldman, Galvin, & Keller, 2006), but also motivate followers to cross that bridge into other socio-psychological areas (Price & Weiss, 2013). It is, therefore, necessary to react whenever involvement in Decision-Making is scarce, the distribution of Responsibilities, Resources is ambiguous or information on projects is haphazard. The discovery of overburdened and silent actors is the responsibility of all, and particularly of the superior. Flexible strategies and alertness are necessary to discover workload and clarify responsibilities within the cultural-mix of the individuals.

Organizational culture is not bound to working hours. On the way to working places, individuals commute between different cultural spheres. Within the sphere of national culture, the individual meet others and probably communicate freely with them. Once in front of her company, she enters the sphere of organizational culture and may exchange some words with colleagues. However, freedom becomes limited. When reaching her department, specific subcultures emerge, again with less freedom than before. However, acting within her circle of close colleagues, the individual interacts within the limited field of cultural-mix, where a person can feel completely or partially integrated, calculating the pros and cons in a situation or avoiding it altogether.

Communication finds its fertile terrain within the sphere of cultural-mix and its counterproductive effects may remain concealed for the surface observer. When employees meet in different social settings, some may complain openly about workload and working conditions. Others remain silent.

The previous discussion is about how to stimulate growth & development using the DCPI-processes of the Octograph. The coming pages discuss a simplified and a comprehensive referential Octograph.

7 Simplified & referential octograph

Geometrical reasoning is a powerful thinking tool. Ibn Khaldūn says that «Geometry enlightens the intellect and sets one's mind right» (2012a: 414 – 415). Geometry is resurging anew (Dennis, 2014). In the coming pages, the Octograph is simplified in Figure 4 and detailed in Figure 5.

Focus on corner «Ď», in Figure 4 and «pull» it towards you and back in place again. You will probably switch from one optical illusion to another. This optical illusion suggests that organizational realities are in constant change.
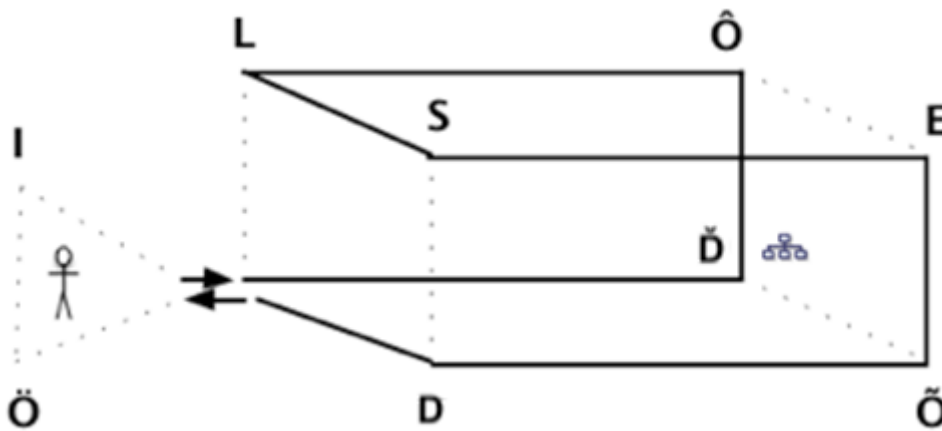

Figure 4. The capital letters stand for the inner sequential logic in the Octograph. I = Input & Demand. Ď = System of distribution. Ô = Objectives & Plans. L = Leadership. S = Supportive groups. E = Empowerment & Economic Reasoning. Ō = Output. D= Development of Resources. Ö = Conformity of outcome with reality. When brainstorming, one may need to draw a simplified cube as in Figure 4.

The capital letters on the corners of Figure 4. The letters illustrate the flow of task performance from Input «I» to Outcome «Ö».[4] They are abridged and coined in the sentence «IĎÔL leads SEŌ to DÖ», meaning to realize development, «D», and conformity of outcome, «Ö», with reality.

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[4] The sentence «IĎÔL leads SEŌ to DÖ» is coined to roll the tongue and make the contents easy to remember. The accents differentiate between similar letters: Ď, Ô, Ō & Ö. "IĎÔL" refers to an admired leader who leads "SEŌ" to realize an efficient and effective output. To "DÖ" stands for Development of Resources and Conformity of Outcome with expectations. These letters depicted on the eight corners of the cube, can, alternatively, be included in a circle with eight sectors.

To draw the cube in Figure 4 without lifting the pen of the paper, follow the eight bold lines in the figure, starting with Input «I» and ending with Outcome «Ö». To appreciate the sequential logic of the cube, repeat the drawing while stopping, for instance, at corner (L) and corner (S), putting the question: which one of these two corners depends on the other? The answer: L ← S. Each corner describes an area of activity and gives different associations when envisaged against other corners (cf. also Figure 5). At each corner, questions could be generated and answered momentaneously, and dependency relations depicted. This is the reason why Figure 4 is almost without dependency arrowed-lines.

Suppose you are attending a seminar on the involvement in decision-making. You have drawn a simplified cube as in Figure 4. When the speaker mentions Empowerment «E» and Objectives & plans «Ô», you put a tick under each letter, reasoning that «E ← Ô». You may also put another tick under Leadership «L» to confirm that «L ← Ô», or under Supportive groups «S ← E», to underline the importance of their involvement and so forth. The roof in Figure 5 pictures these three dependency relations. The corners not covered by the speaker could permit you to elaborate further on your ticks or put explanative questions. By the end of the seminar, you may have a mind map showing your ticked components, probably with reasoned dependency arrows.
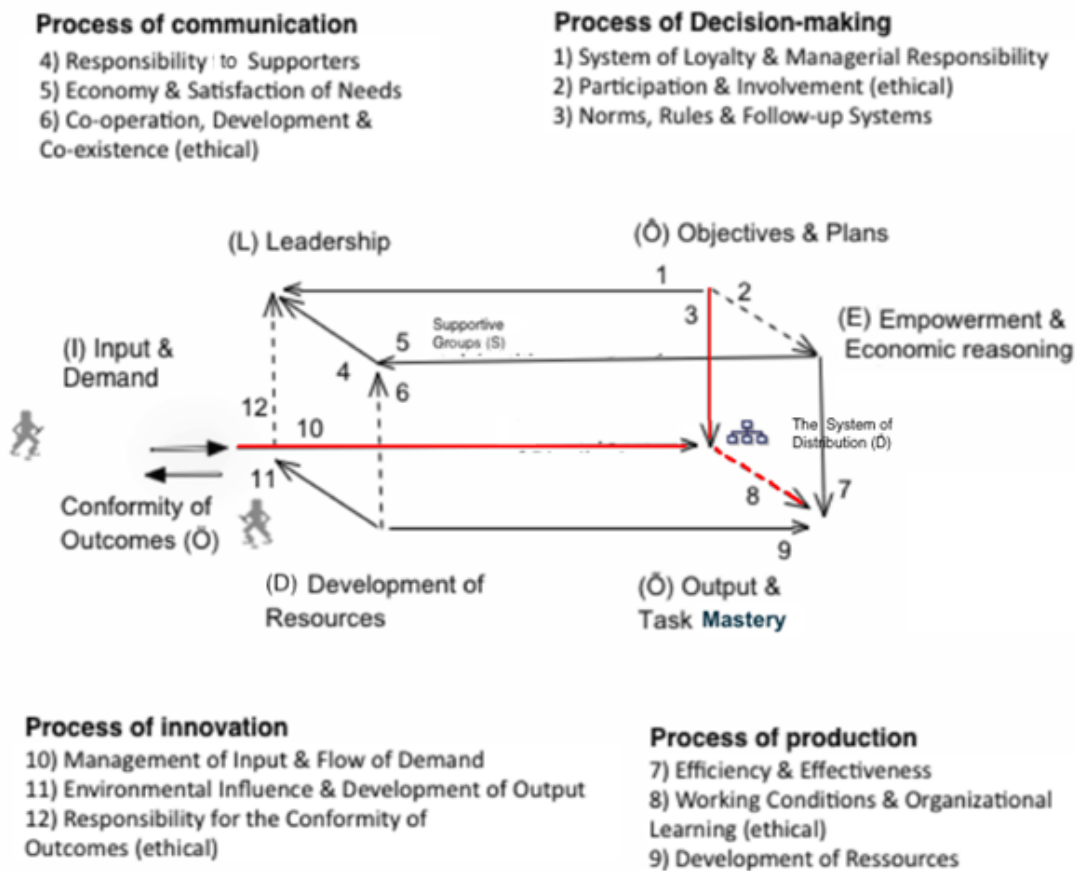

Process of communication
4) Responsibility to Supporters
5) Economy & Satisfaction of Needs
6) Co-operation, Development & Co-existence (ethical)

Process of Decision-making
1) System of Loyalty & Managerial Responsibility
2) Participation & Involvement (ethical)
3) Norms, Rules & Follow-up Systems

(L) Leadership

(Ô) Objectives & Plans

(I) Input & Demand

Supportive Groups (S)

(E) Empowerment & Economic reasoning

The System of Distribution (D)

Conformity of Outcomes (Ö)

(D) Development of Resources

(Ô) Output & Task **Mastery**

Process of innovation
10) Management of Input & Flow of Demand
11) Environmental Influence & Development of Output
12) Responsibility for the Conformity of Outcomes (ethical)

Process of production
7) Efficiency & Effectiveness
8) Working Conditions & Organizational Learning (ethical)
9) Development of Ressources

Figure 5. The Entire Octograph with 4 processes, 8 concepts, 12 lines and 4 value-ethical lines (2, 8, 6 & 12). The Organizational System – the Nucleus – is marked in red.

Figure 5 is a frame of reference. It depicts all the dependency relations in the Octograph, as well as the previously mentioned sentence «IĎÔL leads SEŌ to DÖ» from Input & Demand at corner «I» and loops throughout the entire Octograph, ending in the same corner with Conformity of Outcomes «Ö».

Plotted on their respective corners, the capital letters create the eight triangular models of the Octograph, each having a corner and three lines. Each two concepts are logically connected, the reason why the line expressing the dependency between two concepts has its specific name. The main triangular models are the System of Distribution and the four DCPI-processes. The pattern of stippled ethical lines illustrates four ethical organizational dimensions (cf. lines 2, 8, 6 & 12). Figure 5 uses numbers to visualize the four processes & their dependency lines.

The System of Distribution, the Nucleus, starts in corner «Ď» and branches to lines «10-3-8», coloured in red. The «Nucleus» borrows all its three lines from the three others triangular models. Line 8 is a stippled value-ethical line (D ⇢ Õ) highlighting «Working Conditions & Organizational Learning».

The process of Decision-Making (D in DCPI) starts with Objectives & Plans in corner «Ô» and branches to lines «1-2-3». The stippled value-ethical line (Ô ⇢ E), labelled «Participation & involvement», underlines empowerment. The Decision-Making Tree of Vroom & Yetton (1973) generates solutions to problems through answering eight predetermined questions, from A to H, with «Yes» or «No». Question F, on involvement, reads as follows: «Do subordinates share the organizational goals to be attained in solving problems?»[5] This question reveals the rationale of the process of Decision-Making in the Octograph that sounds as follows: As an organization, we normally anchor our decisions in written objectives and plans (Ô); secure that leadership (L) support them, attend to the resources and roles necessary for implementing them (D) and empower (E) those directly responsible for them. The dotted value-ethical line Ô ⇢ E in the figure means that awareness of Objectives and plans, as part of the empowerment of followers, also affects Output to customers.

The Process of Communication, the Octopus, (C in DCPI) starts with corner «S» and branches to lines «4-5-6». The stippled value-ethical line (D ⇢ S) highlights the development of resources and attention given to cultural-mix.

The Process of Production starts with corner «Õ» and branches to lines «7-8-9». The Process of Innovation starts with corner «I», and branches to lines «10-11-12». The stippled value-ethical line (I ⇢ L) is named «Responsibility for the conformity of outcomes». It implies that leadership, based on her contact with customers, keeps an eye on the conformity of development and deliveries with internal and external realities. The processes of production and innovation are not explicitly elaborated in this paper. The same applies to triangular models that concern Leadership (lines: 1-4-12), Empowerment (lines: 2-5-7) and the Development of Resources (lines: 6-9-11). These are force-fields that keep the organizational equilibrium between driving forces and restraining forces as in the change theory of K. Lewin (Burnes & Cooke, 2013).

To remember the pattern of dependency-arrows in the cube, the verb «to send» and «to receive» are metaphorically used. Accordingly, the System of distribution at corner Ď, on the floor, receives an arrow from Input & Demand (I → Ď). Supportive groups at corner S, on the roof, receive an arrow from Empowerment & Economic Reasoning (S ← E). The rest of the fixed one-way causality is as follows: The corner Objectives & Plans sends three arrows (Ô → Ď, E, L). The opposite corner Development of Resources sends likewise three arrows (D → Õ, Ö, S). The corner Leadership receives three arrows (L ← Ô, S, Ö) and the corner Output of Resources receives likewise three arrows (Õ ← Ď, E, D). One-directional causality is often subjective. However, alternative arguments can alter the one-way causality.

«The beginning of action is the end of thinking, and the beginning of thinking is the end of action», says Ibn Khaldūn in chapter 6, section two, of his Opus Magnum, the Muqaddimah (2012a: 414 – 415). When you imagine your dream house, he says, you will look upwards and your mind will imagine the splendour, the outer form and the roof of the house. If you afford to build the house, you will start by the building site, then the floor and the walls. Construction always starts bottom-up. Thinking as a Top-down process, and

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[5] The questions in the Decision Tree of Vroom & Yetton are: How important is the technical quality of the decision? How important is the subordinate's commitment to the decision? Do you (the leader) have sufficient information to make a high-quality decision on your own? Is the problem well structured (e.g., defined, clear, organized, lend itself to solution, time limited, etc.)? If you were to make the decision by yourself, is it reasonably certain that your subordinates would be committed to the decision? Do subordinates share the organizational goals to be attained in solving the problem? Is conflict among subordinates over preferred solutions likely? Do subordinates have sufficient information to make a high-quality decision? The Decision-Making Tree generates solutions to problems by answering eight predetermined questions with 'Yes' or 'No'.

action as a bottom-up performance, conceptualize the DCPI-processes in the Octograph. The challenge is first to form a mental picture of the entire Octograph, and then become aware of its components. This opens the model for brainstorming.

The components of the Octograph and their acronyms

| Komponents and their acronyms	
1a) Differentiation of input & demands in accordance with demography & local interests (**did**)	**I**
2) Distribution of authority, resources and roles (**dar**)	**Đ**
3) Objectives, priorities, plans and follow-up procedures (**opf**)	**Ô**
4) Leadership & leader's platform of responsibility (**lpr**)	**L**
5) Supportive groups, team & individualists (**sti**)	**S**
6) Satisfaction of needs through wages, welfare & economic results (reduction of losses) (**wer**)	**E**
7) Resource transformation & mastery of task performance (Human outputs) (**rtm**)	**Ō**
8) Development of output & improvement of human and material resources (**dor**)	**D**
1i) Conformity of outcomes with the needs of the real world outside the organisation (**cow**)	**Ö**
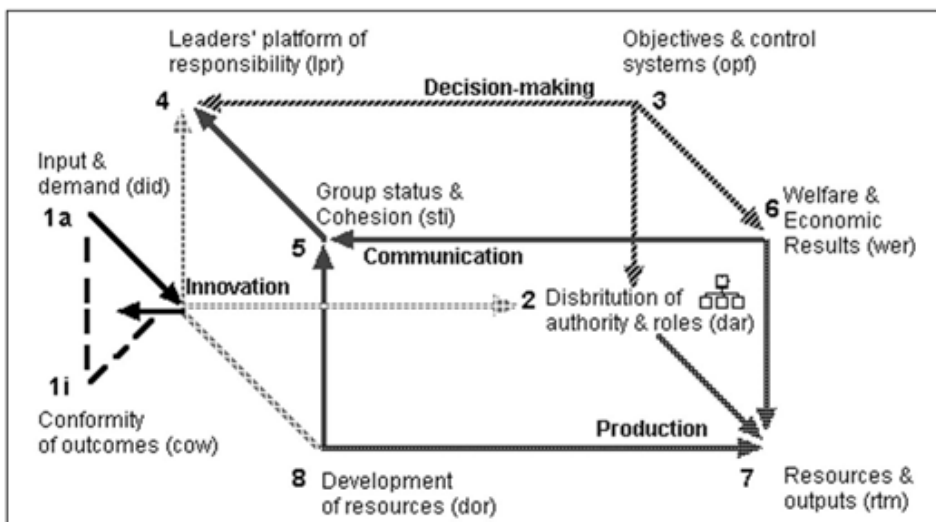
Figure 6. Earlier components and newer components in red

8 Conclusion

The research question reads: «In which way does a leader, despite dependency on supportive groups, stimulate development & growth using the DCPI-processes of the Octograph? ».

Two cases, i.e. the bouquet of flowers and bread baking, highlight «Throughput & Organizational Theory» where GST and the DCPI-processes are discussed.

The origin of the Octograph is highlighted through eight sentences of political wisdom under «The Octograph & Associative Thinking». Some steps of brainstorming are prescribed for use in the analysis of triangular models.

«The Nucleus: The System of Distribution & The Management of Flexibility» (Figure 1) portrays organizational structure through the case «exchange division in Apple Company». Leaders stimulate

growth & development (cf. Research question) through adjusting Responsibilities, Resources and Roles and observing the flexible performance of the system.

«The Octopus: The Process of Communication & Resource Development» (Figure 2), highlights transactional strategies that describe the double dependency of employees (development & Empowerment) and that of their leader (objectives & customers). Both leader & employee are concerned about performance results.

Under «Oscillation between Social Interaction & Job Performance» (Figure 3), the switching between task performance and social interaction is highlighted through the case of the Industrious caseworker who quitted her job due to undermining of her occupational roles. Oscillation goes beyond increasing efficiency and effectiveness (Wallner, 2008) of organizations. The phenomenon of oscillation still needs further research.

Under «Simplified & Referential Octograph», some technical details are repeated. The Octograph differs from other models by its conception of the roof and the floor, its areas of throughput, or DCPI-processes, its triangular models, each with its dependency relations and value-ethical lines. The triangular models of the Octograph are independent, i.e., none of them contain the whole cube (a criterion of CST).

The Octograph is an open and generic model. It is generic in the sense that it generates personal associations using concepts causally nested together. It is open because associations could lead to other arguments, other dependencies or geometrical constructions. This may reduce the complexity of Organization theory, previously worded by Charles W. Kennedy (1987: 139).

The Octograph has been used since 1990 in teaching Organization, Leadership and Project Management. It is the subject of reports in Norwegian (al-Araki, 2006a, b, 2011) and is proposed as a problem-solving device in an article on E-Learning by Labyrinth-Cases (Al-Araki, 2005b). Feedback from students has improved the Octograph. Linn Millidahl has read and commented the model. Elina Maria Ryymin has created a Stalk-Flower-Model including all the parts of the Octograph. An Erasmus-student has redesigned the cube in a Metal Musical Triangle (Bergsma, 2013). Other students have used the model to write term-papers. Some replace the «Intervening Variables» in Yukl's Multiple Linkage Model (Yukl, 2006) by a simplified Octograph. However, there are also those who, unfamiliar with the perceptual changes within a cube, prefer a circle instead. As mentioned in the introduction, using the Octograph, as a thinking device, has perceptual similarities with the Necker cube (Kornmeier, Wörner, Riedel, & Tebartz van Elst, 2017) and methodological endeavours similar to those in solving the Rubik's cube (Cunha & Sholl-Franco, 2016).

The Octograph is both simple and complex. Simplicity is in the shape of the cube and its division into triangular models causally connected together. Causality is *the sine qua non* of good modelling. Saying «I depend on you differs from I depend on you more than you depend on me». This could lead to the emergence of other arguments and hence geometrical shapes. «Geometry enlightens the intellect and sets one's mind right» (2012a: 414 – 415), says Ibn Khaldun.

 Further research ought, therefore, to point to explaining, simplifying and exemplifying the properties of Complex System Theory. Separated parts could when causally connected together lead to «aha moments» (emergence). Moving thinking from simple concept-oriented to causally oriented models, like for instance that of Yukl Multiple Lincage Model, could pave the way for persuasive understanding of organizational theory. Newer ideas give newer information, newer artistry, and newer knowledge.

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