THE URGENT NEED FOR CHANGE: RETHINKING KNOWLEDGE AND MANAGEMENT

CHRISTIAN FUCHS
ICT&S Center, University of Salzburg, Sigmund-Haffner-Gasse 18
Salzburg, 5020, Austria
E-mail: christian.fuchs@sbg.ac.at

STEFAN BLACHFELLNER[†] and ROBERT BICHLER[††]
INDABA Corporate Consulting, Steinerstraße 9
Salzburg, 5020, Austria
[†]*E-mail: stefan.blachfellner@indaba-consulting.at*

ICT&S Center, University of Salzburg, Sigmund-Haffner-Gasse 18
Salzburg, 5020, Austria
[††]*E-mail: robert.bichler@sbg.ac.at*

This paper gives a critical assessment of definitions and approaches of Knowledge Management. It can be read as a contribution to theoretical foundations of Knowledge Management. Existing approaches are analyzed in respect to which extent they take into account individual (such as self-fulfillment, self-determination, self-realization, skills-enhancement inclusion, satisfaction) and societal goals (sustainable development: ecological conservation, political participation, peace, social stability in the areas of health and education, self-determined life-styles, and the satisfaction of basic needs). An alternative understanding of Knowledge Management is grounded by taking into account the need for a balance of individual, organizational, and societal goals – the perspective of and the need for Sustainable Knowledge Management.

1. Introduction

The aim of this paper is to contribute to an assessment of the theory and practice of Knowledge Management (KM) concerning the question if participation and sustainability can be advanced. KM is a discipline oriented fundamentally on practice, theoretical foundations are hardly discussed. Hence also a comparative discussion of definitions is missing. This paper contributes to solving this lack by critically comparatively assessing definitions of KM concerning the question if only instrumental organizational goals – namely creating economic value – or also individual and societal perspectives are considered as important. For doing so, first a framework model is introduced (section 2), then two problems of KM relating to the inclusion of the individual and the societal dimension are discussed (sections 3, 4), the concept of Sustainable Knowledge Management is grounded (section 5), based on which an alternative definition of KM is given (section 6), and finally some conclusions are drawn (section 7). The overall approach challenges the dominant economic-oriented understanding of KM and points out the urgent need for a human-centred critical KM.

2. A Framework Model for Analysis

The analysis in this paper is based on a model of human activity that identifies three interconnected levels: the individual level, the organizational level, and the societal level. At the individual level we find cognitive processes of humans, at the organizational level humans form social systems by communicating, at the societal level meta-systems that contain various social systems and have certain overall roles in society emerge. Such triadic relationships are characteristic for dynamic thinking, such as Hegel's dialectic or Charles Sanders Peirce's semiotics. The three levels of the individual, the organization, and society can also be mapped onto three interconnected informational processes: cognition, communication, and co-operation (Fuchs/Hofkirchner 2005). In cognition processes there is a single individual, in communication processes social relations are established, and in co-operation processes a new continuous whole emerges from communicative synergies.

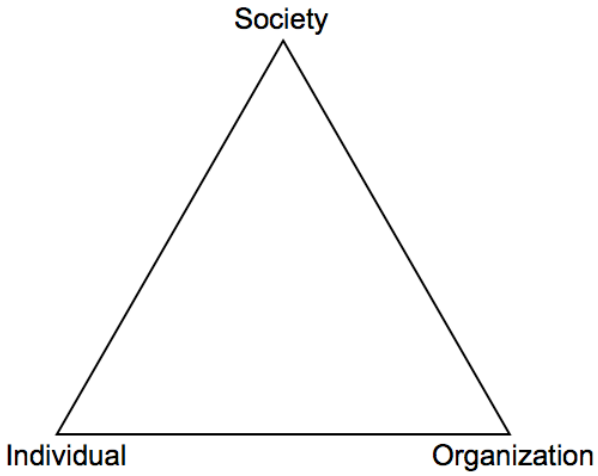

Fig. 1. An Analytical Framework Model

3. Problems of Knowledge Management

For us sustainable and participatory development means that individual goals, organizational goals and societal goals mutually enhance each other. Problems arise if two or more of these goals come into antagonism, i.e. if organizational logic outstrips individual logic or vice versa, societal logic outstrips organizational logic or vice versa, or societal logic outstrips individual logic or vice versa.

A first problem domain arises if individuals in organizations have the feeling that the organization only helps its own goals, which are experienced as being alien to their own interests, and hence neglects individual and broader societal interests.

A second problem domain arises if societal logic – such as e.g. heavy economic competition – doesn't allow organizations and individuals to achieve their self-set goals. Jürgen Habermas (1981) has termed such processes colonization. Colonization is the result of the overall dominance of the steering media money and power**.**

In the next two sections we will discuss these two problems in the context of established definitions of KM.

3.1. *First Problem: Organizational Goals without Individual and Societal Goals*

For Davenport and Prusak (1998) KM is a way of effectively "capturing, distributing and using knowledge" (Davenport/Prusak 1998: 107). Market dynamics would cause a decreasing half-life of innovation. In this context knowledge could provide a sustainable advantage: "The knowledge advantage is sustainable because it generates increasing returns and continuing advantages" (Ibid.: 17). Knowledge is considered in particularistic terms, it is reduced to serving the overall economic goal of increasing returns. Sustainability here is understood in purely economic terms, missing are the social, ecological, and institutional aspects of sustainability – i.e. aspects such as social security, ecological conservation and political participation.

Wiig, Hoog and Spek (1997) see knowledge as a company resource that is subject to the following resource management processes: delivery at the right time, availability at the right place, presence in the right shape, satisfaction of quality requirements, obtainment at lowest possible costs. Knowledge would be managed based on a cycle of activities: reviewing, conceptualizing, reflecting, and acting (on) knowledge. The logic underlying this understanding of KM is one that sees knowledge as technological resource that is developed, distributed, combined, consolidated, stored, monitored, evaluated, reviewed, controlled, etc. in order to improve the performance of the organization. Knowledge is not considered as being related to the self-management and satisfaction of individuals and to participation of individuals in society. Wiig and his colleagues provide an instrumental understanding focusing on the logic of organizational performance.

Wiig who published the first book explicitly dedicated to KM (Wiig 1993) argues that KM is not only about human knowledge stored in computers (technology-driven understanding) and not only about managing intellectual capital, but about all relevant knowledge-related aspects in an enterprise. He argues that his understanding of KM is broad and defines the objectives of KM as:

"1. To make the enterprise act as intelligently as possible to secure its viability as possible and overall success and 2. To otherwise realize the best value of its knowledge assets" (Wiig 1997: 1). He argues that "the overall purpose of KM is to maximize the enterprise's knowledge-related effectiveness and returns from its knowledge assets and to renew them constantly" (Wiig 1997: 2).

In these definitions the stress is purely on economic organizational goals: economic value, intelligent enterprise, organizational effectiveness, economic return. Although

Wiig claims to have a broad understanding, his definition of KM is economically reductionistic, he doesn't take broader societal and human goals – such as participation, sustainability, inclusiveness, or self-realization – into account.

Ikujiro Nonaka and Hirotaka Takeuchi (Nonaka 1994, Nonaka/Takeuchi 1995, Nonaka/Umemoto/Senoo 1996) have created the SECI-model of organizational knowledge creation that shows how tacit knowledge and explicit knowledge can be created and mutually converted by processes of socialization, externalization, combination, and internalization. That this approach is predominantly focused on organizational goals can already be seen by its main categories: organizational knowledge and the knowledge-creating company. The task for these Japanese authors is to better create new products that can be sold in order to achieve economic profit by making use of implicit and explicit knowledge. Individual self-realization and the question if organizations serve societal goals such as the solution of societal problems are rather ignored. Individual and group autonomy is only desired "as far as circumstances permit" (Nonaka/Umemoto/Senoo 1996: 211). Circumstances here are economically defined interests, not general human interests. This is surprising because Nonaka and Takeuchi already advised to formulate a vision statement as the company's intention not only focusing purely on economic values but considering human and fundamental values like "what is truth, what is human, what is life?" to better engage employees in knowledge creation and innovation (Nonaka/Takeuchi 1997: 89).

For Wilkins, Wegen and Hoog (1997) KM is about calculating "the value of knowledge assets in production processes" (Wilkins/Wegen/Hoog 1997: 56). Knowledge is considered as a thing that is economically processed and measured. It is defined as consisting of "facts (statements whose validity is accepted), assumptions, and heuristics which provide economic value to its possessors" (Ibid.: 63). A similar definition of KM has been given by Liebowitz who defines it as "the process of creating value from an organization's intangible assets. (...) The focus is how best to share knowledge to create value-added benefits to the organization" (Liebowitz 2001: 1, cf. also Rubenstein-Montano et al. 2001: 5). Definitions of KM focusing on economic value-creation can be found frequently. Also Karl-Erik Sveiby (2001) sees KM as the "art of creating value from intangible assets". In all of these approaches KM is considered in terms of added value and costs, it is considered in pure terms of instrumental economic reason, human and individual interests are missing. Liebowitz links the knowledge concept to economic capital by defining it as human capital that shall provide "a strategic advantage to an organization" (Liebowitz/Wright 1999: 99). Just like Wilkins Liebowitz is trying to develop a "valuation model for human capital" that is short of human interests and defines humanity only in terms of economic capital.

The authors Probst, Raub and Romhardt published their modules of KM widely recognized in German-speaking countries by evaluating knowledge and management practice in an action research approach. They reduced their KM concept onto structural and managerial problems that have to be tackled such as the identification, storage, use, allocation, development and/or acquisition of knowledge (Probst/Raub/Romhardt 1998:

51-57). In their comments individuals are the source of knowledge and collectives the knowledge base of organizations (Ibid.: 37). Nevertheless the common goals that have to be achieved are driven by a global and highly competitive market. The purpose of knowledge creation is to foster competitive advantage (Ibid.: 22).

Wilke defines KM as the overall organizational strategies to become an "intelligent" organization on the individual, collective and technological layer (Wilke 1998: 39). He demonstrates in his understanding of a systemic KM approach the necessity to integrate the knowledge logic into the systems' bounded rationality. Therefore the question which knowledge is useful or is used is defined by the interconnection of the business strategy and the knowledge management strategies focusing on knowledge as value creation in purely economic terms (Ibid.: 88). The economic value of an organization lies within its "intangibles" (Ibid.: 88). Knowledge is reduced to a resource and a product without considering intention as systemic interconnections on a societal level or sustainable efforts.

Stephen Drew (1999) at a first glance seems to advance an approach that takes into account all three aspects of society – individuals, organizations, and overall societal structures – as he says that holism and humanism are aspects of KM. But he then argues that "the priority is to make better use of human potential rather than to downsize it" (Drew 1999: 132), i.e. human creative potentials should be used for advancing economic growth and gaining competitive advantages: "The critical question is how to create unique knowledge-driven sources of competitive advantage that provide superior value to customers and which are hard for competitors to copy and duplicate" (Ibid.: 134). Economic interest of specific organizations for him is the overall defining goal of KM, a position of universal humanism oriented on human interests is forestalled by the focus on particularistic instrumental reason.

For Hendriks and Vriens (1999) KM is about "getting the right knowledge at the right place at the right time", "managing the available pool of knowledge", "managing the creation of new knowledge", and making sure "that the current knowledge is available" (Hendriks/Vriens 1999: 115) in order to increase "the innovation power of the organization and its knowledge workers" (Ibid.: 114). The overall goal of KM here is a purely organizational one, individual perspectives are subsumed under economic interests and societal goals are completely missing.

3.2. *Second Problem: Societal Goals Without Individual and Organizational Goals*

Johanessen, Olsen and Olaisen (1999) argue that corporations are driven the need to be effective in a hypercompetitive turbo economy. Fast change would require to "speed up the innovation process" (Johanessen/Olsen/Olaisen 1999: 124). Permanent innovation would be based on clear purposes, the development of visions, networking, efficient communication in teams, proactivity, the networked flow of ideas. The authors' view of KM is one that is driven by the overall economic logic of society and the speed of

contemporary economy. Individuals and organizations would have to adapt to the economic logic of society. Self-realization and participation of individuals in organizations and society are not considered as important aspects of KM, there are only the overall societal goals of innovation and economic efficiency. Societal goals are considered as being purely economic.

4. Second-generation Knowledge Management – A new hope?

It has been shown so far that classical approaches to KM either focus on organizational goals without taking into consideration individual and societal goals or stress the importance of societal goals while neglecting individual and organizational goals. Newer approaches, which can be subsumed under the term "second-generation KM", try to harmonize the individual, the organizational and the societal levels by introducing concepts such as self-organization (e.g. Mark McElroy) or Verna Allee's idea of value networks.

Mark McElroy (2003) distinguishes two forms of KM: First-generation KM would be a form of Taylorism, a supply-side oriented form of management, the capture, codification and distribution of existing knowledge throughout an organization with the help of technology in order to supply the right individuals with the right information needed at the right time. It would be assumed that knowledge already exists and needs to be systematically organized and distributed. "Given the prevalence of Taylorism even in recent times, it should come as no surprise to anyone that knowledge management initially took the supply-side form that it did" (McElroy 2003: 145).

Second-generation KM would be different, a "new knowledge management": "Second-generation KM, on the other hand, introduces 'demand-side' KM, which instead of focusing on the supply of existing knowledge to a workforce, seeks instead to enhance their capacity to produce it. The mission of demand-side KM, then, is to enhance an organization's capacity to satisfy its demand for new knowledge" (McElroy 2003: XXIV sq).

McElroy makes use of the concept of self-organization in KM, he argues that self-organization means that innovation and knowledge are not produced by an elite (management), but by all members of an organization. Such self-organizing organizations would be "open enterprises" (20 sqq). They would be democratic organizations and open in the sense of Popper's concept of an open society. Self-organization would be the natural way of knowledge production, it shouldn't be weakened or eliminated by management.

The concept of sustainability for McElroy not only applies to output, but also to process. Sustainable innovation would be a necessary condition for sustainable output. Sustainability for McElroy is a political process and means that innovation is treated as a self-organizing process. He questions "oligarchical knowledge-making" (130) which would be unsustainable because they would conflict with the natural self-organizing way of how innovation works. The idea would be to "self-organize around the production and integration of knowledge" (131). Principles for advancing self-organization and sustainable innovation would be to let individuals pursue their own learning agendas and to let them self-organize into knowledge-making communities of interest or practice (embryology of knowledge), to support self-organized structures of knowledge

production (politics of knowledge), intellectual diversity of ideas, and the connectedness of individuals and groups (137). One shouldn't compel employees to self-organize in communities, but allow them to do so.

When McElroy starts talking about the goals of KM, his approach at certain passages sounds refreshing because it promises to question the instrumental logic of economic reason. He argues against the argument that KM should have a positive impact on business processing and business outcomes that the "scope of its direct impact is nothing but knowledge processing" and that its impact "should be evaluated in terms of its impact on, well, knowledge processing" (190). But at many other passages it becomes clear that McElroy's concepts of self-organization and sustainable innovation remain trapped within the logic of instrumental reason and strictly aim at maximizing economic profitability. He connects the ideas of sustainable innovation and self-organization in order to construct the notion of social innovation capital: "Social innovation capital, then, refers to the structural manner in which whole social systems (e.g., firms) organize themselves around – an carry out – the production and integration of new knowledge" (171). In a figure (fig. 10.2, p. 173) McElroy makes clear that social capital has "market value" as its overall criterion. It would be used to enhance "performance and output" (171), be a necessary condition for "market-leading or top performance" (187), the goals would be new knowledge "by and for the organization" (174). The overall goal is not the enhancement of the lives of the individuals or the attainment of societal goals (such as wealth and happiness and democracy for all), but particularistic organizational goals, i.e. economic profit. The knowledge produced in self-organizing communities would have "financial value implications" (180). The goal would be that "organizations become better learners and innovators" (136). The result of self-organization would be "competitive and adaptive advantage" (161), the outlearning of competitors (196), and "better business strategies" (189).

We agree with McElroy that self-organization is the essence and fundamental process of human society and that hence democratic grass roots organizations are needed. This argument has been put forward recently by one of the authors: co-operation and self-organization are the essence of human society and hence a true society is a self-organizing participatory society (Fuchs 2008). But we disagree with the interpretation of the self-organization concept by McElroy. His form of knowledge management is not new, but has much in common with the old forms of Taylorism and first-generation knowledge management: As the overall goal particularistic and purely organizational goals are mentioned: economic profit and competitive advantages. The true implications of the self-organization concept are much more radical: Self-organization is an inclusive, co-operative, participatory process, in self-organizing systems all individuals benefit, the organizations benefit, and society at large benefits. There is no competition because in competitive systems not all can benefit, only a limited elite. Hence the capitalist logic of competition is the antagonistic counterpart of self-organization and co-operation. Self-organization is never competitive, McElroy has a limited understanding of the concept, he only applies it to the way people produce and communicate within a firm, he leaves out aspects of ownership and society at large. In a self-organizing organization, the operations of the organization should benefit all members individually, as a group, and society at large. Hence the operations of the organization can't be competitive, but have to be co-operative, otherwise it is not a self-organizing system. The main problem of

contemporary society is that the logic of economic profitability and competition colonizes ever more realms of society. McElroy in the last instance reduces his understanding of self-organization and sustainability to economic processes. The understanding of self-organization is reduced to the economy. But economic reason and colonization processes (in the sense of Habermas) limit participation and the self-organization capacities of humans and society. Capitalist society is not a fully self-organizing society, it limits human self-organization.

McElroy limits the notion of self-organization to production and communication process, he excludes questions of ownership. In a truly self-organizing system also the material ownership of the system is democratic and participatory. For McElroy self-organization processes seem only to be desirable if it can produce innovations from which the organization benefits. He mentions the example of 3M's 15% rule, which allows employees to spend up to 15% of their time in self-directed learning. Another example is Google, where employees can spend up to 20% of their time on projects that interest them. In any case, such policies remain oriented on economic profit: Either because the employers expect that the outcome will be ideas or products that can directly be commodified, or because they expect that such projects make the employees happy, which as an indirect result makes them work more efficiently and productive which brings more profit to the company. The goal is never to allow human self-fulfilment or to attain overall societal goals, but a sophisticated and complex subtle system of the subordination of human interests to economic reason. McElroy makes clear that not all projects are desirable and that hence the knowledge-production taking place in groups would need some control: "validation must also occur in the eyes of a wider audience, if not in the minds of a controlling group or authority structure (e.g., management)" (McElroy 2003: 7). So e.g. if employees at 3M or Google started to think in groups how to get rid of the owners of the companies and how to transform the corporations into self-managed and self-owned organizations or if they would use increasing portions of their team for organizing anti-corporate protests, how likely would it be for management to tolerate such activities and pay for them? McElroy is aware of this fact and hence defines management control as an aspect of self-organization. But such a limited self-organization is no self-organization at all. Self-organization and voluntary activity are only considered in respect to economic benefit.

"Real communities, if you will, are self-organizing in origin" (151). Right, but the problem is that in modern society wage labour relations are not self-chosen and self-organized, but a dull compulsion and economic coercion. It is impossible that self-determination can take place within heteronomous systems. Hence self-organization is directed against heteronomy, alienation, and coercive systems, society will be a real community and truly self-organizing if it can overcome the dominant logic of instrumental reason (colonization by money and power and ideology) and manages to become a fully participatory democracy. In order to do so, truly new forms of sustainable knowledge management that advance the idea and practice of self-organization are needed. And this means to drive back the logic of economic profit and to advance human interests.

Verna Allee is another representative of second-generation KM. She stresses a human centered approach: "But organizational intelligence is human intelligence complete with feelings and desires. Exchanges of knowledge and intangibles are

intertwined with emotion to a much higher degree than are exchanges of goods, services, or revenue. Many times favors and benefits have an emotive aspect that is essential for building trusting relationships." (Allee 2003: 235) Allee is aware of the central position of individuals in the KM process. She states: "Knowledge cannot be separated from the human networks and communities that create it, use it, and transform it." (Allee 2003: 131) And she continues: "The real foundation of the Knowledge Economy isn't things, it isn't bits and bytes, it isn't the balance sheet; it is people and their intelligence." (Allee 2003: 153) Based on this assumption she formulates her idea about value networks: "A value network is any web of relationships that generates both tangible and intangible value through complex dynamic exchanges between two or more individuals, groups, or organizations." (Allee 2003: 192). Her approach is a people-centred one, she includes both individual and societal goals.

Her notion of co-operation and negotiation takes into consideration the needed reestablishment of a balance between the individual goals, values, etc. and the organizational strategies, objectives and values (Allee 2003: 236-237).

She also criticises the fact that companies normally don't pay attention to their role in society, they act as they are disconnected from the social system (Allee 2003: 161-162).

Bearing in mind the idea of living systems she contends: "In the living, networked world of organizations, we must understand companies not as discrete entities but rather as elements in a socioeconomic ecosystem." (Allee 2003: 60) In contemporary capitalistic societies she asserts alienation tendencies between the goals of companies and those of the citizens: "Most business decisions do not consider the health of other levels, or of other systems. The work demands of companies too often are at the expense of families and communities" (Allee 2003: 237).

Allee argues that companies play a role in larger society and as global citizens (Allee 2003: 161). "We cannot continue to view larger social system as being disconnected from everyday business concerns. How can any business thrive if the global quality of life is so poor that most of the world's population faces a daily struggle for food and clean drinking water?" (Allee 2003: 162). She argues that a move from competition to co-operation is needed.

Allee's conception seems to point into the right direction and provides some fruitful reflections. Allee at some points argues that the contemporary capitalist turbo-economy is reconcilable with sustainability: "Companies are finding that socially responsible and "green" business practices equate to a more positive regard for their brand. This can have big economic consequences, ranging from increased sales to community acceptance when building new plants. (…) The great hope and opportunity offered by the intangibles perspective is that at long last we may be able to reconcile our business and economic models with the fabric of society and the web of life." (Allee 2003: 163, 169). She seems to believe that sustainable behaviour will generate symbolic capital and in the end more profit and doesn't realize that the very problem is that the global problems of society are connected to the prevailing form of economic production. What is needed is a more balanced society in terms of distributive justice, political inclusion, cultural self-fulfilment, and ecological preservation.

Overall, Allee's approach identifies the right goals and stresses the importance of individual and societal concerns for organization, but doesn't discuss ways for achieving these goals.

5. Sustainable Knowledge Management

An alternative to instrumental concepts and practices of knowledge management is an approach that takes the goals of sustainability and participation into account and doesn't primarily define the object domain of KM in terms of money, capital, and power, but rather in terms of human interests.

In 1987 the WCED published the "Brundtland Report" (named after its Chair, the former Prime Minister of Norway, Gro Harlem Brundtland; WCED 1987) that gave much attention to the challenge of overcoming poverty and meeting basic needs and to integrating the environment into economic decision-making. The WCED defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987: 43). Applying this idea to KM means that individuals, communication processes, organizations, and societies should be managed and designed in ways that allow all three levels to develop in harmony and achieve their own goals without compromising the goals of the other levels or of other actors in the present and the future.

In the discourse on sustainability there has been a shift from a focus on ecological issues towards the inclusion of broader societal issues. The "triangle of sustainability" introduced by the World Bank has been very important in shifting discussion on sustainability from purely ecological aspects towards more integrative concepts. Ismail Serageldin, then vice-president of the World Bank, identified an economic, a social, and an ecological dimension of sustainability. "It is not surprising that these concerns reflect the three sides of what I have called the "triangle of sustainability"-its economic, social, and ecological dimensions" (Serageldin 1995: 17). It has now become very common to identify an ecological, an economic, a social, and an institutional dimension of sustainability (as e.g. the EU and the UN do). A shift of the meaning of the sustainability notion occurred between the time of the 1992 UN Conference on Environment and Development ("Earth Summit") in Rio de Janeiro, Brazil, and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. "At the time of Rio, sustainable development was mainly about protecting nature, but now, in the wake of Johannesburg, it is first and foremost about protecting people" (World Summit on Sustainable Development 2002: 22).

If we conceive sustainability as a complex phenomenon then it includes various aspects that need to be achieved in sustainable social systems, such as individual well-being, security, freedom, and self-determination just like collective dimensions such as wealth for all, social security for all, political participation for all, or health and education for all.

The correspondence of individual, organizational and societal goals could also be interpreted as a contemporary form of Kant's Categorical Imperative: "Act only according to that maxim by which you can at the same time will that it should become a universal law. (...) Act as though the maxim of your action were by your will to become a universal law of nature. (...) Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only" (Kant 1998: 422-429). Treating others with the same logic that one wants have applied to oneself means that there can be no morally privileged logic at any level. But Kant's Golden Rule fails in situations where people are willing to suffer, tolerate violence against themselves, or die if they were in the positions of others. Hence one assumption that might need to be added is that the logics employed at the individual, organizational and the societal level should be guided by the spirit of co-operation and participation. This implies that the logic of co-operation is superior to the logic of competition.

How can the superiority of co-operation to competition be justified? Competition means that certain individuals and groups benefit at the expense of others, i.e. there is an unequal access to structures of social systems. This is the dominant organizational structure of modern society, modern society hence is an excluding society. Co-operation includes people in social systems, it lets them participate in decisions and establishes a more just distribution of and access to resources. Hence co-operation is a way of achieving and realizing basic human needs, competition is a way of achieving and realizing basic human needs only for certain groups and excluding others. We argue that co-operation forms the Essence of human society, and that competition estranges humans from their Essence. One can imagine a society that functions without competition, a society without competition is still a society. One can't imagine a society that functions without a certain degree of co-operation and social activity. A society without co-operation isn't a society, it is a state of permanent warfare, egoism and mutual destruction that sooner or later destroys all human existence. If co-operation is the Essence of society, then a truly human society is a co-operative society, and from this insight emerges the categoric imperative to overthrow all ideas and practices in which man is not considered as the participating center of society, but treated as enslaved to instrumental structures.

6. A Working Definition of Knowledge Management

The definitions of KM discussed in section 3 show that the established understanding of KM is reductionistic, it doesn't see individual, organizational, and societal goals as integrative, irreducible whole. Most of them are focusing on the logic of economic capital accumulation at the organizational level or on the logic of gaining competitive advantages in the overall economy. The mainstream of KM is devoid of human interests and driven by instrumental reason. If the global challenges that humanity is facing shall be tackled and shouldn't be excluded by KM approaches, then a focus on human-centeredness and sustainable development of management is needed.

In order to advance a non-reductionistic, integrative, complex understanding of KM, we propose the following working definition:

Knowledge Management (KM) is focusing on advancing methods, models, tools, and practices for achieving an integration of:

1. Individual capacity-strengthening, skills, self-development, self-realization, self-fulfilment,

2. Organizational participation, i.e. conditions that allow joint definitions of organizational goals, identities, strategies, and practices in discursive processes of communicative action, co-operative work, and the co-operative sharing of the results of work, and

3. Sustainable societal development, development that satisfies the needs of current and future generations, i.e. provides all with material wealth and immaterial satisfaction in a social, peaceful, participatory, understandingly, environmentally friendly context. A sustainable society is a society that is based on ecological conservation, political participation, peace, social stability in the areas of health and education, self-determined life-styles, and the satisfaction of basic needs – conditions that help securing long-term economic growth.

7. Conclusion

In "scientific management" management was defined the following way: "To manage is to forecast and plan, to organize, to command, to co-ordinate and to control. To forecast and plan mean examining the future and drawing up· the plan of action. To organize means to build up the dual structure, material and human, of the undertaking. To command means maintaining activity amongst the personnel. To coordinate means bonding together, unifying and harmonizing all activity and effort. To control means seeing that everything occurs in conformity with established rule and expressed command" (Fayol 1949: 6).

Such a concept of management is opposed to the democratic and ethical visions of a sustainable society. However, if one understands management as the initiation of change in a social system, one can distinguish different forms of management. The idea of "scientific management" puts forward a hierarchic, authoritarian, bureaucratic, estranged, alienated, dominating, heteronomous, centralized, coercive form of management, whereas an alternative notion of management as social system design focuses on self-organization, inclusion, participation, co-operation, liberation, emancipation, well-being, and sustainability (Fuchs 2004). Hence hierarchic management and social systems design form two opposites on a continuum that characterizes different forms of management.

Knowledge refers to the dynamic relationships of human actors in social systems that result in emergent systemic change. Hence the term "Knowledge Management" describes ways of how to best initiate change in social systems. The key finding of this paper is that the dominant approaches of KM have an instrumental understanding of knowledge and management and focus on achieving purely economic goals – profit

generation and competitive advantages. They lack the inclusion of human interests and sustainable development and hence are unable to face the global challenges of contemporary society. By their focus on controlling economic value and subsuming individual and societal interests purely under economic logic they share a key feature of Taylorism and hence don't go beyond hierarchic forms of management, although most of them claim to do so. Most contemporary management approaches tell employees that they shall co-operate, have fun, set their own working conditions, etc. – but this relative autonomy is conditioned by the overall goals of profit maximization and gaining competitive advantages, by which heavy pressures are produced and exerted on the workforce so that the promised freedom again turns into individual and collective unfreedom.

Global problems such as ecological devastation, global poverty, precarious living and working conditions, material and immaterial scarcity for large parts of the world population, etc. need to be tackled urgently if humanity wants to survive and avoid social and ecological catastrophes. Management and economic organizations thus far have been part of the causes and not of the solutions of these problems. Business pioneers already exemplify with their practice of Corporate Social Responsibility as well as of Sustainability and Management that responsibility in the context of systemic thinking is not a cost factor, but an added value. This value can be described in terms like trust, credibility and loyalty. Even thinking in terms of economic value creation these values are needed to sustain single businesses as well as social systems as a whole tackling organizational questions as employees' participation and loyalty, customer relations and loyalty or investors choices.

A critical perspective is needed that understands KM as the initiation of self-organization and co-operation in social systems so that participation and sustainable development can be achieved. Critical outlooks focus on solving social problems and realizing universal conditions of wealth, participation, and understanding. A critical turn towards sustainability is urgently needed in Knowledge Management.

References

Allee, V. (2003) *The Future of Knowledge. Increasing Prosperity through Value Networks*, Amsterdam, Boston, London: Butterworth-Heinemann, Elsevier.

Davenport, T.H. and Prusak, L. (1998) *Working Knowledge: How Organizations Manage What They Know*, Cambridge, MA. Harvard Business School Press.

Drew, S. (1999) "Building Knowledge Management into Strategy. Making Sense of a New Perspective", *Long Range Planning*, 32(1): 130-136.

Fayol, H. (1949) *General and Industrial Management*, London: Pitman.

Fuchs, C. (2004) "Knowledge Management in Self-Organizing Systems", *Journal of Knowledge Management Practice*, 5 (2004).

Fuchs, C. and Hofkirchner, W. (2005) "Self-Organization, Knowledge, and Responsibility", *Kybernetes*, 34(1-2): 241-260.

Fuchs, C. (2008) *Internet and Society: Social Theory in the Information Age*, New York: Routledge. (Forthcoming)

Habermas, J. (1981) *Theorie des kommunikativen Handelns*, Frankfurt/Main: Suhrkamp.

Hendriks, P.H.J. and Vriens, D.J. (1999) "Knowledge-Based Systems and Knowledge Management: Friends or Foes?", *Information & Management*, 35: 113-125.

Johannessen, J.-A., Olsen, B. and Olaisen, J. (1999) "Aspects of Innovation Theory Based on Knowledge-Management", *International Journal of Information Management*, 19: 121-139.

Kant, I. (1998) *Groundwork of the Metaphysics of Morals*, New York: Cambridge University Press.

Liebowitz, J.,Wright K. (1999) "Does Measuring Knowledge Make "Cents"?" *Expert Systems with Applications*, 17: 99-103.

Liebowitz, J. (2001) "Knowledge Management and its Link to Artificial Intelligence", *Expert Systems with Applications*, 20: 1-6.

McElroy, M. W. (2003) *The New Knowledge Management*, Amsterdam: Butterworth Heinemann.

Nonaka, I. (1994) "A Dynamic Theory of Organizational Knowledge Creation", *Organization Science*, 5(1): 14-37.

Nonaka, I., Takeuchi, H. (1995) *The Knowledge-Creating Company*, Oxford: Oxford University Press.

Nonaka, I., Takeuchi, H. (1997) *Die Organisation des Wissens*, Frankfurt/Main: New York: Campus Verlag.

Nonaka, I., Umemoto, K. and Senoo, D. (1996) "From Information Processing to Knowledge Creation. A Paradigm Shift in Business Management", *Technology In Society*, 18(2): 203-218.

Probst, G., Raub, S., Romhardt, K. (1998) *Wissen managen: wie Unternehmen ihre wertvollste Ressource optimal nutzen*, Frankfurt am Main, Wiesbaden: Gabler.

Rubenstein-Montano, B. et al. (2001) "A Systems Thinking Framework for Knowledge Management", *Decision Support Systems*, 31: 5-16.

Serageldin, I. (1995) "The Human Face of the Urban Environment", In: Serageldin, I. et al. (Eds.) *Proceedings of the Second Annual World Bank Conference on Environmentally Sustainable Development: The Human Face of the Urban Environment. Washington, D.C., September 19-21, 1994*. Washington, D.C.: World Bank, 16-20.

Sveiby, K.E. (2001) "What is Knowledge Management?",
http://www.sveiby.com/Portals/0/articles/KnowledgeManagement.html (accessed on March 27, 2007)

Wiig, K.M. (1993) *Knowledge Management Foundations*, Arlington: Schema Press.

Wiig, K.M. (1997) "Knowledge Management: Where Did It Come From and Where Will It Go?", *Expert Systems With Applications*, 13(1): 1-14.

Wiig, K.M., Hoog, R. de and Spek, R. van der (1997) "Supporting Knowledge Management: A Selection of Methods and Techniques", *Expert Systems With Applications*, 13(1): 15-27.

Wilke, H. (1998) *Systemisches Wissensmanagement*, Stuttgart: Lucius & Lucius.

Wilkins, J., Wegen, B. van and Hoof, R. de (1997) "Understanding and Valuing Knowledge Assets: Overview and Method", *Expert Systems With Applications*, 13(1): 55-72.

World Commission on Environment and Development (WCED) (1987) *Our Common Future*, Oxford: Oxford University Press.

World Summit on Sustainable Development (2002) *The Jo'burg Memo. Fairness in a Fragile World*, Berlin: Heinrich Böll Foundation.