EMERALD POINTS

THE PHILOSOPHY OF TACIT KNOWLEDGE

The Tacit Side of Knowledge Management in Organizations

JON-ARILD JOHANNESSEN

THE PHILOSOPHY OF TACIT KNOWLEDGE

This page intentionally left blank

THE PHILOSOPHY OF TACIT KNOWLEDGE

The Tacit Side of Knowledge Management in Organizations

BY

JON-ARILD JOHANNESSEN
Kristiania University College, Norway

emerald PUBLISHING

United Kingdom – North America – Japan – India
Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2022

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-80382-678-3 (Print)
ISBN: 978-1-80382-677-6 (Online)
ISBN: 978-1-80382-679-0 (Epub)

ISOQAR certified Management System, awarded to Emerald for adherence to Environmental standard ISO 14001:2004.

Certificate Number 1985
ISO 14001

INVESTOR IN PEOPLE

CONTENTS

This page intentionally left blank

FOREWORD

When we consider tacit knowledge, i.e. the portion of our knowledge that is difficult to pass on to others in the form of information, e.g. how to cycle, swim, ride, sort fish, grade tea leaves, taste wine and so on, there is no certainty that we must improve our understanding of a phenomenon before we can explain it. Rather, it is the other way around: we must explain a phenomenon more in order to understand it better. This should be understood as the distinction between mastering something and understanding it.

Words are often useful tools for developing, transferring and integrating explicit knowledge. Words are not essential, however, in the case of tacit knowledge. For example, to a large extent we understand what babies are trying to tell us, even before they have learned to use words and understand their meaning. We also understand people who are suffering and turn to us wordlessly. We understand that a person can swim, even if that person cannot explain how he/she does it.

Since tacit knowledge is difficult to codify, and thus difficult to store in external media such as archives, databases and so on, it is completely dependent on individuals. As a result, if the possessors of tacit knowledge disappear from a system, their tacit knowledge can easily disappear with them. Tacit knowledge, which is an aspect of experiential knowledge, has an external influence on social systems, including increased productivity. This was emphasized strongly by Solow (1997, p. 4), including in his reference to Arrow's (1962) article on 'learning by doing'. Accordingly, studies of tacit knowledge relate directly to wealth creation processes in the commercial sector.

It is not always the case that theories develop in the light of observations. Often it can be the other way around. In other words, we develop a theory, and it is only then that we are able to perceive certain phenomena and/or problems that previously were invisible to us. An important objective of this project is precisely to develop elements of such a theory about tacit knowledge, so that we become able to perceive new perspectives.

In this book, we have developed 52 case letters for the purposes of exemplifying, concretizing, elaborating and anchoring the theoretical discussion in

each chapter.[1] Many of the case letters in this book address different sides of a particular aspect of tacit knowledge, and accordingly appear to resemble each other. This has been done quite deliberately, with the intention of allowing the reader to gain a greater understanding of the topic dealt with in the relevant case letters.

REFERENCES

Arrow, K. J. (1962). The economic implications of learning by doing. *Review of Economic Studies*, *29*, 155–173.

Solow, R. M. (1997). *Learning from learning by doing: Lessons for economic growth*. Stanford, CA: Stanford University Press.

1 Case letter is a term Mintzberg uses for short reports, analyses and discussion of organizations, but which cannot be considered a full-fledged case study.

1

A PHILOSOPHY OF KNOWLEDGE MANAGEMENT

Both Schøn (1983) and Hunter (1991) stress the importance of stories for connecting theoretical and practical knowledge. Both theoretical and practical knowledge comprise knowledge that is both explicit as well as tacit. It is a misunderstanding to believe that tacit knowledge belongs to the practical domain, while explicit knowledge belongs to the theoretical domain (D'Cruz, Jacobs, & Schoo, 2009). Nonaka clearly expresses the importance of relating tacit knowledge to explicit knowledge when he writes, 'in order to raise the total quality of an individual's knowledge the enhancement of tacit knowledge has to be subjected to a continuous interplay with the evolution of relevant aspects of explicit knowledge' (1994, p. 22).

Tacit knowledge is here understood on the basis of the tradition that views participation and interaction with other people and with technology as the essential component of knowledge processes, or as expressed by Polanyi, 'I have said that the premises of science are tacitly observed in the practice of scientific pursuits and in the acceptance of their results as true' (1958, p. 189). Practical knowledge, or rather as Molander (1993) expresses it, 'knowledge in action', constitutes the basic metaphor for our approach in this book. 'Knowledge in action' may also give rise to theoretical knowledge, which may not necessarily be directly applicable in practice; that is, practice is the starting point but not necessarily the end point for the knowledge process (Gill, 2016).

In Western thinking, the tacit dimension of knowledge has not been given much attention, because the emphasis has been on so-called scientific knowledge that can be measured, quantified and tested (i.e. objective knowledge), focusing on a rigorous and theoretical approach. By 'objective knowledge' we mean the following: 'Let p be a piece of explicit knowledge. Then p is objective if and only if (a) p is public (intersubjective) in some society, and (b) p is testable

(checkable) either conceptually or empirically' (Bunge, 1983, p. 80). Thus, according to this definition, objective knowledge must be intersubjective and verifiable. However, truth is not necessarily an integral part of objectivity; a statement may be objectively correct but false, and non-objective but true. For example, 'there is a high tide because the sea is swelling' – this is an objective statement because it is intersubjective and testable, but it is not necessarily true. The statement 'my dog is always kind' is not objective, but it may be true.

Polanyi claims that 'to select good questions for investigation is the mark of scientific talent, and any theory of inductive inference in which talent plays no part is a Hamlet without the prince' (1958, p. 30). Technical rationality, with the natural sciences serving as a knowledge model and ideal for epistemology, has been the ideal in Western science. The tacit dimension is opposed to this view of knowledge; in a scientific context, and in practice, it stems from intellectual empathy, emotional commitment and action expertise. Polanyi expresses his view of knowledge clearly in the following statement: 'Science is regarded as objectively established in spite of its passionate origins: It should be clear by this time that I dissent from that belief' (1958, p. 134). What is Polanyi's contribution to Western philosophy and epistemology? Allen expresses this clearly: 'Polanyi's theory of tacit integration is his distinctive contribution to philosophy' (1990, p. 15). This may be interpreted as meaning that all our knowledge development, not just tacit, has as its starting point the details of which we have a subsidiary awareness, in relation to the object or phenomenon we are focusing on. It is this *from-to* structure, from the subsidiary to that which is in primary focus, which constitutes the structure in tacit integration. All knowledge, according to Polanyi, has this tacit basis as its foundation.

Tacit knowledge is difficult to codify. It is therefore not exact in the sense that it can be quantified, measured or tested. On the other hand, tacit knowledge may be verified in action. In its consequences, tacit knowledge is thus objective since it can be tested by verifying it in practice (Jakubowska, 2019).

This book is based on the following supposition: Tacit knowledge is objective, in the sense that it is objective in its consequences.

Schön (1983, 1987) compares tacit knowledge to the artist's method of working, where knowledge is unique from situation to situation. The tacit dimension belongs to professional praxis (Schon, 1983, p. 39), and is not theoretically founded. The problems that arise in practical situations, no matter how similar they may seem to problems that have occurred before, are unique and need to be defined each time. In other words, solutions need to be found within the specific contexts. In these specific contexts, problem-defining knowledge (the development of concepts) is just as important as problem-solving knowledge (the use of tools). In many cases, problems can only be

defined in relation to practical situations that often have blurred boundaries, and where explicit knowledge is not sufficient either to define the problem or to solve it. To define a problem in a practical context, a framework should be created around the situation. This constitutes the organizational and leadership implication of the focus on tacit knowledge (Jaziri-Bouagina & Leal Jamil, 2017). If this framework does not exist, then explicit knowledge and technical rationality will gain more acceptance, because of their historical importance, and their position as the dominant logic. When a system does not create structures, relationships and processes that allow for a tacit dimension, then the explicit dimension will dominate 'the tacit space'. Our point of departure is that such 'rational' solutions will ultimately be less 'rational' at the system level, and may damage a system's performance.

This book will examine the following research problem: How can tacit knowledge be used to improve performance in practice?

In order to address the research problem, we have formulated four research questions:

(1) What is tacit knowledge?

(2) How can tacit knowledge be developed?

(3) How is tacit knowledge transferred?

(4) How is tacit knowledge integrated into social systems?

The book is organized around the model we have developed in Fig. 1.1.

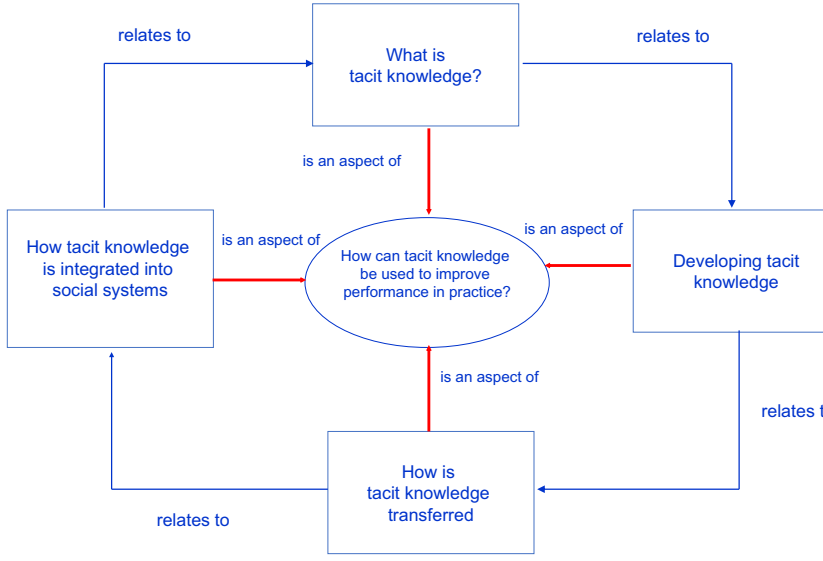

Fig. 1.1. The Organizational Framework of the Book.

REFERENCES

Allen, R. (1990). *Thinkers of our time-Polyani*. London: The Claridge Press.

Bunge, M. (1983). *Exploring the world*. Dordrecht: Reidel.

D'Cruz, H., Jacobs, S., & Schoo, A. (2009). *Knowledge-in-practice in the caring professions: Multidisciplinary perspectives*. New York, NY: Ashgate.

Gill, S. P. P. (2016). *Tacit engagement: Beyond interaction*. London: Springer.

Hunter, M. K. (1991). *Doctor's stories: The narrative structure of medical knowledge*. Princeton, NJ: Princeton University press.

Jakubowska, H. (2019). *Skill transmission, sport and tacit knowledge*. London: Routledge.

Jaziri-Bouagina, D., & Leal Jamil, G. (2017). *Handbook of research on tacit knowledge management for organizational success*. New York, NY: Information Science Reference.

Molander, B. (1993). *Kunskap i handling*. Gøteborg: Daidalos.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organizational Science*, *5*(1), 14–37.

Polanyi, M. (1958). *Personal knowledge*. London: Routledge & Kegan Paul.

Schøn, D. (1983). *The reflective practitioner. How professionals think in action*. New York, NY: Basic Books.

Schøn, D. (1987). *Educating the reflective practitioner*. London: Jossey-Bass.

2

WHAT IS TACIT KNOWLEDGE?

Polanyi points out that '…we can know more than we can tell' (1983, p. 4) and, that 'nothing that we know can be said precisely' (1958, pp. 87–88). Accordingly, the basis for Polanyi's concept of tacit knowledge is that we know more than we are able to communicate to others in the form of information. For example, we can recognize a face we have seen before in a sea of other faces, but we cannot put into words exactly what it is that enables us to do this. Polanyi says further that 'we can communicate (tacit) knowledge (…) provided we are given adequate means for expressing ourselves' (1983, p. 5). However, tacit knowledge cannot be communicated by verbal or visual means alone; one approach is to combine explicit and tacit knowledge. Tacit knowledge can often be communicated practically. For instance, a master can communicate tacit knowledge to an apprentice by pointing to an object or situation (e.g. when trying to keep a situation under control). For instance, there may be particular types of sounds that indicate that one process or another is starting to go wrong. This method of explaining something (such as a word denoting an external object) by pointing at the object is referred to by Polanyi as an 'ostensive definition' (1983, p. 6).

The transfer of tacit knowledge to an apprentice is an active and creative process; it is not one of passive transfer from master to apprentice (Polanyi, 1983, p. 6). The learning process depends on the apprentice gradually discovering the knowledge that the master is unable to convey explicitly, but which eventually becomes apparent in the situation/context (Lim, 2016). This active process results in the tacit knowledge gained by the apprentice being different from that of the master's knowledge. The apprentice integrates this tacit knowledge into his/her own knowledge-base, and in this way makes it his/her own. For example, this applies to the knowledge acquired by nurses, pre-school teachers, teachers, managers, artists, technicians, researchers etc.

This type of knowledge cannot be acquired through formalized and codified procedures that are divorced from practice.

The distinction between explicit and tacit knowledge may be understood in relation to *wissen* (German: 'knowing what') and *kønnen* ('knowing how'). The development of tacit knowledge may be said to always consist of three elements: 'the person who knows', 'the person who wants to know' and the practical context.

It is by becoming intimate with phenomena or problems – 'dwelling in them' (Polanyi, 1983, p. 18) – that we can understand their inner meaning. Thus, it is the intimacy, contextual familiarity and long experience with the phenomenon that constitute the approach to tacit knowledge. It is precisely this sensitivity, attained through intimacy by 'using and doing' that leads to the development and transferral of tacit knowledge. Polanyi expresses this in the following way: '— tacit knowing achieves comprehension by indwelling, and that all knowledge consists of or is rooted in such acts of comprehension' (1983, p. 55).

Molander expresses that tacit knowledge may be understood in relation to 'activities and the reflections upon the activities' (1993, p. 40). The word 'and' is important here: the activities *and* the reflections. It is not the activities or the reflections alone by which tacit knowledge may be understood, but the activities *and* the reflections that are made before, during and after the activities.

Activities are crucial to tacit knowledge (Ramella, 2019). It is through the execution of activities that actors develop, transfer and integrate tacit knowledge in social systems. However, reflection is also essential if learning is to be achieved. Activities are at the core of tacit knowledge, but around this core lie reflection and interaction.

The interaction may be divided into two components. First, there is interaction with the object, phenomenon or problem that is to be understood or solved. Second, there is interaction with the individuals who possess knowledge of the phenomenon, object etc. There are thus three main processes linked to tacit knowledge: activity, reflection and interaction. The activity takes place in the present moment. The reflection, on the other hand, takes place before, during and after the activity. The interaction has the same time dimension as the reflection, that is the actors interact before, during and after the activity. The activity, reflection and interaction are connected by the fact that the actors participate and contribute in a practical context.

As mentioned above, tacit knowledge is developed through familiarity with a phenomenon or object; this is referred to here as the 'phenomenal structure' of tacit knowledge. Tacit knowledge is transferred through interaction

between the person who possesses tacit knowledge and the person who wants to acquire the knowledge; this is referred to here as the 'functional structure' of tacit knowledge. The integration of tacit knowledge into a system or between systems is contingent on contextual familiarity in which actors act and interact with specific objectives, through a process where dialogue is the crucial element. This is referred to here as the 'contextual structure' of tacit knowledge. The above may be related to Polanyi's later work (1966), where he distinguishes between the 'phenomenal', 'functional' and 'semantic' (contextual) structures of tacit knowledge.

The development, transfer and integration of tacit knowledge require action, reflection and emotional commitment. However, these three elements are only necessary conditions for these knowledge processes (Souleiman, 2016). In addition, the transfer and integration of tacit knowledge require that relationships between the actors are based on trust and a basic, helping attitude; this strengthens the trust in the relationships and facilitates the knowledge processes.

Tacit knowledge is developed, transferred and integrated as a type of focal attention on a phenomenon, function and context. It is the constant focusing over a period of time that develops sensitivity towards the signs that praxis sends. Polanyi expresses that 'like the tool, the sign or the symbol can be conceived as such only in the eyes of a person who relies on them to achieve or to signify something. This reliance is a personal commitment which is involved in all acts of intelligence by which we integrate some things subsidiarily to the centre of our focal attention' (1958, p. 61). Tacit knowledge and praxis are thus closely related but distinct concepts. Tacit knowledge is developed and transferred through doing and using (cf. Schøn, 1983, 1987), where there exists a relationship between a master and an apprentice, an expert and a novice or one who knows and one who wants to know. This relationship is based on discipline; by 'discipline', we mean the word's original meaning: 'learning from someone who knows' (Turner, 2014).

Skills are developed through repeated practice until they become automated or part of our tacit knowledge; they can then be performed without conscious control of the separate activities, so that the performer can concentrate on a higher level of perfection. Physical activities are assimilated so they become conditioned reflexes when performed by an expert. However, to reach this level presupposes that the development of the tacit knowledge is done through 'slow repetitive practice to set up conditioned reflex programs in the brain' (Robinson, 1996, p. 127). For certain motor skills, such as playing the piano, one might figuratively say that the fingers are the brain: that is, the memory of how to play is in the fingertips. Similarly, your fingers can remember how to

dial a particular phone number even though you may not be able to verbalize it.

It is important to be aware of the fact that all explicit knowledge presupposes tacit components. Referring to Polyani, Rolf writes that 'all knowledge that is not tacit, presupposes tacit knowledge' (1995, p. 63). For Polanyi, the tacit dimension is the result of pre-conceptual actions that are integrated through experience into the context. The tacit dimension represents the practical aspect of a situation. We can find examples of failure to take the tacit dimension into account in medieval medical faculties, where only medical theory was conveyed, not its application (Innis, 1994, p. 29).

DEVELOPMENT OF A TACIT KNOWLEDGE TYPOLOGY

We will develop a typology of tacit knowledge where each type of tacit knowledge process has its own implications with regard to management and innovation processes.

Tacit knowledge is the result of different types of learning processes, which we will denote here using the term 'tacit knowledge processes'.[1] Polanyi (1958, p. 49) describes these processes in the following way: 'Tacit knowing is a process of a complex whole, a pattern which escapes when taken apart for analysis. But tacit knowing is not only involved in the process by which tacit knowledge is gained. It is also involved in the processes by which all knowledge is gained'. For Polanyi, tacit knowledge processes are the dominant principle of all knowledge. Tacit knowledge processes rely on focus and perception of a system of details which we cannot specify or test scientifically (Zappavigna, 2014). However, this does not apply to the tacit knowledge resulting from tacit knowledge processes. Tacit knowledge is objective in the sense that it may be tested with regard to its consequences, although the tacit knowledge processes may not be tested. The logic of this is as follows: If knowledge has a function, it must also have an effect, and if it has an effect then it must be possible to discover this effect. We can attempt to clarify this using an analogy. Suppose someone claims that they have developed a technological innovation in information technology, the function of which is to increase the integration of innovation knowledge on a global basis. If the innovation has no effect on computers and related networks, then such an idea

1 'Tacit knowledge processes' is here synonymous with Polanyi's 'tacit knowing', which denotes the processes leading to tacit knowledge.