



AGRICULTURAL KNOWLEDGE: LINKING FARMERS,
ADVISORS AND RESEARCHERS TO BOOST INNOVATION

AGRILINK'S MULTI-LEVEL CONCEPTUAL FRAMEWORK

THEORY PRIMER: 20) ORGANISATIONAL LEARNING

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AgriLink

Agricultural Knowledge: Linking farmers, advisors and researchers to boost innovation.

AgriLink’s multi-level conceptual framework
Theory primer: 20) Organisational Learning

The elaboration of this Conceptual Framework has been coordinated by **The James Hutton Institute**, leader of AgriLink’s WP2.

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This document presents the multi-level conceptual framework of the research and innovation project AgriLink. It is a living document.

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It has gone through a transdisciplinary process, with implication of both practitioners and researchers in writing, editing or reviewing the manuscript. This participation has been organised within AgriLink’s consortium and beyond, with the involvement of members of the International Advisory Board of the project, including members of the Working Group on Agricultural Knowledge and Innovation System of the Standing Committee on Agricultural Research of the European Commission.





Theory Primers

The purpose of the primers is to provide AgriLink consortium members with an introduction to each topic, which outlines the key points and identifies options for further reading. The primers have also served to demonstrate the wide range of expertise in the consortium, and to highlight the specific research interests of consortium members. Primers are intended to act as a **foundation for academic journal articles, and an early opportunity for collaboration between consortium members.**

20) Organisational Learning

Author: Egil Petter Stræte

1.0 General Overview of the Approach

1.1 Summary of the Approach

Organisations can be regarded as systems comprised of the actors involved, their social relations, and their mutual dependency. Scott (2003) distinguishes between the rational, natural, and open systems of organisations. The actors in an organisation must have something in common in order for it to make sense to pay special attention to their relationships. This community may be related by interests and/or a shared reality. Organisations can act meaningfully and purposefully in a way that cannot be reduced to the sum of many individuals' knowledge and intentions. Organisational knowledge is knowledge that is shared by multiple individuals and is more than the sum of each individual's knowledge. Access to relevant knowledge is a first step, but the real challenge is to implement this knowledge and change practices.

Innovation involves changes in action. To achieve change in an organisation, that organisation must be able to develop new knowledge and learn; however, innovation is not limited to a single action but is instead a process (Lundvall, 1992) that is concerned with how the actors influence each other. To create something new involves breaking up established routines and conventions in organisations. The legitimacy associated with established practices must be broken and replaced with new legitimacy and practices. Organisational learning is about being able to break established routines, produce new knowledge, and establish new routines. Routines are the links between the process and the structure.

Organisational learning involves the ability to change or change conventions in different situations. On the one hand, routinizing actions is sometimes desirable ('agree' on a convention), but on the other hand there are situations where the ability to break up routines is important, i.e., change conventions. The topic of an organisation's efforts to systematically improve and learn, and to continuously do so, is noted as organisational learning.

The concept of an institution can sometimes be mixed up with organisations and institutes. An institution is a pluralistic concept with numerous applications. In this case, an institution can be regarded as a practice, or more academically, as Scott formulates: 'Institutions are composed of cultural-cognitive, normative, and regulative elements that, together with associated activities and resources, provide stability and meaning to social life' (Scott, 2003:48).

Organisational learning is related to several other concepts discussed in the theoretical framework for AgriLink; see especially *Theories of knowledge, knowing and learning* by Chris Blackmore and *Knowledge and organisational learning for innovation* by Geneviève N'Guyen.



1.2 Major authors and their disciplines

In organisational learning, five perspectives or theories are mentioned:

- Organisational routines (Nelson and Winter, 1982). Economics, often connected to evolutionary economics and economic geography.
- An important source of this thought is Argyris and Schön's work on organisational learning (Argyris and Schön, 1996: first published 1978) and their work on single- and double-loop learning. Business management and philosophy.
- Knowledge creation based on Nonaka and Takeuchi's work (Nonaka and Takeuchi, 1995). Business management.
- Convention theory based on Boltanski and Thévenot's idea and later contributions by others (Boltanski and Thévenot, 1991, 1999, 2006). Sociology.
- Learning organisations based on Senge's work (Senge, 1990). His background is mixed but rooted in business management.

1.3 Key references

Argyris, Chris, & Donald A. Schön, (1996). *Organizational learning II: Theory, method and practice*. Reading, Mass.: Addison-Wesley.

Boltanski, Luc, Laurent Thévenot (1991). *De la justification: Les économies de la grandeur*. Paris: Gallimard. In English: Boltanski, Luc, and Laurent Thévenot (2006). *On justification: Economies of worth*. Princeton University Press.

Nelson, Richard R., & Sidney G. Winter (1982). *An evolutionary theory of economic change*. Cambridge, Mass.: Belknap Harvard.

Nonaka, Ikujiro, & Hirotaka Takeuchi (1995). *The knowledge creating company: How Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press.

Senge, Peter M. (1990). *The Fifth Discipline: The Art & Practise of The Learning Organisation*. London: Century Business.

1.4 Brief history of how the theory has developed and been applied

Argyris and Schön developed the term 'organisational learning' in their book from 1978. They conceptualised learning as something that did not require a cognitive process; specifically, they talked about 'action theories' as 'theories' that govern our actions, but also established patterns of action as well as what people say they think. Senge brings this a step further by emphasising the systematic approach to become a learning organisation.

Nelson and Winter can be regarded as two of the main contributors to evolutionary economics. They were inspired by Schumpeter's thoughts on entrepreneurship and innovation. In this sense, Nelson and Winter bridge organisational development and societal development.

Nonaka and Takeuchi describe a model for understanding processes related to knowledge production in organisations. They divide tacit and explicit knowledge. Within and between these two forms of knowledge, there are transfers and conversions, so we can say that four different knowledge states or modes exist: socialisation, externalisation, combination, and internalisation. New knowledge is created or developed and this in itself continues the process; for this model, a spiral is a better metaphor than a circle.

Convention theory is related to French regulation theory and has similarities to actor network theory (ANT) in that it is interpretative and the actor is the starting point for the analysis (Wilkinson, 1997). Actors, most often individuals, develop 'a sort of "agreement"' about what is



to be done – in the sense that what each person does meets the expectations of the others on whom he or she depends' (Storper and Salais, 1997:16). This agreement is a convention; it is not a formal or formulated agreement and, in sociological terms, this agreement is more like rules. The theory of conventions may be applied in both the macro- and micro-levels; macro about 'long variations, in terms of historical duration or cultural gaps' and micro about 'short variations which consist of differences between activities within a single economy, or changes in conventions in an organization, during interaction and so on' (Eymard-Duvernay, 2002:69). Convention theory may not be so obvious a part of organisational learning, but it can be applied here too.

A wide range of organisational learning studies are rooted in one or several of these theories.

1.5 Basic concepts

Organisational routines are important to explain an organisation's development (Nelson and Winter, 1982). An organisation's ability to generate new knowledge is based on the existing stock of accumulated knowledge and the method of generating new knowledge. This stock and method will typically exist as routines.

Argyris and Schön (1996) discuss single-loop learning, i.e., solving problems based on existing premises and knowledge, and double-loop learning, i.e., establishing new premises and knowledge that can substitute for the existing ones. Loops give association to circles. However, when learning has happened you are not back at starting point, i.e. spirals are may be a better image.

For more on knowledge creation and the spiral process of how new knowledge is developed, see above (Nonaka and Takeuchi, 1995).

For more on conventions, see above.

Diagram

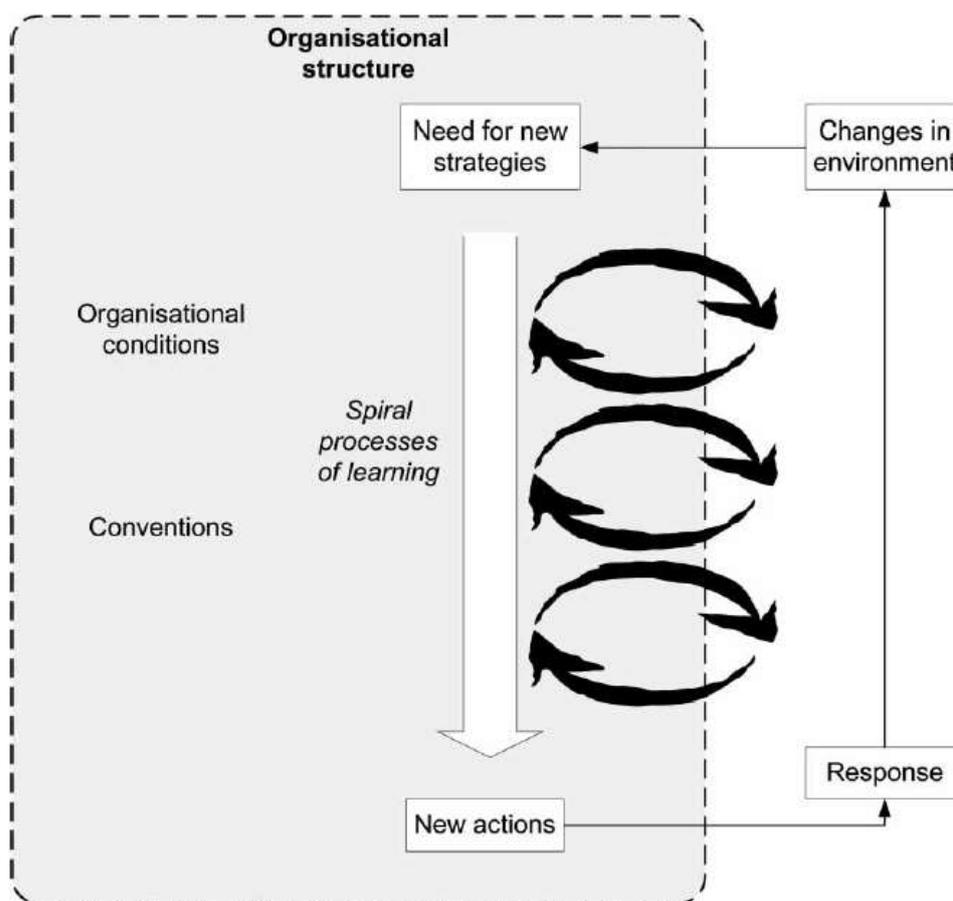


Figure 1. Analytical model of elements of innovation processes in organizations

From Stræte (2006).

2.0 Application to the analysis of the role of farm advisory services in innovation

2.1 Relevance to AgriLink Objectives

Organisational learning, in one aspect or another, is considered relevant to all the objectives.

2.2 How this can be applied/developed in AgriLink

In our context, AgriLink, learning will take place in specific situations where the interaction between the individual and the environment will be central. Organisational learning is particularly relevant for advisory service organisations and knowledge environments because the organisation of the advisory group is important both for the development of advisory products and for the implementation of new knowledge into practises for farmers. From this follows the idea that approaches from organisational learning can be applied to explore and explain how organisations (or firms) work with innovation or why they are not doing so. It is also relevant to analyse how organisations can improve their ability to learn and innovate.

Convention theory can also be applied at the inter-organisational and system levels, e.g., AKIS. One example could be to explore how changes in the system happen or why they do not happen. This can typically be caused by different regimes in an operation.

As there are many studies carried out in these issues, a more specific search is recommended.



2.3 Research questions relevant to AgriLink

Organisational learning can be relevant to much of the work in AgriLink and therefore is also relevant for many of the research questions.

Relevance to main research question:

- How do farmers make decisions in their daily farming activities? Who influences them most in their decision-making? Differentiate between main ‘types’ of farmers, e.g., innovators, followers, and laggards.
 - How does advisory service organisations (systematically) meet the needs of the various types of farmers?
 - How does an advisory service develop their relational competence?
- What is the specific role/function of advisory services in farmer decision-making on their farming practices (consulting/facilitation/brokering/knowledge processing, etc.)?
 - How does an advisory service train themselves to be prepared for providing advisory services?
 - How does an advisory service stimulate their own capability in innovation?
 - How does an advisory service systematically keep themselves up-to-date on new knowledge? What is their absorptive capability?
- What is the role of the prevailing (regional/national, EU) AKIS on farmers’ decisions to change their practices and what is the role of farming advisory services therein?
 - How does AKIS recognise and incorporate (the various) farmers’ situations to develop and adjust strategies in AKIS?
- How are the functions of farm advisory services influenced by the institutional settings of advisory systems (the providers, their business models, their relations) at the regional level or within innovation areas?
- How can advisors enhance knowledge flows and accumulation and boost the innovativeness of farms?
 - How does an advisory service boost their own innovativeness?
- What are the factors that facilitate and hinder farmer-advisor-researcher collaborations?

Others:

- How can Living Lab be a tool for the permanent stimulation of innovation in an organisation/network/AKIS?

Further, organisational learning seems to be particularly relevant to WP2, 3, and WP5.

2.4 Methodological implications

Applied methods are often qualitative, like observation and interviews or case studies of specific organisations or parts of organisations. Quantitative studies, like surveys, can be applied to support the qualitative study, e.g., make an analysis of the indicators of competence in an organisation or generalise based on a representative sample.

The role of researcher in the study can be problematized. Organisational studies are often part of an action-related approach. The concept of the Living Lab is a strategy for doing action research; how can that be related to organisational learning? There is a need to clarify the role



of the researcher, to be explicit if one is an outsider or insider. See also *Action research/Reflecting on our methods* by Herman Schoorlemmer.

2.5 Strengths and weaknesses

There are a variety of approaches in and applications of organisational learning; the strength of that is that there is a high chance to find a study that was performed in one way or another that is relevant to the specific AgriLink situation, but the weakness of such is that there may be confusion when there is no existing answer to a specific question.

The organisation is the entity to be studied. This can be helpful to limit the study and can be regarded as a strength.

It can be argued that case studies have a limited value to transfer to other situations, i.e., the lessons learned have less value in other contexts. However, this argument is irrelevant because case studies involve analytical generalisation and not statistical generalisation.

2.6 Potential operational problems

Being involved in organisational studies, like case studies, or even Living Lab may have some commercial implications. There may be commercial interests that the organisation wants to be kept as internal business secrets. This issue is related to attitudes toward openness, like open innovation.

If studies are going to be compared across countries, there is a need to coordinate this and establish a common basis for how that is going to be concretely carried out.

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