

DEVELOPING CHANGE AND INNOVATION MANAGEMENT COMPETENCIES IN RURAL & URBAN COMMUNITIES: A SOCIAL SIMULATION-CENTERED APPROACH

Albert A. ANGEHRN

Centre for Advanced Learning Technologies (CALT)
INSEAD, The European Institute of Business Administration
Bd de Constance, F-77300 Fontainebleau, France
Tel: +33 1 6072 4361; E-mail: albert.angehrn@insead.edu

Abstract

In this paper we describe an innovative way of using Information and Communication Technologies (ICT) to support the efficient, effective and sustainable development of change and innovation management competencies in municipality teams and community representatives – Community Change Master (CCM). The CCM eLearning approach presented is based on both experiential and collaborative learning models relying on technologies such as advanced social simulation and internet-based videoconferencing techniques supported by satellite DVB-RCS access. The key design principles underlying this eLearning approach and first insights gained in the context of a large EU-sponsored project are presented and discussed.

Keywords: Change and Innovation Management Competencies, advanced simulations, videoconferencing, satellite-based internet services, DVB-RCS.

Introduction and Overview

Managing change and innovation in communities, and particularly in rural ones, is a complex and often overwhelming challenge for municipality teams and community representatives. The competencies necessary to address such tasks successfully assumes the capability to fully understand (1) the implications of the innovation at hand, (2) the factors determining the willingness of community members to adopt it, and (3) the complex dynamics of change processes in social contexts. In particular, such challenges require the capability to identify and address different forms of resistance, to leverage formal and informal social influence networks, to acknowledge and respect a number of cultural and endemic factors, and to apply appropriately a variety of communication, persuasion, intervention, and involvement tactics.

The main objective of this article is to document the work we are conducting in the context of a large EC-sponsored project (Rural Wings [1]). Our work within this project is focused on the development, validation and Europe-wide diffusion a new eLearning approach (“Community Change Masters”) aimed at providing municipality teams and community representatives with advanced change and innovation management competencies. These competencies are first acquired through an effective *simulation-based* learning experience, and then extended through a *videoconferencing-based* collaborative learning process among distributed teams (nation- and Europe-wide) stimulating the emergence of a life long learning channel to support the continuous development of change and innovation management competencies.

The presented eLearning approach builds on a combination of state-of-the-art experiential learning models (“*SmallWorld Simulations*” [2]) relying on edutainment principles (“*Learning-by-Playing*” [3]), supported by advanced internet-based communication and collaboration tools (satellite DVB-RCS access [4]) to support effective online/distributed competencies development.

First insights from the design and the implementation of the presented eLearning approach addressing municipality teams and community representatives Europe-wide are discussed, together with its key features and dimensions (Effectiveness, Efficiency and Sustainability). We conclude indicating promising ongoing and future research directions in this area.

The Challenge of Change and Innovation: Learning from Management Education Experiences

A number of developments and trends, such as the emergence of new technologies applicable in social contexts (rural and urban communities) [5,6], the growing decentralization of community management processes or the need for harmonizing citizens-related innovation processes Europe-wide [7], combined with cost-reduction pressures and local as well as global competition for human and financial resources, have forced community representatives to put 'innovation and change' higher on their priority list, and the EC to sponsor a number of projects (e.g. [1] and [8]) addressing this challenge. Unfortunately, resistance to change in different forms and from different sources has undermined the capability of local communities to engage in significant transformations [9, 10].

Evidence collected over the last years through the design and extensive application (several thousands managers per year) of advanced management simulations [2,11] indicates that a new generation of eLearning systems based on experiential (computer-supported role-playing) and collaborative learning models, can help us addressing complex competencies development challenges more effectively than with traditional pedagogical methods. This line of research has already led to the design (and the extensive deployment in top management schools and companies worldwide) of social simulations helping managers at different levels (from students to experienced executives) to extend their understanding of change and innovation diffusion dynamics in organizational contexts, increasing their capability to identify the different factors determining the success or failure of such transformation processes and hence manage more successfully change and innovation projects within their companies [12] as well as in other types of organizations, such as in Higher Education contexts [13].

A key hypothesis underlying the work presented in this article is that research conducted and validated over the last years in the management science field can be applied and extended to design new eLearning solutions helping municipality teams and community representatives to better understand, address and develop their own capability (and barriers) to adopt change and innovation in local (rural and urban) communities. The "Community Change Masters" (CCM) Program described in the following section represents a concrete example of such a new eLearning solution.

The "Community Change Masters" (CCM) Program: Key Features

In this section we describe the developed eLearning approach from a user/learner perspective and discuss its more important dimension (Effectiveness) and the underlying learning models and technologies.

The CCM Program from a User Perspective

The CCM Program is a structured process supporting the development of change and innovation management competencies of municipality teams and community representatives. From a user perspective, involvement in the CCM Program corresponds to engage in a professional and social learning experience with the main steps illustrated in Figure 1.

CCM: With Whom? The experience is conducted locally (within teams of community representatives operating in the same environment), and then gradually extended to peers from other municipalities and communities (first in the same region, country, and then in a cross-European context).

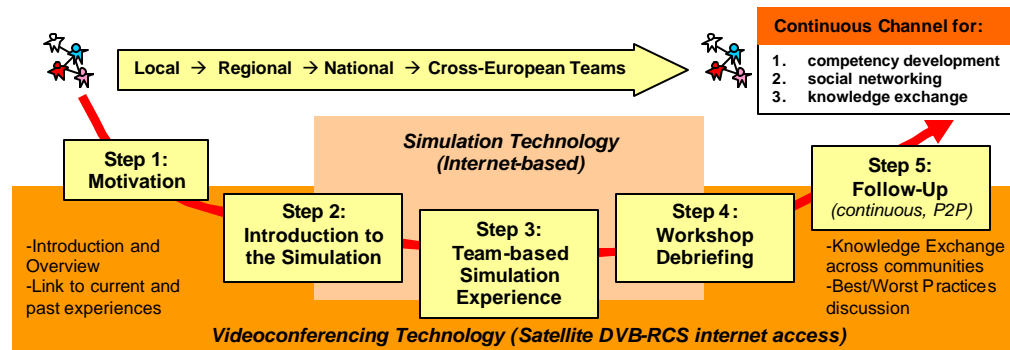


Figure 1: Overview of the CCM Learning Experience

CCM: Which Steps? The experience starts with an intensive simulation-based 1-day workshop introduced by a pre-structured videoconference-based session (motivational piece) between the team and their online facilitator (step 1 in Figure 1). Then the team moves to the core part of the online workshop, i.e. the deployment of an effective change management simulation conducted in small groups (steps 2-3 in Figure 1). The workshop ends with a debriefing of the simulation experience focused on the discussion of insights (theory and practice of managing change in rural and urban communities), as well as on ways to apply them successfully in the learners' communities (step 4 in Figure 1). This first intensive phase (steps 1-4) provides the motivational and cognitive basis for municipality teams to apply the insights acquired in the online, simulation-based workshop, and get involved in the second phase of the CCM Program (continuous follow-up step 5 in Figure 1). In this second phase, learners engage in structured knowledge exchanges (deploying efficiently videoconferencing) to discuss real cases put forward by the municipality members involved in the peer-to-peer learning process. This second step contributes therefore to the gradual creation of a sustainable channel for continuous learning, social networking and knowledge exchange process.

The Effectiveness Dimension: Inside the Simulation

Providing relevant and actionable change-related competencies to decision makers using traditional pedagogical methods is difficult [12]. The simple access to related information and knowledge (documents, cases, articles, books, etc.), to lectures, courses, or traditional eLearning solutions proposed in this area typically fails to address the subject in a sufficiently experiential way, making the insights gained difficult to apply for the involved learners.

The simulation experience embedded in step 3 (see Figure 1) is the core ingredient to make the suggested approach particularly effective in achieving its learning purpose (relevant and actionable competencies development) as well as its social networking and knowledge exchange and diffusion objectives. In fact, SmallWorlds Simulations [2] can be designed to engage learners in realistic experiences of the challenges and factors affecting the success or failure of change management initiatives. More specifically, learners play the role of “change agents” in charge of a realistic “mission” requiring them to simulate the gradual introduction of an innovative system or process (e.g. an eVoting system, or a new land use or garbage collection plan) affecting significantly the life of their community members. During such a simulation, the team gets to know, to interact with and to try to persuade a large number of simulated characters (representing different community members) to adopt the planned innovation. By using different communication and intervention tactics to address different forms of resistance, and by gradually understanding and leveraging the formal and informal/hidden networks among the simulated characters and the cultural specificities of the simulated context, the learners are given the opportunity to succeed or fail in their mission. This process contributes in developing a deeper understanding of the factors involved in implementing innovations in social contexts, the barriers and forms of resistance emerging, and one’s own level of competence (or incompetence) in addressing and operating successfully in such complex change management situations. The simulation experience becomes hence the basis for a reflection, debriefing and learning process which is rich (inclusion of cognitive, emotional, and social aspect) [12], motivational [3] and personalized/directly related to the real-world situations in which the learners operate. During the follow-up phase, the resulting insights can be easily shared with other (similar) teams from other parts of the country, or even from other countries and cultures, as this type of simulation experiences provide a common basis for addressing and productively exchanging knowledge and experiences related to the challenge of managing change.

Deployment Strategy

The Rural Wings Project [1] is providing us with an ideal context in which the learning experiences described in the previous section can be extensively validated and deployed Europe-wide. The presence and involvement of technology and pilot partners from several European countries provides in fact the opportunity to validate in a cross-cultural context (1) the **Effectiveness** dimension addressed in the last section, as well two other relevant dimensions: (2) its **Efficiency** (economic viability of the technological solution proposed, and reduction of the time and cost necessary to achieve the targeted learning objectives), and (3) its **Sustainability** (establishing a basis for the continuous diffusion of actionable competencies development, social networking and knowledge exchange opportunities).

Conclusions and Further Research

Initial pilot tests of the eLearning approach presented in this article have been conducted with representatives of a French small town (in the context of the EdComNet Project [14]) and with the municipality team of a Danish

community. Extensive testing conducted in the context of the Rural Wings Project [1] will provide insights into a number of research questions related to:

- The effective combination of simulation and videoconferencing in educational contexts (technical/pedagogical dimension)
- The impact of the proposed eLearning solution on both the perceived and actual capability of municipality teams to drive change and innovation in their communities (impact dimensions)
- The factors determining the success or failure of eLearning solutions targeting municipality teams and community representatives Europe-wide (comparative analysis)

On the basis of these insights we will consider extending the proposed approach to address other critical competencies (such as collaboration and conflict resolution) relevant for decision makers in social contexts and community representatives, using the CCM Program as a model for similarly structured and delivered competency development services.

Technology-wise, the presented approach is particularly indicated to address people operating in rural or remotely located communities. In fact, the technologies selected (simulations, videoconferencing and satellite DVB-RCS access) represent an economically efficient solution to reach out also and particularly to those who would otherwise not be able to access and profit from such relevant and actionable competencies development, social networking and knowledge exchange opportunities.

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References

- [1] Rural Wings Project (2006), *IP-FP6-516161*.
- [2] Angehrn, A.A. (2006). SmallWorld Simulations: Experiences and Developments; *CALT Working Paper, 2006* or *ALT-I 2006 Proceedings*.
- [3] Angehrn, A.A. (2004). Learning by Playing: Bridging the Knowing-Doing Gap in Urban Communities ; In A. Bounfour and L. Edvinsson (Eds.), *Intellectual Capital for Communities: Nations, Regions, Districts, Cities*, Butt.-Hein., 299-316. ([pdf](#))
- [4] As described in <http://www.tech-faq.com>, DVB-RCS stands for [Digital Video Broadcast - Return Channel Satellite](#). The purpose of DVBRCS is to provide a return channel to enable Internet and other data services over satellite.
- [5] Ishida, T. & K. Isbister (2000), Digital Cities: Experiences, Trends, Perspectives. *Lecture Notes in Computer Science* 1765, Springer Verlag.
- [6] Ishida, T., Ishiguro, H., and H. Nakanishi (2001), Connecting Digital and Physical Cities. *Digital Cities II*, Lecture Notes in Computer Science 2362, Springer Verlag, 246-256.
- [7] Cohendet P. (2003) *The Digital Divide in the European Enlarged Economic Scenario: An Assessment of the Socio-Economic Effects*, ESA Report.
- [8] Twister Project (2004), "Terrestrial Wireless Infrastructure integrated with Satellite Telecommunications for E-Rural applications". *IP-FP6-502928*.
- [9] McKenzie, J., Truc, A. and C. van Winkelen (2001) Winning commitment for knowledge management initiatives , *Journal of Change Management*, 2, 2, 115-127.
- [10] McNish, M.(2001) Guidelines for managing change: A study of their effects on the implementation of new information technology projects in organizations, *Journal of Change Mgmt*, 2, 3, 201-211.
- [11] Aldrich C. (2005). Learning by Doing: A Comprehensive Guide to Simulations, Computer Games, and Pedagogy in *E-Learning and Other Educational Experiences* , Jossey-Bass.
- [12] Manzoni, J.F. and A.A. Angehrn (1997), Understanding Organizational Dynamics of IT-Enabled Change: A Multimedia Simulation Approach, *Journal of Management Info. Systems*, 14, 3, 109-140.
- [13] Angehrn, A.A., Schönwald, I., Euler, D. and S. Seufert (2005). *Behind EduChallenge: An Overview of Models Underlying the Dynamics of a Simulation on Change Management in Higher Education*; SCIL Report 7.
- [14] EdComNet Project (2003), "A humanistic Urban Communal Educational Net". *IST-2000-26037*.