NEW PARADIGMS IN MANAGEMENT SCIENCES: THE CONCEPTUAL ANALYSIS

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Abstract The article has scientific-theoretical character. Reflection over methodology is necessary in the area of management sciences or within supply chain management on the level of the field of study. General discussion to this subject requires the initiative of both systematizing problems and the knowledge. The article will include the analysis of the use of the methodological knowledge in management studies, with particular reference of the general scientific method and paradigms and systematization of theoretical achievements of this discipline in the context of criteria distinguishing scientific statements.

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1. INTRODUCTION

The aim of this paper is to present selected theories in the field of economic sciences from the point of view of their usefulness for considerations on the influence of new areas in management (exercising power, using the resources of the organization, networking, coordination of activities, development of IT technologies) on the relations between firms. The processes of organization and management have always accompanied the humankind. Leadership, division of labour, and creation of hierarchy are part of the evolutionary heritage of our species (Sułkowski, 2012, p. 13). Relationships between trading partners have always existed. Both in old and modern days, merchants gained loyal customers by fully satisfying their expectations. Because of that, they could feel safe travelling from town to town, as they had a small group of friends in each of them (Groonross, 1996, p. 13).

The rise of management sciences as a scientific discipline, however, occurred at the time of managerial revolution, pioneered by the book "The Theory of Business Enterprise" by T. Veblen, an American economist, in which he noted the diversity between the aims of owners, interested in financial gain, and managers-engineers, interested in production. Management sciences consist of non-universal, historically determined, approximate, and uncertain knowledge (Sułkowski, 2012, p.18). Management is treated more often as a practical discipline than a theoretical one. Accordingly, many authors point out that creating the so-called “big theory” of organization and management should be attempted with restraint. The above considerations have a common denominator, which is the notion of paradigm.

The most appropriate definition of paradigm is the statement by T.S. Kuhn, who considers paradigm to be “universally recognized scientific achievements that, for a time, provide model problems and solutions for a community of researchers”, whereas, simultaneously, certain “examples [of] law, theory, application, and instrumentation together--provide models from which spring particular coherent traditions of scientific research” (Kuhn, 2001, p. 13). In management sciences the word “paradigm” brings up many questions. One can find all kinds of attitudes towards the need of using this notion and the necessity of displaying a paradigm in research, including the opinion that paradigms are completely needless. Paradigm is something more than theory: it is a model solution in a given field of science. Therefore, paradigms pertain to both observation and interpretation. So a paradigm can be said to include the underlying worldview, characteristics of a good theory, theoretical framework for analysing problems, techniques and instrumentation for empirical testing of prognoses and hypotheses. In methodology, however, answering the question of what is a good theory means opening Pandora’s box (Noga, 2009, p. 40). The word “theory” is derived from Greek theorein, which means to observe, to contemplate, to consider. Management strives to create coherent and logical theories based on scientific facts which, nevertheless, can have different paradigms. Thus the accumulation of scientific output does occur,
but for each paradigm separately. Because of their incommensurability, the transfer of knowledge between different paradigms and schools is often difficult (Sułkowski, 2012, pp. 95-97). One can find a good answer to the question of formulating paradigms in the concept of “theorising”, which is a broader term including not only successful attempts to create coherent theories, but also theoretical reflection, which does not always lead to a discovery of a new scientific theory. Regardless of the assumed level of theorising, a community of researchers bases the conceptions it creates on certain shared cognitive assumptions, which were defined by T.S. Kuhn as paradigm. Theorising pertains thus both to creating and testing of theories (Sułkowski, 2012, p. 96).

Management sciences, as well as the sub-disciplines of management rest on foundations found in a wide range of fields, and the list of theories for a given sub-discipline is open. Craig Mello, the Nobel medicine laureate in 2006, is right to quip that the proper term in English is not scientific search but research, and so one has to permanently search for new theories (Noga, 2009, p. 45). Generally speaking, there is nothing wrong with such expansions and borrowings. To the contrary, the use of scientific achievements of other areas of science by sub-disciplines which do not have their own, particular theories (logistics and supply chain management, marketing, strategic management) is beneficial. It is so even when the mentioned sub-disciplines employ a theory from another practical sub-discipline. Supply chain management is a typical practical sub-discipline with very few, even scarce theoretical achievements, in which the basic elements for analysis and assessment are the flow of things and information, network, supply chain, risk -- elements variable in time. Therefore, it seems all the more appropriate to reject the neoclassical economy theory and the ceteris paribus principle in favour of post-industrial theories and applying the principle of mutatis mutandis (change what should be changed). The managerial revolution, which caused the separation of property and management, changed also the functioning of new large corporations (delivery networks), as they had to be managed by professional managers with practical expertise in directing groups of people. This approach disagreed with the current assumptions of neoclassical economy. Thus a question arises if it is justifiable to create additional, new or partial paradigms, which could cement many conceptions within the sub-discipline of supply chain management, together with other sub-disciplines of management. It is worth to list and present some selected theories and concepts of institutional economy, including the behavioural trend, among others, transaction cost theory, agency theory, networking approach, as well as the perspective theory or conflict theory. For the research into the relationships between firms, the achievements of the contemporary institutional economy are particularly inspiring. It explains the phenomena related to vertical integration, costs associated with purchases on the market, coordination within a firm, and cooperation between firms. O.E. Williamson says that the contemporary institutional economy has two trends: the trend of monopoly and the trend of efficiency (Gorynia, 2000, p. 45). The efficiency trend contains the concepts of property, agency, and transaction costs. The accumulation
of critical opinions about neoclassical economy is connected with the emergence and strengthening of behavioural economy, which provides more realistic psychological foundations (Polowczyk, 2012, p. 61).

In the circumstances of modern economy, functioning in a turbulent environment characterized by increased instability, uncertainty, and discontinuity of actions, the paradigm of economic sciences undergoes evolutionary changes. More and more managers approach the management of a firm in an intuitive manner, in which the classical economy theory is but the point of departure for creating new theoretical propositions combining diverse scientific disciplines such as economy, psychology, sociology, or ethics, which allow solving contemporary problems and, most of all, facilitate forging stronger relationships with business partners. The majority of modern concepts of behavioural economy are not new (Polowczyk, 2012, p. 61). The connection between economy and psychology can be found already in antiquity, among others in the works of Xenophon. It is also worth noting that the economists of long ago simultaneously studied other fields of science, such as psychology, sociology, or ethics. Adam Smith, the father of classical economy pondered in his two works, "The Theory of Moral Sentiments" and "The Wealth of Nations", the questions of what unifies the society of free people, why they exhibit not only egoism but also charity and altruism. A growing number of contemporary economists, after having forgotten "The Theory of Moral Sentiments" for almost a hundred years, incline towards behavioural economy, which, in fact, has been and is connected to the mainstream economy. Schools of economic thought are not unambiguous, but most authors do not reject the standard, useful *homo oeconomicus model*, combining it with contemporary concepts of behavioural economy.

### 2. PARADIGMS AND THEORIES

Contemporary theories of the firm are more focused on cooperation, collaboration and control in enterprises, as well as on the so-called cognitive tendencies borrowed from behavioural economy. The theory of domination, resource theory of the firm, and network approach play an essential role here. Theorizing in management chiefly applies to testing various theories against multiple paradigms.

The most often cited classification of management paradigms was described by G. Burell and G. Morgan. The authors listed the following paradigms: the neopositivist-functionalist-systemic paradigm, the interpretative-symbolic paradigm, and the critical paradigm (Sułkowski, 2012, p. 113). To the first two paradigms distinguished by G. Burell and G. Morgan, Ł. Sułkowski added two more paradigms, the paradigms of radical structuralism and of radical humanism (Sułkowski, 2012, p. 113). Perhaps apart from the already mentioned management paradigms there should be others, such as the mentioned above network paradigm related to the management of supply chains or broadly defined internationalization of business.
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operations. The neopositivist-functionalist-systemic paradigm consists of three elements. Verificationism enables to permanently determine the cognitive value of given statements by the use of empirical research on the subject. It makes it possible to give an explicit answer to the question what is and what are the properties of the given organization, as well as how to manage it efficiently. Functionalism in management leads to identifying the basic management functions, which complement one another (e.g., planning, organizing, motivating, monitoring). The systemic concept assumes the structural integration of sub-systems within a greater whole, as well as the emergence of the particular features of the system at subsequent complexity levels (Sułkowski, 2012, p. 114).

The interpretative-symbolic paradigm finds its inspiration in social and humanist sciences. The key to create a scientific theory is to understand, to grasp a meaning from the point of view of an involved observer or a member of the organization. The paradigm of radical structuralism is based on the assumption that there is an objective social reality and the researcher is tasked with studying the social mechanisms, and, above all, changing the social reality. In the paradigm of radical humanism, the rationality and truth criteria, just like the perception of reality, are culturally and socially determined. The network paradigm is a new term, which appears in literature more and more often. With the development of new concepts in economy and management, the terminology used so far, which focused first on systemic approach, then process approach, has been superseded by more network-related terminology. The notion of "network society" has its forerunner in Manuel Castells, who said that network enterprise is a new organizational form, characteristic of the global informational economy, born from the interaction between the crisis and change, and the new information technologies. It is a special form of enterprise, in which the system of measures is produced at the intersection of the autonomous segments of target systems. Therefore, network components are autonomous and dependent on the network, and can belong to other networks. A network enterprise consists of many various interconnected enterprises (Castells, 2011). One could say this is both a scientific revolution according to T.S. Kuhn and the notion of open society according to K. Popper at the same time. An open society is able to discuss all important facts in the political and economic life, and assume different points of view. Such a society tests various partial theories and often decides to implement imperfect changes, which are, however, predictable in character and can be corroborated in brief periods of time. A scientific theory is, according to Popper, like a "piling driven into quicksand, on which the whole structure is built, and when the piling rots or collapses under the weight of the facts, it has to be replaced with a new one" (Noga, 2009, pp. 67-87). In Polish science, one would rather expect to find the network approach in the area of the economy sub-discipline dealing with international economic relations. In Polish publications, however, the network was not included among the paradigms of the theory of international exchange, the theory of foreign direct investment, or the theory of international enterprise.
What is particularly striking is the scarcity of network approach in the internationalization theory. It can be said, therefore, that the sub-disciplines of management are characterized by the lack of network approach towards their own paradigms. Consequently, the advantages of a combined approach have to be considered, as the possible synergistic effects are enormous. The basic elements of the network paradigm, regardless of the particular sub-discipline of management sciences, may include: variables, causal relationships, hypotheses, actors and groups, power structures and interests, descriptions and studies, interdependences, evolution and development, both spatial and product-wise, configuration and coordination.

The chosen theories and concepts, subjected to analysis, albeit to a small extent, will most likely help solve the question of why should anyone construct new management paradigms.

2.1. The theory of agency

The key notion of this theory is the relationship of agency, which is not unambiguously defined by various authors. According to an often quoted definition, the relationship of agency is a contract in which one person uses the services of another person to fulfil some task. This theory extends the notions of uncertainty and risk discussed by economists in the 1960s and early 1970s. Fama and Jensen used the theory of agency to ascertain the organizational situation of a firm at the point when a control over given process is passed to a specialised unit. The authors proved that the leading firm and the specialised unit, both decide to cooperate because of the benefits of specialization, the ability to control arising problems, and sharing risks. This theory emphasizes the issue resulting from the incompatibility of objectives of both firms, incurring costs. The costs of agency include, among others, costs of monitoring, managing the organization, storage etc.

The loss resulting from solving conflict situations which outweigh the benefits of cooperation may also be included in costs. The chief purpose of the theory of agency is showing the parties of the contract how to achieve the most efficient level of cooperation with the lowest degree of uncertainty, aversion to risk, and informational asymmetry (Logan, 2000, pp. 1-9). The assessment of the agency costs consists mainly of the following ascertainments (Logan, 2000, pp. 1-9):

- the parties should strive to adjust common goals and ensure cooperation based on shared resources and behaviour,
- the common success should be achieved through sharing information and measuring the results of cooperation.

Functions in decision-making process are divided into two groups: decision functions, which include the proposals of how to use resources and the implementation of decisions made, and control functions, which include the acceptance of proposals of how to use resources and oversight of the implementation of decisions made (assessment and rewarding or punishing). Separation of the owner-
ship function results in the formation of such decision-making processes in organizations, that the delineation between decision functions and control functions becomes visible. Conversely, accumulation of decision and control functions by a limited number of individuals leads to the concentration of ownership in the same hands. This implies that the theory of agency reflects the assumptions of radical structuralism. Analysing the dependences in supply chains, which can be understood according to the theory of agency as complex organizations, it is more rational to separate the property, decision, and control functions. The dispersal of information supports the delegation of various power to one another by the parties in the supply chain. The separation of decision functions from control functions enables the reduction of costs associated with the relation of agency. The decision functions in supply chains would remain in the hands of coordinators, firms having economic power over the other parties, whereas the control functions could be delegated to specialist firms having unique, specific resources. Considering the usefulness of the theory of agency for explaining the functioning of the supply chain, it is necessary to point out that these are the basic elements of the network paradigm. Some authors conceive the theory of agency as a fragment of the theory of ownership rights. According to H. Demsetz (Demsetz, 1978, pp. 25-26), the ownership rights allow each individual entity to know a priori what can be rationally expected from other members of the society. So it is in the case of the firms in supply chains: the firms who have appropriate resources, often the suppliers of specific, unique raw materials or half-products, can impose their terms on other members of the supply chain. This does not necessarily mean a situation in which the suppliers seize control and coordination of the whole supply chain, but rather make the highest possible profit due to the fact of making contracts with firms from this supply chain, and not a competitive one belonging to the same branch of business.

The costs in the theory of agency show a strong relationship to the costs incurred in supply chains. These are, above all, opportunity costs due to problem solving, which is tantamount to the key theoretical themes of the critical trend in management.

2.2. Transaction cost theory

The main assumption of the transaction cost theory is that the organizational diversity is the effect of striving to reduce transaction costs. There is a distinction between ex ante and ex post transaction costs. The ex ante transaction costs are incurred during the preparation and negotiation of contracts. They change with the kinds of goods and services to be produced. The ex post transaction costs include the costs of building the management structure, to which monitoring is related and within which disputes are delegated and resolved; maladjustment costs incurred due to failures in recreating the position when the contract curve
shifts; haggling costs accompanying the adjustments (or lack thereof), and storage costs incurred for the sake of liability security. The founder of the transaction cost theory, O.E. Williamson points out those two extreme solutions are possible from the viewpoint of minimizing costs, market transactions and administrative regulation (Williamson, 1979, pp. 23-29):

- broad and general market regulation, which consists of making and fulfilling of single, unique contracts between distinct entities,
- administrative, hierarchical regulation that is conducting and completing transactions within one hierarchical system (enterprise).

The efficiency of the regulation of transactions depends on the properties of transactions. The analysis of transactions in the theory in question has three basic dimensions: specificity of resources, uncertainty, and recurrence. The key dimension is the specificity of resources, related to the place where the resources are used, as well as the kind of human and material resources. A given transaction is characterized by high specificity of resources if completing it requires investment in specific resources. The dimension of uncertainty covers the unpredictable changes in the state of nature, consumer preferences etc. Apart from such classic notion of uncertainty, the transaction cost theory emphasizes a specific kind of uncertainty associated with the unpredictability of the behaviour of parties in the transaction. They may exploit loopholes in the contract, or behave against the rules stipulated in the contract. Such behaviours are associated with the assumption of this theory that behaviours of firms result from opportunism and limited rationality. The dimension of recurrence refers to the amount and distribution in time of transactions between parties. Transactions can be single, sporadic (repeated at longer intervals), or multiple (repeated regularly at short intervals). These properties of transaction, or, strictly speaking, their level, depend also on the rational scope of vertical partnership (Ciesielski, 2002). On one hand, the transaction cost theory rejects the neoclassical paradigm of firm, which does not take into account the institutional aspects of the enterprise, and tends to the critical trend, yet on the other hand it upholds the assumption of maximization of profit.

The main catchword of the transaction cost theory, the area of cooperative behaviours, shows its great significance for studying the relationships in supply chains. Even more so, that in this theory the spectrum of possible means of regulation of transactions extends here between market and control. Due to the possible occurrence of conflicts, in supply chains there are three forms of market regulation: competition, cooperation, and control. It can be said that supply chains are a peculiar thing, in which all forms of market regulations take place while their disadvantages are eliminated. Coopereational connections established in relations between firms function as if the whole constituted a single firm, simultaneously retaining the freedom and flexibility associated with the market. Constantly developed and improved ideas of logistic partnership can be considered as means to counteract and prevent opportunism and increase rationality (Ciesielski, 2002). One of the fundamental issues in the functioning of a firm in market economy
is setting boundaries, i.e., deciding which transactions take place at the market and which are conducted internally. A transaction occurs when a product or service is transferred between technically distinct entities (Williamson, 1979, pp. 23-29). Transaction cost theory points at the extreme and intermediate solutions for various forms of market coordination in supply chains. These solutions may consist in various combinations of divisions of power, shared risks, as well as delegation of control or decision functions by the members of supply chains. A main stress of transaction cost analysis is put on "power". Power is important in the transaction process, since it determines the negotiation which is often based on price alone.

Within this theme power is seen as important within the exchange process between two or more parties; therefore, it pertains to several basic elements of the network trend, including the structures of power, relations and evolution of the organization, spatially and product-wise.

2.3. Cluster theory

According to M.E. Porter, a cluster is a kind of network in a specific geographical location, where close neighbourhood of companies and institutions assures existence of a certain community and raises frequency and meaning of interactions. The network theory may largely facilitate understanding of the functioning of clusters and how they can become more efficient. The cluster theory indicates who should belong to a network, who should they contact and why. Clusters are a new means of studying the mechanisms, through which networks, social capital, and civic commitment influence competition and market results. The idea of social capital in particular, borrowed from sociological theory, is gaining increasing significance (Łupicka, 2009, pp. 112-130). It is social capital that, in contemporary economy, cements companies and civic society as well (Bratnicki & Strużyna, 2001, pp. 56-67). It fills the social space between people and has its source in the interactions, through which connections and networks are based on the sound foundation of cooperation. Social capital, just as other forms of capitals, is used to raise the efficiency of functioning and development of organizations, mainly through facilitating the cooperation between the participants (Dyduch, 2001, p. 9). The relationship between social capital and the method of building a network has been proved. The social structure of an organization evolves by establishing new links and relations. New bonds modify the existing social capital and create chances to use the resources and exchange them internally between individuals in the organization. Establishing network links is not simple, and organizational units are not always ready to become members of a network.
2.3.1. Social capital

In contemporary economy an important aspect of social capital is also the fact that it becomes the network of social bonds between the participants of organization and customers and is helpful in striking economic transactions (Bratnicki, 2001, pp. 66-100). Such transactions are facilitated due to quick access of participants of these bonds to real and potential organizational resources. They become accessible by the network of connections in which an individual person or an organizational unit is entangled (www.zti.com). Therefore the ability of enterprising people to use development opportunities lies in social capital, including skillful cooperation with customers within the organization to realize their common interests. This ability to join into groups constitutes a large part of social capital, which is to a large extent the source of trust between the participants of the organization, which is an important and measurable economic value (www.zti.com). By bringing new contacts, each participant develops the network, by doing so catalyses striking new transactions even more and develops the enterprising qualities of the organization (Bratnicki, 2001, pp. 66-100).

2.3.2. The conception of social responsibility

According to many authors, every company, especially one acting on a global scale, must continuously sustain a supra-national organizational culture based on the common values of trust. What connects the employees of a global company is rather a system of values than a compulsion of hierarchical dependencies. They do what they believe will best serve the company considering established common values, e.g., orientation for innovation, mutual sharing of knowledge and experience, maintaining friendly interpersonal relations etc. An increasing number of enterprises include social responsibility in their internal systems of values (Polowczyk, 2012, pp. 30-60). In the holistic approach to strategy, the corporate social responsibility (CSR) became its integral part, a tool showing the need to take into consideration, at the strategy-building stage, the elements related to social responsibility and the aspects of environmental protection. With increased frequency, views on SCR show the need to change the approach to creating businesses and the necessity to build a permanent value, considering social and ecological effects. Obviously, some companies realize the conception of social responsibility of business out of altruistic reasons, such as philanthropy. For instance Hanna Anderson, an American clothing company, whose annual profit amounts to $50 million per year, introduced a programme called “Hannadowns”, in which clients who bring back used clothes of this brand would be offered a 20% reduction on its new products. The company then gave the recovered stock of clothing to orphanages, the homeless, and other charities.
Yet another example of philanthropy is the ad of shoes from Kenneth Cole, an American chain store, which encouraged the customers to return their old shoes and so gain a 20% discount on buying a new pair. The old shoes were mainly distributed among the homeless. Nike also encouraged their customers to return used shoes to the stores where they were bought. Instead of offering a discount, however, as did Andersson and Kenneth Cole, Nike recycled the collected shoes to transform them into new basketball courts and maintain existing ones. In spite of the costs related to the logistic undertaking, all these actions led to the increase in the brand value of the above mentioned companies and, due to the so-called ecological marketing, the sales of their products increased as well. Such approach to business activity is certainly one of the components of behavioural economy; employees become members of a community striving to achieve a common goal, with an important social meaning (Polowczyk, 2012, pp. 30-60).

3. CONCLUSION

The selected theories presented in this chapter should not be considered exhaustive regarding the abundant literature on management sciences; rather, they are a suggestion of a new scientific problem to be considered. On the basis of the conducted analysis, it can be stated that the selected theories do not reject the assumptions of neoclassical paradigm and, in some aspect, are complementary to it (e.g., maximization of profit). In this context, therefore, a new paradigm could hardly be discussed, as the scientists would have to forgo (to assume the view by T.S. Kuhn on rejecting the previous paradigm) the achievements of neoclassical economy. On the other hand, however, in many aspects the theories deny the ideology of neoclassical trend and compete with it (market imbalance, mutatis mutandis principle, separation of ownership from management). In view of the themes taken from neoclassical economy, one cannot talk about a new paradigm in management. Yet it is worth relating to the approach of K. Popper's school of methodology, especially J. Watkins, who rejected classical rationalism with its proving and verification of theorems. Watkins believes that the best thing to do, when the problem is clearly defined, is to propose its hypothetical solution and subsequently critically examine the proposed solution (Noga, 2009, p. 49). Management sciences, as a far more practical discipline, have the undeniable advantage of providing new ideas as hypothetical solutions to the problem. A theoretical idea is accepted as long as it has not been falsified. On the other hand, each successful business idea, which leads to the rise, efficient operation, and development of an organization, has its own specific theory (Noga, 2009, p. 50). The scientists are tasked with combining many idiosyncratic theories, so that they should be logically consistent with the basic theory. In English-speaking countries the high level of specialization imposes focusing on specific research problems, in regard to which it is of little
importance to which scientific discipline they belong. Whereas in Poland predominates the tendency to institutionalize and strictly divide areas, fields, and disciplines of science, from which tendency the identity of a given science should emerge (Sułkowski, 2012, p. 65). Due to this approach, a plethora of new ideas is not reflected in any scientific discipline, yet the fact that neoclassical economy and the behavioural trend overlap shows that the process of blurring the boundaries between individual disciplines has already begun. Relating the above considerations to paradigms, it can be assumed that the proposed network paradigm could indeed be a partial paradigm, which goes beyond the rules established in the trend of neoclassical economy. Furthermore, contemporary science struggles with cultural and ideological differences, as well as divergent attitudes in many fields between the researchers from Poland, China, or the U.S.A. Management paradigms are a set of cognitive assumptions related to the ways of following this scientific discipline common to the majority of the representatives of this science or at least by a significant group of scientists who make up a scientific school. Such a school may constitute an institutional reflection of a paradigm in the academic circles (Sułkowski, 2012, p. 96). Unfortunately, it can be observed that "research and researchers closet themselves within a single sub-discipline; as a result, there is little flow of knowledge, and the integration level not only does not increase, but decreases. This attitude does not contribute well to the rise of a greater number of scientific schools within one academic institution, which could reflect new paradigms in management sciences.

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