

# Training Initiatives in a Cooperative Network: A Polish Case Study

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**Abstract:** Paper applies an in-depth example to knowledge-development decisions made at the top levels of firms and their consistency with specific training initiatives arranged with third party educational providers. The unique access provided by the network in Poland at the core of this study yields insights at both levels, an opportunity not often available to academic researchers. Case study is employed. The cooperative training network includes multiple firms (five included here), thirty-eight vocational schools, and a technical university overseeing the program. Data collection including preparatory communication, periodic surveys, and additional in-depth interviews with companies as well as data provided by participating schools though only the quantitative survey results are included in this paper. Both firms and schools, as a proxy for participants, are pleased with training initiatives. Moreover, specific results on training initiatives varying by degree of company control and location (in-house, on-campus) provide insights on how firms can gain more control over the nature of the training (firm-specific knowledge) while still maintaining participant interest (often based on obtaining more industry-specific or occupational knowledge). The research is a case study and so not statistically extendable. The case study also takes place in Poland and describes a unique cooperative network including for-profit firms, vocational secondary schools, and a university. Results should be interpreted with some care, but at the same time provide unique depth and insight. Results provide useful guidance for firms participating in training partnerships as well as for schools joining in such partnerships. Specific feedback on the perception and acceptance of specific initiatives (e.g. internships) has been obtained. Brings together several streams of literature often not discussed in one place. Uses this perspective to analyze a unique cooperative network and provide unique depth to the discussion.

**Keywords:** Knowledge management, Competency management, On-The-Job training, Human capital, Human resources

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## 1. Introduction

Knowledge management (KM) has always operated as a bridge between planning at the top levels of the firm and the individual knowledge development decisions made by employees and their counterparts in Human Resources. That is not always the case in other disciplines related to KM. Indeed, a number of established scholars have now published work focusing attention on the lack of synchronicity between strategic human capital (SHC) and strategic human resource management (SHRM). The former focuses on organizational strategies to establish a unique company-wide pool of talented human capital, with related organizational level metrics and analytics. The latter is more about individual-oriented knowledge improvement initiatives, with analytics more focused on distinct employees. The two approaches do not necessarily match up well.

But knowledge management provides a foundation to combine the levels and approaches, particularly through the opportunity provided in this application. The Educational-and-Economic Network (EEN) of the Wielkopolska Region in Poland is a unique opportunity to study this question with direct input from potential employers focused on their strategic human capital direction. The network also depends on the individual decisions of vocational schools and the students/prospective employees themselves to participate in the training initiatives. This paper presents initial analysis of seven years of network experience, providing data on training initiative participation and satisfaction from both companies seeking knowledge expansion and schools/potential employees seeking training opportunities and future jobs.

## 2. Literature Review

Individuals and their knowledge are increasingly seen as the source of competitive advantage (Grant, 1996). Interest in identifying the intangible assets of the firm (intellectual capital/IC) and then managing these assets better (knowledge management/KM) burgeoned as the fields of IC and KM grew over the past couple of decades. Separately but obviously related were the strategic human capital (SHC) and strategic human resource management (SHRM) disciplines. All have to do with the unique combinations of knowledge within employees' heads, what unique capabilities the organization gains from its employees, and how the knowledge, individually and collectively might be better managed.

Knowledge management has typically focused on the differences in the nature of knowledge, especially tacit vs. explicit (Nonaka and Takeuchi, 1995), and how to best manage each type. Highly individual tacit knowledge, for example, is difficult to codify and share, typically leading to person-to-person prescriptions such as communities

of practice or mentoring (Brown & Duguid, 1991). Explicit knowledge, on the other hand, can be more easily captured by the firm in formalized procedures and process documents as well as through information technology solutions (Matson, et al., 2003).

These general themes are echoed in the SHC and SHRM literature though from different perspectives and with different emphases. Strategic human capital is based on idea that the human capital of the firm, the employees and what they know, are a rare, valuable, and inimitable source of competitive advantage (Barney, 1991). Note that human capital in this context is related to how the term is used in intellectual capital circles (Bontis, 1999) but is used somewhat differently.

A commonly used description of human capital in the SHC context includes the knowledge, skills, abilities, and other characteristics (KSAO's) built over time by the firm's employees (Ployhart, et al., 2014). To the extent that these KSAO's add economic value, they can be identified and managed strategically to gain sustainable competitive advantage (Ray, et al., 2022). This uniqueness is generally thought to come from firm specificity, complexity, and causal ambiguity, all familiar concepts within the KM community. To the extent the knowledge assets are specific to the firm, they may not be applicable in other companies (Mayer, et al., 2012; Coff, 1997). The complexity of the knowledge and/or the company environment in which it is applied can also be hard for a competitor to fully understand or duplicate (Ennen & Richter, 2010). Finally, identifying the particular knowledge assets actually adding the value may be difficult, the problem of causal ambiguity, again providing a barrier to other companies trying to acquire or copy them (Reed & DeFillippi, 1990).

One emphasis in strategic human capital (SHC) is the connection between individual KSAO's, including especially tacit knowledge assets such as those possessed by "star" employees (Groysberg & Lee, 2009), and the unique bundle of individual KSAO's held by the organization. If the human capital can be effectively managed, it becomes an organizational resource amplifying the individual knowledge assets into something greater (Ployhart, et al., 2014; Ployhart & Moliterno, 2012). The onus is on the organization as a whole to strategically construct and maintain its unique bundle of human capital assets.

SHRM, strategic human resource management, has some similarities in its concepts but differs in the overall aims and main focus of attention. Individual KSAO's are recognized as is the overall human capital pool as an important resource of the firm. Effective management of these human resources is, then, a potential competitive advantage whether done through effective techniques applied to all employees or through focus on individual employees (Apascarietei & Elvira, 2022). As HR looks for ways to grow the human capital of the firm, increasing the KSAO's of employees, it can contribute to differentiated competitive advantage that should show up in financial performance (Lepak & Snell, 2002; 1999). But here the emphasis is more on the employee level, what specific initiatives can improve individual human capital (even if the objective is to enhance that of the entire enterprise).

In one thrust of the literature, for example, the AMO (ability, motivation, opportunity) model has been applied (Appelbaum, et al., 2000). By enhancing employee abilities, motivating them to apply them, and providing the opportunity to do so, firms can improve performance through their HR systems. In the context of this paper, a strategic HR capability would construct a valuable set of human capital assets, then encourage employees to effectively apply these assets for the good of the firm (Jiang, et al., 2012).

This approach brings a number of new perspectives to the discussion. Recognizing individual human capital in employees and incentivizing not just participation in KM programs but application of knowledge are important actions that can be leveraged to benefit the full organization (Kucharska & Erickson, 2023). Further, HR plays a critical role by developing and applying a whole range of tools to acquire human capital and enhance it (Wright & McMahan, 2011). Performance-related applications focused on motivation and opportunity can be initiated (Jiang, et al. 2012). Moreover, a SHRM approach is generally thought to be best if flexible. Different solutions for different groups or even for different individual employees can be key to fully exploiting a firm's human capital (Huselid & Becker, 2011).

While all clearly related and talking about similar concepts and practices, there are also distinct differences between the fields. The differences are wide enough that rationalizing the disciplines (SHC and SHRM, at least) is not seen as particularly straightforward and has generated serious discussions in the literature about how to accomplish the task (Boon, et al., 2018). Connections need to be made with some care. In particular, studies can suffer from a mismatch of level of conceptual development and level of measurement as well as an inability to explain how the macro outcome emerges from the micro inputs (Ployhart & Moliterno, 2011). One could add

that it also begs the question of how the macro level decision makers can encourage the formation of more unique micro inputs (workers with valuable, unique knowledge).

### **3. Conceptualization**

This paper looks specifically at the connection between macro level knowledge management programs designed to enhance firm competitiveness and their more grounded, micro level executions. More precisely, how training programs can be designed and implemented in order to achieve the broader knowledge sharing objectives of organizations.

As noted in the literature review, the actual knowledge obtained by employees has been characterized as explicit or tacit, as KSAO (knowledge, skills, abilities, other), and in other ways in the literature. Another variation, pertinent to this study, is the difference between firm-specific human capital, industry-specific human capital, and occupational human capital (Mayer, Somaya & Williamson, 2012). Firm-specific human capital refers to that which is most useful within the firm itself. Akin to sticky knowledge, firm specific human capital is also seen as the main source of competitive advantage as it is unique and defensible (Raffiee & Coff, 2016). Industry-specific is broader and can be applied across a particular industry while also being a potentially valuable precursor to firm-specific knowledge. It is obviously transferable to another firm in the industry if the employee moves. Occupational or general knowledge is applicable in any firm or industry, easily transferable across different employers.

While firm-specific knowledge is particularly valuable to the firm, it may not be as valued by employees (Coff & Raffiee, 2015). Workers often have personal incentives to instead pursue industry-specific or occupational knowledge, making their human capital more valuable and attractive to other employers.

Whether knowledge is firm-specific, industry-specific, or occupational can be somewhat ambiguous. The classification of the knowledge can be dependent on employee perceptions that may or may not be accurate (Coff & Raffiee, 2015). The firm's human capital is most likely to be enhanced with firm-specific knowledge while employees will likely be more motivated to participate if the knowledge is more widely applicable industry-specific or occupational.

Training is often accomplished through formal programs. An assumption exists in the literature that internal, on-the-job (OJT) training is particularly associated with firm-specific human capital (Hatch & Dyer, 2004) although also recognized as containing more general and transferable knowledge. Internal OJT is certainly seen as a pathway to sustainable competitive advantage both because it can be controlled so as to feature firm-specific topics and because it signals an intention to invest in developing differentiated human capital (Riley, et al., 2017).

OJT has been specifically defined to include programs (1) aimed at improving job skills, (2) provided by the employer, and (3) taking place on-site, not off-site (Raffiee & Coff, 2016). As a consequence, employees may be less engaged with the training. The key question for this paper is whether other options exist, providing a perception of less firm control (and related firm-specific knowledge) and more employee or third-party input into the nature of the training and.

In short, the research question is whether the micro level design of training programs can contribute to the strategic objectives of the firm, building its proprietary human capital resources at the macro level?

Specific training alternatives have been developed in the literature (Nikandrou, et al., 2009) and linked to employee retention (Beynon, et al., 2015). These options include:

- Learning at a local college
- Learning through a government program
- Learning through a local college but within the workplace
- Somebody in the workplace providing on the job training
- Learning by doing/inhouse training by staff
- Learning with a private training provider in the workplace
- Learning with a private training provider outside of the workplace
- Distance learning
- E-learning.

This foundation provides an opportunity to explore how training alternatives are chosen in order to enhance employees' knowledge/human capital while also creating sustainable competitive advantage for firms. This

paper focuses on the category of training programs which might be conducted by the company for a group of potential employees, particularly students of technical schools.

#### **4. Methodology**

This study takes advantage of a unique opportunity provided by the Educational-and-Economic Network (EEN) of the Wielkopolska Region in Poland. The "Time of Professionals" program was developed through financing provided by the European Social Fund. As part of this program, the EEN was initiated in 2010, a partnership including the provincial government, Poznan University of Technology, 80 technical secondary schools, 88 large employers, and over 2000 small and medium enterprises (SME's). Among the objectives of the program is developing a database of desired employee competencies (related to the KSAO's and knowledge discussed earlier) and finding ways to better diffuse these competencies once identified. Previous publications detail the development of the EEN model's structure, issues connected with relationships within the EEN (Szafrński et al., 2017), and specific details connected with the functioning of the EEN (Graczyk-Kucharska et al., 2018; Szafrński et al., 2017). Formal reporting has been completed on a periodic basis throughout the life of the project, including annual participation counts, initial phone interviews and face-to-face interviews. These results include quantitative responses to self-report questions from the more in-depth interviews.

Five companies and 38 participating technical schools were included in this study. Companies included an international glass packaging producer (700 Polish employees); a family company, automation solutions and components (100); an international transportation component mechanical/electrical engineering (500); an international aviation component producer (1400); an international automation goods producer(3000)

As noted, the overall project includes regular data collection, both quantitative and qualitative. Both provide interesting insights, but given space constraints, this paper focuses only on the quantitative side. The qualitative insights can be delivered in a longer version of the paper or a new paper altogether. Even though focused on the quantitative results, the study should be treated as a case study, given the small numbers and ability to add some in-depth details for contexts. Results are included in Table 1 and focus on the direct relationship training alternatives identified in the EEN and explored in the case study. These include (from Szafrński, 2017):

- Intern: Student internships.
- Practical: Organizing practical student training sessions.
- Dual: Dual learning, involving students sharing their time between the school and the cooperating companies.
- Patronage: Extending patronage to the school.
- Co-patronage: Co-organization of patronage to the school (letters of intent on cooperation, class-specific student recruitment media support, company-created education materials).
- Meetings: Student-company meetings.
- Visits: Student field trips, workshops at the company.
- Curriculum: Providing curricular materials/aids to schools.
- Exam prep: Cooperating on preparing students for vocational exams.
- Labs: Equipping laboratories, workspaces, etc.
- Programs: Launching new school programs.

In the following table, school rating and firm rating are based on a 1-5 scale, with 5 indicating the highest level of satisfaction. As noted, the school ratings come from 38 actively participating technical secondary schools. The firm ratings come from more detailed reports from the representatives of the five companies noted earlier, organized by whether they participated in that specific training alternative.

#### **5. Results**

The results are presented according to the same direct relationship training alternatives described earlier. The initiatives with substantially higher school ratings than total firm ratings are highlighted, those essentially equal or with substantially higher total firm ratings are not (a higher score reflects higher satisfaction on the 1-5 scale).

Table 1: Program Satisfaction

	School Rating	Firm Rating		
		Non-participating	Participating	Total
<b>Intern</b>	4.47	5	4.5	4.8
<b>Practical/apprentice</b>	4.63	--	4.6	4.6
<b>Dual</b>	3.66	3.3	5	4
<b>Patronage</b>	3.82	2.6	--	2.6
<b>Co-patronage</b>	3.71	3	4.3	3.8
<b>Meetings</b>	4.32	3	4.5	4.2
<b>Visits</b>	4.50	3	4.25	4
<b>Curriculum</b>	4.66	1	4.25	3.6
<b>Exam Prep</b>	3.92	3.6	--	3.6
<b>Labs</b>	4.68	1	3.5	3
<b>Programs</b>	4.16	4	5	4.4

The "School Rating" column presents the average ratings reported by the 38 participating technical schools in the Wielkopolska Region on the program platform. "Firm Ratings" report assessments from the five surveyed enterprises. The "Total" column presents the average ratings of all five firms, regardless of actual participation in the eleven training options. As not all employers participated in all forms of training, responses were further divided between "Non-participating" and "Participating" firms. Participating refers to firms utilizing and reporting on the specific training initiative. Non-participating refers to those not. If no firms fit the description of a particular cell, no score is reported. All five firms, for example, participated in practical/apprentice, so the non-participation category has no data.

Reviewing the school ratings, most are relatively high (above 4), sometimes considerably so. These should be treated as evidence of satisfaction from the schools' administrators built on their perceptions of student satisfaction and success. The training initiatives with very high ratings mainly have to do with the firms handing over concrete assets or experiences that add to the student experience. These are all highly visible and apparently perceived by students and administrators as vocationally oriented. All showcase, teach, or offer experiences with the potential to instill concrete knowledge, skills, and abilities of interest to local/regional employers. The training alternatives with lower but still positive ratings (low-4's, 3's) are more related to less visible cooperation or less obvious direct vocational application, including patronage and co-patronage, exam prep, new programs, and dual initiatives.

The firm rankings are less simple. Initially, with only five respondents, the feedback is not statistically reliable but only the viewpoints of the select companies. That being said, it is based on direct perception and experience, and so valid for a case study such as this paper. Looking first at the overall perceptions, regardless of direct experience with them, the highest rated training alternatives include internships, apprenticeships, and new programs. The first two provide the most company control over the learning experience (on-site, supervised by staff) while new programs generated by industry partners are usually heavily dependent upon them for direction and content. The lowest-rated training alternatives are forms of patronage, labs, curriculum materials, and professional exam preparation. As opposed to the higher-rated options, these all have to do with handing resources over to the schools. While the donors undoubtedly remain involved with their use, they don't have as much control over actual application.

Of particular interest is the difference between participating and non-participating firms. The participating rating is uniformly more than the non-participating in every case in which both are available, with the important but also minimally different exception of internships (both ratings are quite high).

While some of the differences are larger than others, just about all of the direct experiences are viewed much more positively once executed. Setting up labs and providing curriculum materials show substantially more satisfaction, suggesting that firms were pleasantly surprised by the results after handing over tangible and/or intangible assets for classrooms at the schools. One could speculate that the materials generated better demonstrated results than anticipated. Referring back to the literature, that more firm-specific learning took

place even in the less-controlled external environment. Even though expectations of firms not participating in the training initiative might be low, actual experience with labs or program development almost invariably generated significantly higher assessments.

## 6. Discussion

Returning to the key points from the literature review, organizations need to balance the knowledge types more likely to gain competitive advantage with those more likely to create employee interest and cooperation. This study established that the conflicting perspectives are present but that firms can still better mediate firm and employee (or potential employee) interests. Employees can be motivated to participate in the training while also gaining more firm-specific knowledge, adding to the pool of human capital contributing to competitive advantage. A summary conclusion of the options described in the study is presented in Table 2.

**Table 2: Training Alternatives**

	<b>Internal</b>	<b>External</b>
<b>Controlled by firm</b>	Firm-specific KSAO's Trainees may balk	Some firm-specific KSAO's Third party influence Trainees more receptive
<b>Not Controlled</b>	Some firm-specific KSAO's Third party influence Trainees more receptive	Firm-specific KSAO's limited Third party control Trainees more receptive

Firms have choices for how to conduct training initiatives that may still have at least some of their firm-specific knowledge but also provide different degrees of third-party involvement. Those held onsite (internal) provide an opportunity to determine context (including equipment, mentor, etc.) while not fully controlling all learning aspects. Internships, for example, would have learning outcomes determined by the partner educational institution even though the host firm controls the learning environment. To different degrees, the same considerations apply to other on-site training initiatives such as mentoring, firm visits, and so forth. As noted, trainees, in this case potential employees, perceive these options as less firm-specific even though the firms may be able to actually control quite a bit of the content and context of the training. As illustrated in these case studies, company satisfaction with these options is fairly high as is that of the educational institutions (presumably based largely on student feedback).

Similarly, training held offsite (external) but with some firm control also provide an option. These would include training alternatives such as labs, curriculum assistance, and program development. While taking place at the educational institutions, firms have some degree of influence over the hardware and software found in the labs, the content of teaching materials, and so forth. That can give the firms some ability to instill firm-specific KSAO's in the training initiative in partnership with the educational institutions interested in delivering more industry-specific or general ones. Again, trainees should be more receptive to learning these competencies with broader application and, given the perception issues, may see the training as less firm-specific than might actually be the case. Company and institutional satisfaction with these options is also fairly high in the case studies.

The final option offers less obvious ways for firms to insert customized competencies into a training initiative. Without control and off-site, the firm has minimal influence. Unofficial advisory input is possible but, otherwise, these conditions describe a standard vocational course at one of the educational institutions. As such, industry-specific and general knowledge are present but very little is firm-specific. At the same time, these types of training alternatives are often feeders into the more firm-specific options. Firms noted in separate comments that they draw trainees from particular vocational programs such as mechatronics and logistics. With that industry-specific or general knowledge background, the students are more ready for the firm-specific options.

A tension exists between companies with training needs and the schools in a position to support them with training programs. The literature suggests that companies benefit most when employees or prospective employees acquire knowledge, skills, and abilities (KSAO'S) specific to the firm. Such training supports the competitive strategy of the firm, the strategic human capital (SHC) at the macro level. But specific initiatives for employees or potential employees, strategic human resource management (SHRM), at the micro level gain more motivated participation when offering broader KSAO's, more industry-specific or general. Employee perception of the specificity of programs, however, can vary. This study provides evidence that partnerships with

educational institutions can affect those perceptions. Firm control of the context or content of the training initiatives can provide a greater degree of firm-specific learning while involving third-party educational institutions signaling more industry-specific approaches. As a result, both firms and employees may walk away more satisfied, finding a middle ground supporting both of their training objectives.

## 7. Conclusion and Future Research Directions

This paper sheds light on multiple disciplines and, in so doing, brings a variety of related research closer together. The core problem is that companies (and researchers) can experience problems with evaluating whether micro level design of training programs can contribute to the strategic objectives of the firm, building its proprietary human capital resources and competitive advantage at the macro level.

The issues revolve around the reluctance of firms to develop industry-oriented or general knowledge that is not unique, may not contribute to competitive advantage, and can be portable if employees leave for other competitors. Consequently, a firm has a strategic incentive to develop KSAO's uniquely related to it. Alternatively, employees or potential employees will be more likely to actively participate in knowledge programs providing the portable, more widely applicable training that might be of less value to the company. The firm's strategic (macro) perspective is often studied at a different level and with different tools than the specific training programs delivered by HR (micro). This paper establishes that a number of alternatives bridging the gap are available and have acceptance from both firms and from their external partners.

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