

Knowledge transfer

3.1 What is Knowledge Transfer: First, it is important to note the differences between the two types of knowledge. Knowledge can be explicit, which lends itself to transfer strategies such as formal desk manuals, procedures, and other codified processes. Knowledge can also be tacit, which lends itself to transfer strategies such as mentoring, coaching, communities of practice and the like. Explicit knowledge is more easily quantified and qualified, and can thus be more readily captured. Tacit knowledge, however, involves soft skills, personal characteristics, development of cooperative partnerships, and subjective situational judgments. As this type of knowledge is more intuitive in nature and derived from experience, it is less readily distilled and captured into orderly process structures. Since these characteristics are essential for leaders, we strongly suggest devoting more attention to the transferring of tacit knowledge.

In organizational theory, **knowledge transfer** is the practical problem of transferring knowledge from one part of the organization to another. Like knowledge management, knowledge transfer seeks to organize, create, capture or distribute knowledge and ensure its availability for future users. It is considered to be more than just a communication problem. If it were merely that, then a memorandum, an e-mail or a meeting would accomplish the knowledge transfer. Knowledge transfer is more complex because (1) knowledge resides in organizational members, tools, tasks, and their subnetworks and (2) much knowledge in organizations is tacit or hard to articulate. The subject has been taken up under the title of knowledge management since the 1990s.

Although knowledge transfer in organizations involves transfer at the individual level, the problem of knowledge transfer in organizations transcends the individual level to include transfer at higher levels of analysis, such as the group, product line, department, or division. For example, one manufacturing team may learn from another how to better assemble a product or a geographical division may learn a different approach to product design from its counterpart in another division. Knowledge transfer in organizations manifests itself through changes in the knowledge or performance of the recipient units. Thus, knowledge transfer can be measured by measuring changes in knowledge or changes in performance.

For example, a performance-based approach to measuring knowledge was used by Darr, Argote, and Epple (1995) to estimate the extent to which the productivity of fast-food stores was affected by the experience of the other stores in their franchise. Similarly, Baum and Ingram (1998) analyzed the extent to which the

survival of hotels was affected by the experience of other hotels in their chain. Benkard (in press) analyzed the extent to which experience producing one model of a product affected the amount of labor required to produce a subsequent model. A particular challenge in assessing transfer through measuring changes in performance is controlling for factors in addition to the experience of other units that may affect the performance of the recipient unit (see Argote, 1999).

Background

Argote & Ingram (2000) define knowledge transfer as "the process through which one unit (e.g., group, department, or division) is affected by the experience of another"^[1] (p. 151). They further point out the transfer of organizational knowledge (i.e., routine or best practices) can be observed through changes in the knowledge or performance of recipient units. The transfer of organizational knowledge, such as best practices, can be quite difficult to achieve.

Szulanski's doctoral dissertation ("Exploring internal stickiness: Impediments to the transfer of best practice within the firm") proposed that knowledge transfer within a firm is inhibited by factors other than a lack of incentive. How well knowledge about best practices remains broadly accessible within a firm depends upon the nature of that knowledge, from where (or whom) it comes, who gets it, and the organizational context within which any transfer occurs. "Stickiness" is a metaphor that comes from the difficulty of circulating fluid around an oil refinery (including effects of the fluid's native viscosity). It is worth noting that his analysis does not apply to scientific theories, where a different set of dynamics and rewards apply.

Three related concepts are "knowledge utilization", "research utilization" and "implementation", which are used in the health sciences to describe the process of bringing a new idea, practice or technology into consistent and appropriate use in a clinical setting.^[4] The study of knowledge utilization/implementation (KU/I) is a direct outgrowth of the movement toward evidence-based medicine and research concluding that health care practices with demonstrated efficacy are not consistently used in practice settings.

Knowledge transfer within organisations and between nations also raises ethical considerations particularly where there is an imbalance in power relationships (e.g. employer and employee) or in the levels of relative need for knowledge resources (e.g. developed and developing worlds)

Knowledge transfer includes, but encompasses more than, technology transfer

Knowledge transfer between public and private domains

With the move of advanced economies from a resource-based to a knowledge-based production,^[6] many national governments have increasingly recognised "knowledge" and "innovation" as significant driving forces of economic growth, social development, and job creation. In this context the promotion of 'knowledge transfer' has increasingly become a subject of public and economic policy.

The underlying assumption that there is a potential for increased collaboration between industry and universities is also underlined in much of the current innovation literature. In particular the Open Innovation [1] approach to developing business value is explicitly based on an assumption that Universities are a "vital source for accessing external ideas". Moreover Universities have been deemed to be "the great, largely unknown, and certainly underexploited, resource contributing to the creation of wealth and economic competitiveness."

Universities and other public sector research organisations (PSROs) have accumulated much practical experience over the years in the transfer of knowledge *across* the divide between the domains of publicly produced knowledge and the private exploitation of it. Many colleges and PSROs have developed processes and policies to discover, protect and exploit intellectual property (IP) rights, and to ensure that IP is successfully transferred to private corporations, or vested in new companies formed for the purposes of exploitation. Routes to commercialisation of IP produced by PSROs and colleges include licensing, joint venture, new company formation and royalty-based assignments.

Organisations such as AUTM in the US, The Institute of Knowledge Transfer in the UK, SNITTS in Sweden and the Association of European Science and Technology Transfer Professionals in Europe have provided a conduit for knowledge transfer professionals across the public and private sectors to identify best practice and develop effective tools and techniques for the management of PSRO/college produced IP. On-line Communities of Practice for knowledge transfer practitioners are also emerging to facilitate connectivity (such as The Global Innovation Network and the knowledgePool).

Business-University Collaboration was the subject of the Lambert Review in the UK in 2003.

Knowledge transfer in landscape ecology

By knowledge transfer in landscape ecology, means a group of activities that increase the understanding of landscape ecology with the goal of encouraging application of this knowledge. Five factors will influence knowledge transfer from the view of forest landscape ecology: the generation of research capacity, the potential for application, the users of the knowledge, the infrastructure capacity, and the process by which knowledge is transferred (Turner, 2006).

Types of knowledge

Knowledge is a dominant feature in our post-industrial society, and knowledge workers comprise an enterprise. If knowledge is the basis for all that we do these days, then gaining an understanding of what types of knowledge exist within an organization may allow us to foster internal social structures that will facilitate and support learning in all organizational domains. Blackler expands on a categorization of knowledge types that were suggested by Collins (1993), being: embrained, embodied, encultured, embedded and encoded. It is important to note that these knowledge types could be indicative of any organization, not just those that are knowledge-based heavy.

Embrained knowledge is that which is dependent on conceptual skills and cognitive abilities. We could consider this to be practical, high-level knowledge, where objectives are met through perpetual recognition and revamping. Tacit knowledge may also be embrained, even though it is mainly subconscious.

Embodied knowledge is action oriented and consists of contextual practices. It is more of a social acquisition, as how individuals interact in and interpret their environment creates this non-explicit type of knowledge.

Encultured knowledge is the process of achieving shared understandings through socialization and acculturation. Language and negotiation become the discourse of this type of knowledge in an enterprise.

Embedded knowledge is tacit and resides within systematic routines. It relates to the relationships between roles, technologies, formal procedures and emergent routines within a complex system. In order to initiate any specific line of business knowledge transition helps a lot.

Encoded knowledge is information that is conveyed in signs and symbols (books, manuals, data bases, etc.) and decontextualized into codes of practice. Rather than being a specific type of knowledge, it deals more with the transmission, storage and interrogation of knowledge.

Challenges

What complicates knowledge transfer? There are many factors, including:

- The inability to recognize & articulate "compiled" or highly intuitive competencies—tacit knowledge idea^[2]
- Geography or distance^[9]
- Limitations of Information and Communication Technologies (ICTs)
- Lack of a shared/superordinate social identity
- Language
- Areas of expertise
- Internal conflicts (for example, professional territoriality)
- Generational differences
- Union-management relations
- Incentives
- The use of visual representations to transfer knowledge (Knowledge visualization)
- Problems with sharing beliefs, assumptions, heuristics and cultural norms.
- Previous exposure or experience with something.
- Misconceptions
- Faulty information
- Organizational culture non-conducive to knowledge sharing (the "Knowledge is power" culture)
- Motivational issues
- Lack of trust
- Capability

Everett Rogers pioneered diffusion of innovations theory, presenting a research-based model for how and why individuals and social networks adopt new ideas, practices and products. In anthropology, the concept of diffusion also explores the spread of ideas among cultures.

Process

- Identifying the knowledge holders within the organization
- Motivating them to share
- Designing a sharing mechanism to facilitate the transfer
- Executing the transfer plan
- Measuring to ensure the transfer
- Applying the knowledge transferred

- Monitoring and Evaluate

Practices

- Mentorship
- Guided experience
- Simulation
- Guided experimentation
- Work shadowing
- Paired work
- Community of practice
- Narrative transfer
- Practices

Incorrect usage

Knowledge transfer is often used as a synonym for training. Furthermore information should not be confused with knowledge, nor is it, strictly speaking, possible to "transfer" experiential knowledge to other people. Information might be thought of as facts or understood data; however, knowledge has to do with flexible and adaptable skills—a person's unique ability to wield and apply information. This fluency of application is in part what differentiates information from knowledge. Knowledge tends to be both tacit and personal; the knowledge one person has is difficult to quantify, store, and retrieve for someone else to use.