Introduction-A

The most important characteristics of the post-2009-crisis, new, networked, knowledge-driven, global economy:

- The time recess between the most conspicuous events in human history is decreasing exponentially (Schmidhuber, 2007).
- Rapidly shrinking ‘half-life of knowledge’ (Siemens, 2005) which is currently at about two to three years in management, engineering and medicine.
- ‘Winner take all’ market and technology strategies (e.g., Noe & Parker, 2005), resulting in growing concentrations of capital and power, and increasing the probability of unexpected systematic failure (e.g., Taleb, 2014; Kelly, 2015).
- Lack of inclusion of human related indicators (e.g., happiness, health) in economic indicators is questioned (e.g., Kotler, 2015).

Introduction-B

Driving characteristics of the new, networked, knowledge-driven, global economy:

- The rapidly growing pace of technological innovation,
- The changing characteristics of the labor force,
- The greater attention to customers’ relationships,
- Greater international competition, and
- New experiments with organizational structures (e.g., Russ, 2014).
Introduction-C

Intellectual Capital (IC) and the new, networked, knowledge-driven, global economy:

- More than 80 percent of the economies of developed countries, as measured by their gross domestic product (GDP) are intangibles (Nakamura, 2001).
- IC become the largest systematic source of economic growth (Corrado & Hulten, 2010).
- Still, the present accounting and legal systems recognize the value of very few intangible assets, or do so only in special and limited circumstances (Corrado, Hulten, & Sichel, 2009).

This marginal inability of the financial markets to monetize human assets results in major market failure (Russ, 2014).

Definitions (Russ, Fineman, & Jones 2010)

- **Knowledge** - an action, or a potential of an action, that creates, or has the potential to create, value based on data or previous knowledge, and/or information.

- **Data** – basic building blocks

- **Metadata** – context of the building blocks, “the baskets”

- **Information** - meaning

Definition 2
Organizational Knowledge

Organizational Knowledge Base and Business Strategy as a multilayer construct
What is unique about Knowledge

- Externalities - spill over
- Sticky - lock in
- Non-rival good
- Cumulative good - Absorptive Capacity
- Half Life of Knowledge
  (e.g., Cohen, & Levinthal, 1990; Ermine, 2010; Siemens, 2014; Szulanski, 2002)

Great source: “An illustrated guide to knowledge management”
Available at

Building blocks of Knowledge Management

Perspectives of knowledge and learning – A (Russ et al., 2010)

<table>
<thead>
<tr>
<th>Cognitivist</th>
<th>Constructivist</th>
<th>Autopoietic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans are seen as...</td>
<td>Information processing (sequential, localized); logic machines, truth seekers.</td>
<td>A living system, a nanosystem well-prepared for its own maintenance and propagation, only as a potential source of input and output for their inner functioning. Service workers.</td>
</tr>
<tr>
<td>Lectors</td>
<td>I am, therefore I act in the world.</td>
<td>I learn, therefore I co-act and learn in the world.</td>
</tr>
<tr>
<td>Organizations are seen as...</td>
<td>Network of individuals, bounded by systems, rules of access, shared consensus, systems, and activities.</td>
<td>A self-referential, autopoietic system of knowledge and distribution. A living, learning system with shared awareness in a domain of structures coupling.</td>
</tr>
<tr>
<td>Knowledge is...</td>
<td>Time invariant, abstract, independent of human action.</td>
<td>External, emergent, and context specific. Allows for distinctions making in observation of categories and in values. Enables the world forth (coupling with) to be knowable.</td>
</tr>
<tr>
<td>Learning</td>
<td>A process by which an individual constructs new representations corresponding to the external world allowing for discovery of the effects of actions to improve performance. Traditional Hebbian learning.</td>
<td>Creating the potential for and change in scope of potential and actual behavior resulting in improved effectiveness and efficiencies. Dynamic Hebbian learning.</td>
</tr>
</tbody>
</table>

Perspectives of knowledge and learning – B (Russ et al., 2010)

<table>
<thead>
<tr>
<th>Cognitivist</th>
<th>Constructivist</th>
<th>Autopoietic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus of control</td>
<td>Centralized</td>
<td>Network</td>
</tr>
<tr>
<td>Locus of power</td>
<td>Centripetal control</td>
<td>Network, relationships</td>
</tr>
<tr>
<td>Boundaries</td>
<td>Rest, limiting</td>
<td>Can be modified by using new actions</td>
</tr>
<tr>
<td>Value</td>
<td>A fair return for exchange, or in terms of other assets’ worth of an asset, input or output</td>
<td>Access to network of diverse inputs.</td>
</tr>
<tr>
<td>Organizational networks</td>
<td>Input-output device</td>
<td>Network of actors, activities, systems</td>
</tr>
</tbody>
</table>


- Guo and Sheffield [25] - Major research paradigms include the positivist, interpretivist, and critical pluralist paradigms.

There is little agreement on the theories that underpin the research in the field of KM.

- Human development approach
- General systems theory
- Information theory
- Knowledge-based theory
- Dynamic capabilities view on strategy
- Intellectual capital theories
- Anomalous state of knowledge theory
- Person-centered theory
- Synthesic institutionalism
- Stress coping theory
- System theory
- Information flow
- Resource-based view
- Operations theory
- Open system theory
- Transactional theory
- Spatial theory
- Theory of human interaction
- Theory of human action

Research Objective

One can distinguish between mainly three objectives or purposes with a research project:

• To explain the causality between different observations or the reasons behind a certain situation concerning the phenomenon
• To explore a vague problem or a new area of research
• To describe, i.e., observe and visualise the situation of certain phenomena

The research objective does not automatically define a quantitative or qualitative logic.

Unit of Analysis – What is the Case?

It is the Research Object – or unit in the real world context that you will observe

It can be:
• An individual,
• A role
• A group
• A process
• An organisational entity
• An organisation

Or any other definable and observable unit.
Citation classics published in knowledge management journals. Part I: articles and their characteristics

### Table IV: Article theme

<table>
<thead>
<tr>
<th>Theme</th>
<th>No. of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge as a process</td>
<td>47</td>
</tr>
<tr>
<td>Managing/Competitive advantage</td>
<td>39</td>
</tr>
<tr>
<td>Organizational culture</td>
<td>35</td>
</tr>
<tr>
<td>Information technology</td>
<td>8</td>
</tr>
<tr>
<td>Competency of practice</td>
<td>6</td>
</tr>
<tr>
<td>Knowledge innovation</td>
<td>3</td>
</tr>
<tr>
<td>KM strategy</td>
<td>2</td>
</tr>
<tr>
<td>Scenarios</td>
<td>2</td>
</tr>
<tr>
<td>Problem solving</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
</tr>
</tbody>
</table>

Note: Up to three topics were recorded per article

### Table III: Research methods used

<table>
<thead>
<tr>
<th>Method</th>
<th>No. of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature review</td>
<td>(2)</td>
</tr>
<tr>
<td>Case study</td>
<td>20</td>
</tr>
<tr>
<td>Survey</td>
<td>18</td>
</tr>
<tr>
<td>Interview</td>
<td>14</td>
</tr>
<tr>
<td>Other qualitative</td>
<td>7</td>
</tr>
<tr>
<td>Action research</td>
<td>1</td>
</tr>
<tr>
<td>Modeling tools</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
</tr>
</tbody>
</table>

Note: Up to three research methods were recorded per article

Implications

- Implication #1: The KM discipline is at the pre-science stage, but it has been progressing towards normal science and academic maturity
- Implication #2: The KM discipline does not exhibit the signs of the superstar effect
- Implication #3: Researchers from the USA and the UK have made the most significant impact on the development of KM school of thought
- Implication #4: KM scholars should be more engaged in international collaboration
- Implication #5: Practitioners play a key role in the development of the KM discipline
- Implication #6: Future research needs to be critical and performative

### Table VI: Theories applied

<table>
<thead>
<tr>
<th>Theory</th>
<th>No. of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>None applied</td>
<td>66</td>
</tr>
<tr>
<td>Nonaka’s dynamic theory of organizational knowledge creation</td>
<td>10</td>
</tr>
<tr>
<td>Resources-based view of the firm</td>
<td>7</td>
</tr>
<tr>
<td>Various theories of learning</td>
<td>7</td>
</tr>
<tr>
<td>Complexity theory</td>
<td>2</td>
</tr>
<tr>
<td>Other (the theory was used only one time)</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
</tr>
</tbody>
</table>

Note: Up to three theories were recorded per article
The query of “knowledge management” existing in all domains resulted in a total of 10,974 papers.

Note: Because of space constraints in Table 2, CSCW represents Computer Supported Cooperative Work, K. stands for knowledge, Org. stands for organizational, KMS for Knowledge Management Systems, SW for software, DB for database, CBR for case-based reasoning, and competitive adv. for competitive advantage.

Ethical concerns and considerations
- What level of expertise and/or experience does the researcher have with the methods being employed?
- Is there a plan for the researcher to acquire necessary expertise if it is lacking or to collaborate with others who have the necessary expertise?
- Has the researcher demonstrated that they understand and can address the specific ethical issues that arise with the use of the utilized research methods?
- What perspectives do different stakeholders have in terms of the purpose of the research and how the data are to be analyzed and disseminated? Should these different perspectives be catered for? What impact does this have on participants and researchers?

Questions?

Discussion questions-RM 1
1. What drives your research? Career, curiosity, recognition, serving by solving problems?
2. How do you choose the issue to be studied?
3. What are the types of research you can choose from?
4. What are the differences between basic and applied research?
5. What are the differences between quantitative and qualitative research methods?
6. What are the various stages of research?
7. How would you go about defining the issue to be studied?
8. What criteria should you have for a “good” issue to be studied?
9. How do you make the “right” hypotheses?
10. How would you go about choosing the right research method? Sample (if applicable)?
11. How do you know you have the appropriate (sufficient) evidence?
12. How do you know if the quantitative and/or qualitative analysis performed are adequate for the conclusion drawn?
13. How generalizable the conclusions are?
14. What omissions of data, conclusions you could have made?
15. What are some common errors made in research?
Discussion questions-RM 2

1. What role will interdisciplinary have within program of research designed with a disciplinary agenda in mind?
2. What might be the risks of orienting applied qualitative research along the lines of disciplinary logic? How does an approach such as interpretive description inform our understanding of the gaps that might potentially derive from a disciplinary lens of knowledge, or might it blind us to implications of disciplinary agenda?
3. What might be the role of the "generic" researcher in the study of applied problem, such as health, outside of the perspective of a disciplinary framework?
4. Are there certain research tools, techniques, and strategies designed for the purpose of theoretical outside of the perspective of a disciplinary framework?
5. How might we design studies that effectively triangulate interpretations such that multiple angles of vision are considered in a coherent and thoughtful manner?
6. How would we educate a next generation of applied researchers such that their grasp of the full scope of available knowledge informs their insight as to the most compelling questions to be asked and the most convincing approaches to be used toward building studies with optimal impact?

Discussion questions-Paper 1

1. Importance and interest to (the journal's) readers
   a. What does the paper contribute to the field of RM?
   b. Is it significant to the target community?
   c. Does it present a new and significant contribution to the literature?
   d. Is it timely and relevant?
2. Originality of the paper
   a. Is the study innovative? Interesting?
   b. What were the author(s) trying to accomplish and were they successful?
3. Presentation
   a. Does the paper present a cohesive argument?
   b. What is the basic logic of the presentation?
   c. Are the ideas clearly presented?
4. Writing
   a. Is the writing concise and easy to follow?
5. Lengths
   a. What portions of the paper should be expended? Removed? Condensed? Summarized? Combined?
6. Title and subtitles
   a. Are they informative? Appropriate? At the right place?

Discussion questions-Paper 2

7. Abstract and introduction
   a. Do the abstract and introduction accurately reflect the points made in the paper?
8. Literature review
   a. Are the cited articles/papers current?
   b. Is the literature review comprehensive?
   c. Does the literature review contain a coherent argument supported by literature (as opposed to a list of studies)?
9. Methods for studies involving primary data collection
   a. Are the methods of the research appropriate to the nature of the questions being asked?
   b. Is the selection of cases or participants theoretically justified?
   c. Are they described in enough details?
   d. Is there a sound research methodology?
   e. Are the methods appropriate?
   f. Are the weaknesses and limitations of the methods appropriately identified? Addressed?
10. Data presentation
    a. Could the design be conveyed more easily?
    b. Are the data clearly presented?
    c. Can the reported results be verified easily by reference to tables and/or figures?
    d. Would another form of presentation help?
    e. Are illustrations instructive?
    f. Are the tables and figures clearly labeled? Necessary? Well-planned?

Discussion questions-Paper 3

11. Analysis and interpretation
    a. Does the organization of results promote understanding?
    b. Are the analysis appropriate and logical?
    c. Are they described in enough details?
12. Discussion
    a. Are the discussion and conclusions made by the author supported by the data?
    b. Does the writer understand the limitations of her/his work?
    c. Is there enough breadth and depth in the implications of her/his study?
13. Criteria for evaluation of qualitative research
    a. Are the methods of the research appropriate to the nature of the questions being asked?
    b. Is the connection to an existing body of knowledge or theory clear?
14. Methods
    a. Are there clear accounts of criteria used for the selection of subjects for study and of data collection and analysis?
    b. Is the selection of cases or participants theoretically justified?
    c. Does the sensitivity of the methods match the needs of the research questions?
    d. Has the relationship between fieldworkers and subjects been considered, and is there evidence that the research was presented and explained to its subjects?
    e. Was the data collection and record keeping systematic?
Discussion questions-Paper 4

15. Analysis
   a. Is reference made to accepted procedures of analysis?
   b. How systematic is the analysis?
   c. Is there adequate discussion of how themes, concepts, and categories were derived from the data?
   d. Is there adequate discussion of the evidence both for and against the researcher’s arguments?
   e. Have measures been taken to test the validity of the findings?
   f. Have any steps been taken to see whether the analysis would be comprehensible to the participants, if this is possible and relevant?

16. Presentation
   a. Is the research clearly contextualized?
   b. Are the data presented systematically?
   c. Is a clear distinction made between the data and their implications?
   d. Is sufficient of the original evidence presented to satisfy the reader of the relationship between the evidence and the conclusions?
   e. Is the author’s own position clearly stated?
   f. Are the results credible and appropriate?

17. Ethics
   a. Have ethical issues (minimizing harm; respecting autonomy; privacy) been adequately considered?

Gaps

- New sources of power and profit resulting from new technologies and industries.
- Using customers’ pull for social networks and Internet of Things for new value creation.
- Humans and machines co-learning to shorten knowledge half-life.
- Social and Environmental responsibility as market opportunity.

Reference

See additional references in seminar outline.