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AMBIGUITY IN DEFINING KNOWLEDGE IN STRATEGIC MANAGEMENT[1]

Abstract: Defining knowledge in management is always associated with simplifications, beginning from an *a priori* approach – everybody knows what is knowledge through more or less reasonable qualitative interpretations and ending with attempts of operationalization. Definitional problems are derived from an implicit hierarchical structure of knowledge – knowledge about knowledge....*ad infinitum* and from fundamental paradoxes of knowledge, associated with its self-reflexive and self-referential character. These problems are especially important in strategic management. A deepened survey of literature in that area shows that the interpretations of knowledge in strategic management are simplified and inadequate to the needs of practice and theory. The aim of this paper is to primarily identify specific characteristics of the knowledge that is necessary in strategic management. Two supporting aims are proposed. First, identification of reasons for a limited number of analyses of the specificity of knowledge applicable in strategic management. Second, the development of a preliminary survey of characteristics of that type of knowledge.

Keywords: knowledge, strategic management, knowledge management.

JEL codes: D83, M10, M19.

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WIELOZNACZNOŚĆ W DEFINIOWANIU WIEDZY W ZARZĄDZANIU STRATEGICZNYM

Streszczenie: Definiowanie wiedzy w zarządzaniu zawsze wiąże się ze znacznymi uproszczeniami, poczynając od podejścia apriorycznego – każdy wie, co to jest wiedza, a kończąc na mniej lub bardziej uzasadnionych interpretacjach jakościowych i próbach operacjonalizacji. Problemy definicyjne wynikają z ukrytej hierarchicznej struktury wiedzy – wiedza o wiedzy... *ad infinitum* – oraz z podstawowych paradoksów dotyczących wiedzy a wynikających z jej samorefleksywności oraz samoreferencji. Problemy definicyjne są szczególnie ważne w zakresie zarządzania strategicznego. Dokładny przegląd literatury w tym obszarze prowadzi do wniosku, że interpretacje wiedzy w zarządzaniu strategicznym są zbyt uproszczone i nie odpowiadają wymaganiom teorii i praktyki. Celem artykułu jest wstępna identyfikacja specyficznych cech wiedzy niezbędnych w zarządzaniu strategicznym. W artykule zostały sformułowane dwa cele cząstkowe. Po pierwsze, wskazanie przyczyn braku studiów dotyczących specyfiki wiedzy mającej zastosowanie w zarządzaniu strategicznym. Po drugie, opracowanie wstępnego zestawienia cech tego typu wiedzy.

Słowa kluczowe: wiedza, zarządzanie strategiczne, zarządzanie wiedzą.

Introduction

Defining knowledge in management is always associated with simplifications, beginning from a strong *a priori* approach (everybody knows what is knowledge!) through more or less reasonable qualitative interpretations and ending with attempts of operationalization. Definitional problems are derived from a hierarchical structure – knowledge about knowledge.... *ad infinitum* and from a fundamental paradox of knowledge, associated with its self-reflexive and self-referential character. This fundamental paradox can be described as follows. How to answer to the question whether the knowledge (individual and/or organizational) about knowledge management in an organization constitutes a part of that knowledge (individual and/or organizational)? If yes, thus knowledge management (whatever it might be) is not needed since it is a part of any kind of knowledge in the organization. If not, then we arrive at Russell's paradox – knowledge about knowledge management is not a part of knowledge in an organization (individual and/or organizational). This example shows that a deepened analysis of this paradox will lead to a reappraisal of the sense and usefulness of extant definitions of knowledge and of knowledge management.

In spite of the wealth of applications of the term knowledge in management, the number of its interpretations applicable in theory and in practice is relatively limited (Assudani, 2005, 2008; Biggiero, 2012; Cook & Brown, 1999; Crane, 2013; Heising, 2009). A closer look at the literature on strategic management gives even a more surprising result. Taking into account the following concepts: strategic knowledge management, strategy of knowledge management, knowledge as a strategic asset and strategy knowledge, it may be concluded that the discussions referring to any kind of links between knowledge and strategic management are either a repetition of the general characteristics of the uses of knowledge in management or include various interpretations of a single concept – knowledge as a strategic resource (Assudani, 2008; Biggiero, 2012; Crane, 2013; Heising, 2009; Jarzabkowski & Wilson, 2006; Kostopoulos, Brachos, Philippidou, & Katsikis, 2010). This phenomenon of multiple but significantly superficial – if not void and trivial, considerations on knowledge, ignorance and management was discovered during our recent research (Mesjasz & Szarucki, 2017).

The following questions may be asked: 1) What are the reasons for very limited scope of discussions on specific characteristics of knowledge in strategic management? 2) What should be the expected specific characteristics of knowledge, and subsequently, knowledge management, which are compatible with strategic management?

The main aim of this conceptual study is to identify specific characteristics of knowledge that is necessary in strategic management. Two supporting aims are proposed. First, a preliminary identification of the reasons for the absence of analyses of the specificity of knowledge applicable in all stages of strategic management. Second, to propose, at least primarily, directions of research, which should help to identify the characteristics of knowledge relevant to strategic management theory and practice.

It is difficult – if not possible at all, to develop a classical neo-positivist hypotheses in a survey-like research. Therefore, the following conjectures, stemming from the above questions, are proposed:

1. Due to the very broad scope of the meaning of the utterance knowledge, its applications in strategic management are imprecise, often superficial and of a limited theoretical, and practical validity.
2. The reasons for a limited validity of the term knowledge in strategic management are resulting from a paradoxical, multi-level character, self-reflexivity, self-reference and broad scope of meaning of that term.
3. The *status quo* of superficial interpretations of knowledge in strategic management cannot be maintained due to such factors as information

overabundance in modern society and the growing complexity of man--machine relations.

A simple method of a preliminary literature search is applied in this introductory study. The ontological, epistemological and methodological foundations applied in this paper are derived from “moderate constructivism” and the ontological assumption of the existence of “being” (reality) as well as the epistemological assumption that “being” (reality) is approximated in an intersubjective discourse that embodies both a qualitative (verbal) approach and mathematics. The use of such notions as information and knowledge requires at least minimally precise terminology. Hence, ideas from the philosophy of language (Wittgenstein, 2002), hermeneutics (Mantzavinos, 2016), linguistics (Lakoff & Johnson, 1995) and constructivism (Glasersfeld, 1995; Searle, 1995) are taken into account.

1. Interpretations of knowledge in management

Knowledge has been studied from multiple perspectives and has a large collection of definitions, which are often too general and overlapping. Defining knowledge in management and developing relevant theories face three fundamental barriers. The first one is connected with the distinctions: data vs. information, information vs. knowledge and knowledge vs. wisdom as they are presented in the DIKW (data, information, knowledge, wisdom) scheme (Ackoff, 1989; Kettinger & Li, 2010). The second one stems from the distinction between ‘objective vs. subjective’ (quantitative vs. qualitative) character of knowledge. The third challenge is derived from the divide between individual and collective (organizational) knowledge. All these factors lead to a conclusion reflecting the paradoxical character of knowledge and of its relation to data and information (Polowczyk, 2014). The introduction of the concept of knowledge in economic thinking and in management meant a departure from the mechanistic understanding of human activities aimed at allocating physical resources and money. In economic thinking, embodying studies at a macro-scale and micro-scale, knowledge was introduced as an additional resource or as a new organizing factor (Bell, 1973; Machlup, 1962).

In management, similarly as in economic discourse, knowledge was regarded as a resource or as an organizing factor (knowing instead of knowledge, process approach to knowledge) (Drucker, 1993; Davenport & Prusak, 1998; Heising, 2009; Kogut & Zander, 1992; Spender, 1996; Tsoukas, 1996; Koohang, Paliszkiewicz, & Goluchowski, 2017; Urbanowska-Sojkin, 2017). This divide was supplemented by another distinction – tacit knowledge vs. explicit knowledge – the SECI (socialization, externalization, combination, and internalization) (Nonaka & Takeuchi, 1995). It is now commonly agreed in management, similarly as in social theory and practice that in the most universal sense knowledge is a social construct (Kogut & Zander, 1992; Tsoukas, 1996; Tsoukas & Vladimirou, 2001).

All these discussions have contributed to a rank of typologies creating at least a partial order among the conceptualizations of knowledge in management. They are focused upon knowledge *per se* or embody the ordering of both knowledge and knowledge management (Assudani, 2005, 2008; Biggiero, 2012; Cook & Brown, 1999; Crane, 2013; Heising, 2009). Those typologies are overlapping and sometimes they only have different names of the types of definitions. They embody several basic distinctions – knowledge as a resource (reification, commodification and objectivization) vs. knowledge as a subjective concept and/or intersubjective social construct, individual vs. organizational knowledge, tacit knowledge vs. explicit knowledge, knowledge as possession vs. knowledge as process, knowledge vs. knowing. As it is presented in the comprehensive taxonomy of taxonomies of knowledge management frameworks and theories prepared by Crane (2013), the number of distinctions shows that any simple, or at least unequivocal and manageable taxonomy of interpretations of knowledge in management is unachievable.

In a preliminary discussion on the weaknesses of the applications of knowledge in strategic management, it is necessary to develop a universal, and at the same time, a more precise taxonomic framework embodying various interpretations of knowledge. Due to its relation to an individual decision-maker, the SECI concept is not considered at the initial stage of analysis of uses of knowledge in strategic management. The proposed framework is based upon the universal proposals of (Assudani, 2005, 2008; Biggiero, 2012; Crane, 2013). It embodies the polar characteristics: (1) knowledge as possession and knowledge as a process, and (2) individual knowledge and organizational knowledge.

In some taxonomies the resource and process approach to knowledge are regarded as antagonistic. However, following the suggestions by Biggiero (2012), they are not opposite. Similarly, the divide between individual vs. organizational is not always antagonistic since in some typologies knowledge as a resource can be also possessed by an organization and action-related interpretations of knowledge can be also assigned to individuals.

Additional assumptions are proposed. Despite the differences between the interpretations of knowledge as a possession and as a resource, they are taken as a unity. The same assumption is taken for knowledge as a process and knowledge as an action. In addition, as to meet the demands of the development of IT, it is assumed that information is always computable (codifiable, operationalizable). Usually in the literature the term 'codifiable knowledge' is applied. The same term will be used in the remainder of the text. The questions concerning the limits of computability, and subsequently, codifiability, are beyond the scope of the paper.

2. Specificity of knowledge in strategic management: expectations and reality

Looking at the peculiarities of knowledge in strategic management, Assudani (2008, p. 651), after providing several perspectives for knowledge conceptualization, has argued that "a generic use of […] knowledge blurs the strategic focus of the firms on exactly what (and subsequently how it) needs to be managed". There are numerous imprecisely defined terms related to knowledge in strategic management. For example, Firestone and McElroy (2003) argue about the importance of strategy perception in terms of just another kind of knowledge claim or a product of knowledge processing. Moreover, according to them, if a strategy is a set of knowledge claim(s), then one should think of a strategy as a result of knowledge processing, the quality of which is the principal matter of knowledge management instead of the fulfilment of a strategy.

Another type of knowledge being widely discussed and investigated in strategic management literature is 'organizational knowledge' which is perceived as a strategic asset (Bollinger & Smith, 2001). According to de Hoog and van der Spek (1997) the know-how of employees is one element of organizational knowledge and a key strategic resource. Nevertheless, in order to become a strategic asset the resource must have several crucial attributes (Michalisin, Smith, & Kline, 1997) such as being: valuable, rare, inimitable and non-substitutable. From this viewpoint, knowledge is 'an asset in its own right and not simply […] an enhancement of other kinds of assets' (Boisot, 1998, p. 2). Grant (1996) and van den Berg (2013, p. 160) argue that knowledge is more of a meta-resource, since it 'transcends basic resources and is the unique source of economic growth and value'. Patalas-Maliszewska and Hochmeister (2011, p. 75), while discussing knowledge as a strategic resource in small and medium-sized enterprises; perceive it as 'unique resources of individual employees, which allow SMEs to gain a sustainable competitive advantage'.

Knowledge is currently deemed as the most significant strategic resource, and the capacity to build and utilise knowledge has been a key ability in forming a fairly sustainable competitive advantage (Penrose, 1980). Thus, knowledge has been recognised as a strategic asset to achieve and sustain a competitive advantage. The Resource-Based View (RBV) has been applied as a source for advancing the knowledge-based view of an organization (Grant, 1996; Nonaka, 1994; Spender, 1996; Sveiby, 2001). In the knowledge economy, knowledge is a valuable, rare and costly-to-imitate resource when used for new products and services. Knowledge is an intangible resource and, especially when it is in a tacit form, it is difficult to imitate it. Spender (1996, p. 46) remarks that specific aspect very well: 'Since the origin of all tangible resources lies outside the firm, it follows that competitive advantage is more likely to arise from the intangible firm-specific knowledge which enables it to add value to the incoming factors of production in a relatively unique manner'. Knowledge is perceived as the raw material of the resulting capabilities of an organization. A capability represents a capacity for a team or an organization to use efficiently its resources. That includes also the knowledge about how to do it. If knowledge as a resource is interpreted as a result of knowing what, then a capability is a knowledge embodied in knowing how to perform a certain task.

Another perspective sheds light on the perception of the role of knowledge in the process of the evolution of a strategy concept. It is possible to read the evolution of the concept of a strategy on the basis of the notion of knowledge, of its basic ingredient (information), or of other concepts (e.g. learning) that are related to them. First of all, knowledge and its related concepts are, in a way or another, essential to understand the definitions of strategy and the perspectives from which this concept has been seen in the economic and managerial literature. Second, the increasing awareness that companies are complex organizations that act in a turbulent environment, affected by uncertainty and unpredictability, strengthens the recognition that knowledge and related processes (i.e. knowledge creation, sharing, and learning, etc.) have a central place in the work of 'strategists' (or of anybody that must take strategic decisions in a company). Third, that knowledge is not simply a more or less complex 'aggregation of data', but is intertwined with mental processes, attitudes, emotions, social behaviour, and even the values of people.

It is important to emphasize the fact that knowledge has been always used in developing business strategies, but in the beginning this has been limited only to economic aspects and rational planning. The new turbulent environment demonstrated that decision making is subjected to bounded rationality, so accepting irrationality is part of the game (Simon, 1955). A deeper look into the knowledge perspective, approaches and illogical extremes within the ten schools of strategy formation (Mintzberg & Lampel, 1999) leads to the question, what are the current expectations towards knowledge in modern organizations? Looking from the modern perspective of a contemporary turbulent environment one could notice some important implications for the strategic management of knowledge in organizations.

Assudani (2005) acknowledges two epistemological dimensions of knowledge: 1) epistemology of possession: i.e. knowledge as something that is possessed by the organization, and 2) epistemology of action/process: i.e. knowledge as a dynamic process. Assudani (2008) also stresses two perspectives on the knowledge that should be strategically managed in organizations: knowledge 'of' and knowledge 'from'. The first one is related to the knowledge that is owned by the organization (e.g. know-how and/or know-what). It is important to reveal who the main knowledge-bearing stakeholders in the organization are. The second one, for knowledge that is produced it is also important to find out what counts as new (produced) knowledge in organizations. For different organizations knowledge creation will have different meaning, e.g. invention of a new product (service, process, and organizational innovation), new intellectual capital, new learning, and a number of publications or time for new product creation. These two perspectives are combined by bricolage in the form of knowledge perceived as a process. Knowledge is dispersed across individuals, time and space as well as in the sense that it is inherently unknown, since no one 'knows in advance what that knowledge is or need be' (Tsoukas, 1996, p. 22). An organization's knowledge is also dispersed in the broader societal and industrial context within which the organization is implanted.

Based on the literature review and the identified gap, we raise the following questions allowing for a better understanding of the role of knowledge in strategic management. What are the expectations towards knowledge in strategic management theory and practice? What are the constituents of knowledge which are applicable (needed) in strategic management? How knowledge should be perceived by both academics and practitioners in order to serve better the objectives of strategic management? Table summarizes the characteristics of knowledge that are needed in strategic management.

Summary of the characteristics of knowledge needed in strategic management

Characteristic	Example
Valuable	Being a pioneer in acquiring new knowledge can facilitate an organization attaining a valuable strategic advantage in terms of improved products, technologies, processes or services
Rare	In an organization it is the sum of employee know-how, know-what, and know-why. It is determined by the knowledge and experiences of existing and former employees, as well as being based on particular organizational prior knowledge
Inimitable	Every employee in an organization provides knowledge based on his/her interpretation of information. Similarly, group interpretations and the absorption of knowledge depends on the synergy of all members or the group. Moreover, it is built on the distinctive former history of the organization's accumulated expertise and gained experiences
Nonsubstitutable	Cooperation within and between specific groups creates synergy which cannot be replicated. Therefore, the groups exhibit unique competences which are non-substitutive
Supportive	Knowledge must support the learning process in an organization to build its sustainable competitive advantage and long-term competitiveness. The learning process as a foundation of setting long-term goals must be supported by adequate knowledge
Meaningful	It is cannot be only a slogan, and must embody meaningful and valuable content that can be utilised by individuals and groups to build and manage an organization's strategy
Up-to-date	Possessing appropriate and current knowledge leads to better strategic planning over the time perspective
Supportive for long-term predictions	Knowledge applicable in strategic management should be helpful in making long-term predictions. It concerns both the facts (data) as well as the specificity of the methodology of long-term prediction of economic and natural phenomena
Multi-level character	Awareness of multi-level knowledge (I know that I know that I know….. *ad infinitum*) which is also associated with the self-reflexive and self-referential character of all types of knowledge
Methodological awareness	Awareness of concepts, methods and techniques necessary to develop effective applications of knowledge in strategic management

Source: Own study.

Jarzabkowski and Wilson (2006), referring to applicability (actionability) of knowledge, have proposed a review of the four key schools of thought in strategy (positioning, resource based, hypercompetitive and complexity theory) in terms of the changing competitive conditions. According to them some approaches become progressively relevant and some not, which provides some support 'for the argument that some schools of strategy theory may be less actionable than others' (Jarzabkowski & Wilson, 2006, p. 349). Thus, some of our assumptions related to the proposed knowledge of properties could be criticized. For example, inimitability, perceived as a key source of knowledge-based advantages in more stable environments, turns out to be obsolescent in high velocity environments (Autio, Sapienza, & Almeida, 2000). Jarzabkowski and Wilson (2006, p. 353) argue that 'the primary source of advantage is not built up of inimitable long-term knowledge but using knowledge for rapid reconfiguration in order to generate new advantages'.

Conclusions

The main conclusions of this study can be formulated as follows:
1. The discourse on the role of knowledge in strategic management is based upon several simplifications. The main simplification is that in the majority of the studies knowledge is treated solely as an asset depicted in very general terms. No specific characteristics of knowledge necessary for the development of effective strategies have been developed.
2. The reason for such a situation is that paradoxes associated with defining knowledge are not considered sufficiently deeply in defining that concept. The same observation is associated with the lack of reflection on multi-level knowledge and its consequences.
3. The present state of research on the links between knowledge and strategic management is not relevant to the needs of practice due to two reasons. First, the amount of information produced and received by modern companies. Second, necessity to develop codifiable interpretations of knowledge applicable in man-machine relations.
4. The above considerations have a very significant practical impact. Without a deeper understanding of the role of knowledge in strategic management – and it is too often the case, it will not be possible to improve strategic analysis, strategic choice and strategy implementation.

The most important direction for future research is that a thorough approach should be applied in order to develop a typology of knowledge characteristics applicable by both academics and practitioners of strategic management.

The following factors should be borne in mind in such studies:

1. Information overabundance.
2. New cognitive revolution in management expressed, among others, in the increasing role of man-machine cognitive relations.
3. Limited applicability of interpretations of knowledge as an asset.
4. Hierarchy, self-reflexivity and self-reference of knowledge in an organization.
5. Specificity of knowledge needed in strategic management – taking into account two basic factors: time horizon and scope of decisions.

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