

Research Project: Harnessing & Exploiting Knowledge for Competitive Advantage

What issue does our research address?one of the most important challenges companies face today!

In 2012, an ambitious research project to examine *the role of Intangible Assets in Value Creation in Organisations* was initiated by Colin Hazley at Aalto University, Finland (part sponsored by Aalto and part funded by TEKES, the Finnish funding agency for innovation).

Early on in the research, it became clear that the prevailing view of *intangible assets* in companies tends to be obscured by accounting practices which appear to focus on the outputs of value creation and not the inputs. For example, accounting practices typically include those ‘intangibles’ which are measurable (as listed in table 1 below) but ignore the other, more important, intangibles that are actually the inputs of knowledge intensive work, which are much more difficult to measure, i.e. the skills, experience, know how, and practices, as well as the ‘higher-order’ capabilities to manage professionals and knowledge-intensive activities (often cited by management scholars as *unique bundles of resources* (Wernerfelt 1984); *distinctive or core competences* (Prahalad & Hamel; Hamel & Prahalad, 1994); *market orientation* (Narver & Slater, 1990, Slater & Narver, 1994); *relationship portfolio* (Grönroos 1996); *dynamic capabilities* (Teece, 1998)). Another way of interpreting this is that the *output* intangibles (as measured in accounting practices) represent some of the *isolating mechanisms* used to **capture value**, while the *input* intangibles (as listed above) represent isolating mechanisms to help **create value**.

This discrepancy in views and disparities between inputs and outputs also reveals the most fundamental question that most organisations face today in more knowledge based economies - i.e. How do we harness and exploit what we know? For some decades now, the importance of knowledge as the primary source of competitive advantage has been argued by eminent scholars (Kogut and Zander, 1992; Drucker, 1993; Nonaka and Takeuchi, 1995; Grant, 1996; Spender, 1996; Teece, 1998, 1999; Davenport & Prusack, 1998). Despite the fact that knowledge is generally recognized as being critical to the success of companies, there is little empirical evidence which explains the link between the inputs and outputs of knowledge-intensive work – in other words, there is a lack of understanding about the mechanisms explaining *how* organisations transform their tacit knowledge inputs (e.g. skills, experience, know how) into more concrete outputs which they can exploit to capture value.

Table 1. International Accounting Standards Board, standard [IAS 38.8], defines an intangible asset as ‘*an identifiable non-monetary asset without physical substance*’ and includes:

Type of Intangible	Description:
Technology-based intangible assets	patented technology, computer software, databases and trade secrets
Marketing-related intangible assets	trademarks, trade dress, newspaper mastheads, internet domains, marketing rights
Artistic-related intangible assets	video and audio-visual material e.g. motion pictures, television programs
Customer-related intangible assets	customer lists, mortgage servicing rights, customer/supplier relationships
Contract-based intangible assets	licensing, royalty and standstill agreements, franchise agreements
The ‘D’ of Research & Development	due to the uncertainty of future revenues from R&D, IAS 38 requires organizations to classify generation of a resource in two phases: a Research phase and a Development phase (the later deemed more certain)

Research Objective..... How do organisations harness and exploit their knowledge?

With the above issues in mind, it is clear that in order to understand how organisations go about their value creation processes, we need to focus our research on the fundamental questions of *what inputs do organisations utilise in knowledge-intensive work?* and *how do organisations actually do things in practice?* Therefore, our research focuses on trying to uncover the actual tools, techniques and mechanisms that organisations use to harness and exploit their knowledge in practice.

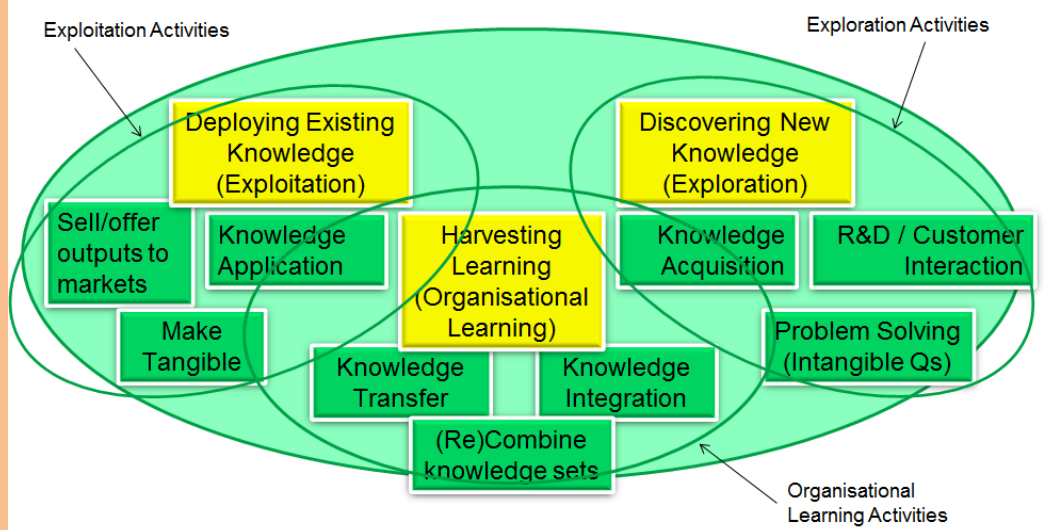
Project Implementation.... Detailed case studies and surveys

Given the exploratory nature of this pioneering research - to peer inside the black box of how organisations actually harness and exploit their knowledge in practice - the research began with a series of case studies on a dozen organisations located in Finland. In order to study how something so intangible and vague such as *tacit knowledge* was being harnessed and exploited, it was decided early on to focus the research on knowledge-intensive activities of companies in different organisational contexts (size, industry, national, international, global etc).

In practice, we focused our research on different types of developmental activities of organisations, since we would expect managers in developmental activities to be dealing with the challenge of how to harness and exploit what they know on a daily basis. Therefore, we have been deliberately conducting case studies on organisations who are: developing services or products; developing new technologies (R&D); engaged in any innovation activities; attempting to create completely new business models and services; developing and improving competencies of their organisation; developing and improving knowledge management and learning technologies; developing team working and collaboration capabilities etc...

Essentially, we examine three broad areas of value creation and value capture in organisations – i.e. we look into how organisations *discover new knowledge* (e.g. through problem solving, R&D, interaction and collaboration with customers), how they *deploy existing knowledge* (applying what they know, making tangible techniques and processes to use internally, or making products, services and solutions to sell in their markets) and how they *harvest what they are learning* from all their knowledge and activities around the organisation (sharing/integrating knowledge etc).

Framework for case study interviews – examining key value creation and value capture activities



Some early results... a good relationship between practices and high performing organisations

After the initial case studies, our analysis revealed that there were many common practices and lessons learned in terms of the mechanisms, tools and techniques that organisations utilise to harness and exploit their knowledge. Based on these findings we then designed and implemented larger-scale surveys of other companies to test how widespread these practices were and to establish if there was any relationship between the practices and performance. Based on this initial survey, we indeed found a good relationship between certain practices and higher performance.

What is striking from the results so far is that we are finding clear differences between high and low performing organizations. A key finding is that high performing organizations engage more frequently than low performing ones to discover and explore new knowledge, to deploy and exploit what they know and to harvest and disseminate what they learn from these activities. Moreover, high performing organizations have also figured out ways to make their knowledge more tangible or concrete, which helps them employ their knowledge more effectively (e.g. visualizations, 3D models, modelling, simulation and demonstration tools, databases etc, on top of other IT tools to help represent and communicate knowledge better). These tools and techniques may best be described as *bridging-* or *articulation-mechanisms*, since they help teams and disparate organizational functions to work and communicate across boundaries inside & outside the organization (e.g. across organizational boundaries and hierarchies and across fields of knowledge or professional disciplines).

However, a more important finding from our research is that it is not just these tools/techniques or methods on their own that count. What makes some of these 'Articulation Mechanisms' truly *transformational* is the way in which they are used to affect change (i.e. it is the collaborative space and mechanisms which they help create, which generates higher levels of collective understanding, new knowledge and change). These *bridging techniques* and *articulation mechanisms* help to co-create a working space, for discussion, development and, in many cases, whole new solutions and services. We also find that there is a *symbiotic* relationship between these tools/techniques and the key knowledge workers who develop and utilize them. There are many cases when the tools/techniques (explicit knowledge) do not work well on their own and which require key knowledge workers to function in unique ways to mitigate the limitations associated with complex knowledge and relationships (more tacit knowledge). We identify these people as Boundary Spanning People for the multiple roles they play – as hubs and conduits of knowledge, knowledge translators, brokers, and matchmakers, and nodes in networks inside and outside the organization.

Three Project phases... extending research to USA, and UK, to strengthen findings

Since the studies in Finland, we extended the research to the USA, to conduct further detailed case studies and surveys with other leading companies in North America and world-class organisations operating globally. Again, preliminary findings appear to confirm what we have found in the Finnish studies. In a similar way, we have now extended the research to the UK, to conduct additional case studies and surveys, identify any new practices, and again establish if the practices we find elsewhere are also related to high-performance and so improve the reliability of our findings and lessons learned.

The project has 3 main phases:

Phase I (2012-13) – Case Studies and Survey in Finland – Conducted at Aalto University (Department of Industrial Engineering and Management) – Colin Hazley, Satu Lehto, Anna Cajanus, Susanna Kari and Sari Nykänen

Phase II (2014) – Case Studies and Survey in USA – Conducted at University of California, Berkeley (HAAS Business School, Institute of Business Innovation) – Colin Hazley

Phase III (2015) – Case Studies and Survey in UK (and EU where possible) – Conducted at Manchester Business School (Manchester Institute of Innovation Research) – Colin Hazley

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