

Developing Knowledge Management Competence in Graduate Education

Literature review

Andre Saito
Doctoral student, Umemoto Lab

Ver 2.04 – 2006.04.23

Chapter outline

1. Introduction
 - 1.1. Background
 - 1.2. Objectives and methodology
2. Literature review
 - 2.1. The field of knowledge management
 - 2.2. Competence and competence development
 - 2.3. Teaching and learning in higher education
3. Knowledge management competence
 - 3.1. A conceptual framework of KM competence
 - 3.2. Survey of KM researchers and practitioners
4. Graduate knowledge management education
 - 4.1. The state of graduate KM education
 - 4.2. Case studies of graduate KM programs
5. Conclusions
 - 5.1. Summary of findings
 - 5.2. Theoretical and practical implications

Andre Saito - KM Competence

1

Introduction

- Background
 - Challenges in the knowledge society
 - Knowledge management as a new field
 - The competence movement
- Objectives and methodology
 - Problem setting
 - Objectives and research questions

Background

Challenges in the knowledge society

- The knowledge economy
 - Accelerating pace of innovation in products and processes
 - New organizational configurations, both internal and external
 - Growing importance of developing and managing human capital
- Rise of knowledge work
 - Distinctive features of knowledge workers
 - Complexity in the coordination of knowledge work
- Changing institutions
 - Public knowledge and intellectual property
 - New modes of collective action, including production and distribution of goods and services

Andre Saito - KM Competence

3



Background

Knowledge management as a new field

- Ambiguous state of KM practice
 - The rise and fall of knowledge management
 - Knowledge-related initiatives continue to be carried out in a wide range of industries, government and the social sector
 - Sustained efforts from solution vendors
- Growing body of research on KM
 - Historical development
 - *Contributions from varied disciplines*
 - Continued academic interest in knowledge issues
 - *Growth of research outlets (publications, conferences, etc.)*
 - *Creation of academic societies*
 - Introduction of educational programs



Background

The competence movement

- Policies for vocational education and training (VET)
(VET: development of skills and competencies for the labor market)
 - Importance of life-long learning: formal and non-formal, continued acquisition of skills and competencies
 - Development national and international qualification standards
- Basic curricula focusing on wider key competencies
 - The knowledge society requires a set of skills and competencies different from what is currently taught in schools
 - National and international efforts to identify key competencies
- Competence-based human resources management
 - Employee selection, assessment, development and compensation based on individual competencies



Problem setting

- The knowledge society poses unique challenges to managers and workers
- The knowledge management field has grown out in response to those challenges
- Little work has been done towards the development of KM-related skills in managers and workers
- The *competence* construct provides a basis to facilitate the diffusion of KM-related skills



Objectives

Objectives

- To develop a framework of knowledge management competence
- To use it as a basis to explain how KM-related skills are developed in graduate KM programs


Research questions

- How is KM competence developed in graduate KM education?
 - What is KM competence and how can it be developed?
 - How are graduate KM programs taught?



Literature review

- The field of knowledge management
- Competence and competence development
- Teaching and learning in higher education



The field of knowledge management

- Major strands of KM research
 - Information-oriented KM
 - People-oriented KM
 - Strategy-oriented KM
 - Computation-oriented KM
- Issues on KM practice
- The KM professional
- Education on KM



KM research

Information-oriented KM


- Knowledge as relevant content
 - KM as a information management, usually a set of knowledge processes (e.g. identify, acquire, organize, distribute, use)
 - *Typical topics:* information organization [information architecture, taxonomies]; information needs and uses [information audits]; information retrieval; KM systems [KMS architecture]; process-oriented KM
- Knowledge as replicable experience
 - KM as the codification/replication of experience/practices of individuals/teams
 - *Typical topics:* organizational memory [knowledge repositories]; ways to capture tacit knowledge [storytelling]; management of expertise



KM research

People-oriented KM

- Knowledge as social practice
 - KM as cultivation of shared contexts and collective engagement in action and practice
 - *Typical topics:* context [ba]; identity; communities of practice; social capital [structure, relational, cognitive]; social networks [structure, tie strength]
- Knowledge as sense-making
 - KM as inquiry, negotiation of meaning and organizational change
 - *Typical topics:* enactment; organizational culture [shared values, beliefs, norms]; interests and agency; power and conflict; symbolism and rhetoric; legitimacy



KM research

Strategy-oriented KM

- Knowledge as organizational capabilities
 - KM as knowledge creation, transfer and protection for building sustainable competitive advantage
 - Typical topics: knowledge creation; dynamic capabilities; innovation [path dependence, clusters]; collaboration [absorptive capacity, networks]; knowledge strategies
- Knowledge as the foundation of the organization
 - KM as knowledge-based managerial practice
 - Typical topics: knowledge-based view [identity, firm boundaries, interpretive flexibility]; resource-based view [resources], evolutionary perspectives [routines]



KM research

Computing-oriented KM

Advanced technology in support to KM

- Intelligent computing
 - Typical topics: decision support systems; knowledge discovery and data mining; agents; ontologies
- Creative computing
 - Typical topics: creativity support systems [idea generation, idea management, group thinking]; awareness support
- Collective computing
 - Typical topics: social software [blogs, wikis, syndication]; tagging [folksonomies]; open source and open content



Issues on KM practice

- Descriptions of techniques and tools
 - Innumerable techniques and tools in all four approaches to KM
 - Many techniques and tools may be implemented favoring either of two or more approaches and even combining them
- Analyses and prescriptions for KM implementation
 - Securing required conditions for KM success
 - Choosing and prioritizing KM initiatives, approaches, techniques
 - Defining criteria for the evaluation of results
- Accounts of KM initiatives (cases)
 - Usually focusing a specific area (e.g. customer relations, operations)
 - May describe organization-specific issues (e.g. culture, strategy)
 - Some collections on how KM apply to particular industries or sectors (e.g. construction, consulting services, government)



The KM professional

- KM as a business function
 - KM staff may belong to existing areas, typically information technology (IT), human resources (HR), and planning, or a dedicated KM area may be created
 - A variety of positions is suggested in the literature
 - Senior positions (e.g. CKO, CLO)
 - Managerial positions (e.g. knowledge manager)
 - Staff positions (e.g. librarian, K engineer, K leader, IC specialist)
- KM as a distributed activity
 - Knowledge-related roles assigned to general personnel (e.g. K activists, K champions, domain specialists)
 - Knowledge orientation assigned to general managers
 - All workers in charge of KM



Education on KM


- Arguments for KM as a discipline and for KM as a profession
- Recognition of KM is a multidisciplinary area, so programs should involve faculty from various units
 - Units usually involved are engineering, information systems, library and information studies, communication, management
- Noticeable higher contribution on the topic coming from scholars originally from library and information studies



Summary

The field of knowledge management

- There are many distinct perspectives on knowledge and its management, which can be clustered in four major approaches to KM
- The KM activity as a whole seems to be highly contextual and dependent on judgment and experience
- Responsibility for KM is attributed in various ways, the main ones being to a dedicated KM staff, to general managers, and to all employees
- KM education recognizes the multidisciplinary nature of KM



Competence and competence development

- Competence as individual capacity
- Competence as social role
- Competent action
- The development of competence



Competence as individual capacity

- Competence as underlying individual attribute that is relatively enduring (sometimes referred to as competency)
- Combination of psychological resources
 - *Conceptual knowledge*: e.g. models, heuristics, memories
 - *Skills and abilities*: e.g. cognitive, affective, psychomotor
 - *Personal attributes*: e.g. attitudes, traits, values, motives
- Difficulty in acquisition or development of competencies vary according to those types
 - Some may be innate (e.g. intelligence) or quasi-permanent (e.g. personal traits, values)
 - While some may be easily acquired (e.g. conceptual knowledge), others require a long period of practice (e.g. skills and abilities)



Competence as social role

- Competence as a set of socially defined expectations
- Usually, a set of stakeholders define the domain and scope of what is expected
 - E.g., a discipline (mathematics); an activity (chess playing); a profession (law); an occupation (nurse); a job position (sales rep); an organization (firm x); an industry (tourism)
- Implies an expected degree of proficiency
 - May be defined in terms of either/or (competent or not) or increasing levels (e.g., novice, proficient, expert)



Competent action

- Competent action is the mobilization of internal resources to meet a given set of social demands
- Competence as capacity must be observed through action, having to be enacted each time it is required
- Competent action is dependent on context and situation (e.g., physical, social, cultural environments; a given point in time)
- Expertise may be associated with adaptability to a wider range of different contexts and situations
- Reflective action is associated with higher levels of proficiency



The development of competence


- Competence is best developed through experience and continued practice
- The development of competence is facilitated in “developmental environments” (e.g. open, supporting, encouraging, stimulating)
- Professional competence may require the assimilation of a large body of disciplinary knowledge



Summary

Competence and competence development

- Competence is socially attributed – scope and level of proficiency are defined by a set of stakeholders
- Competence combines social demands with internal resources
- The nature of the task defines the nature of the resources to be mobilized
- Competence is situated and context-dependent, and must be demonstrated in action



Teaching and learning in higher education

- Experiential approaches to learning
 - Experiential learning
 - Action learning
 - Problem-based learning
- Competence-based education



Summary

Teaching and learning in higher education

- To be done...



Summary of the literature review

- Varied perspectives on KM can be clustered in four major approaches
- Actual KM activity is highly contextual and dependent on judgment and experience
- Competence combines social demands with internal resources, and the nature of the task defines the nature of resources to be mobilized